



National Institute of Justice

Research in Brief

Jeremy Travis, Director

July 1998

Issues and Findings

Discussed in this Brief: A congressionally mandated evaluation of State and local crime prevention programs funded by the U.S. Department of Justice.

Key issues: What works to prevent crime, especially youth violence? Out of all the hundreds of different strategies used in communities, families, schools, labor markets, places, police, and criminal justice, which ones succeed, and to what extent? What does the scientific evidence suggest about the effectiveness of federally funded crime prevention?

Key findings: Very few operational crime prevention programs have been evaluated using scientifically recognized standards and methodologies, including repeated tests under similar and different social settings. Based on a review of more than 500 prevention program evaluations meeting minimum scientific standards, the report concludes that there is minimally adequate evidence to establish a provisional list of what works, what doesn't, and what's promising. The evidence is current as of late 1996 when the literature

continued...

Preventing Crime: What Works, What Doesn't, What's Promising

by Lawrence W. Sherman, Denise C. Gottfredson, Doris L. MacKenzie, John Eck, Peter Reuter, and Shawn D. Bushway

Many crime prevention programs work. Others don't. Most programs have not yet been evaluated with enough scientific evidence to draw conclusions. Enough evidence is available, however, to create provisional lists of what works, what doesn't, and what's promising. Those lists will grow more quickly if the Nation invests more resources in scientific evaluations to hold all crime prevention programs accountable for their results.

These are the major conclusions of a 1997 report to Congress, which was based on a systematic review of more than 500 scientific evaluations of crime prevention practices. This Research in Brief summarizes the research methods and conclusions found in that report.

In 1996, a Federal law required the U.S. Attorney General to provide Congress with an independent review of the

What Works?

- **For infants:** Frequent home visits by nurses and other professionals.
- **For preschoolers:** Classes with weekly home visits by preschool teachers.
- **For delinquent and at-risk preadolescents:** Family therapy and parent training.
- **For schools:**
 - Organizational development for innovation.
 - Communication and reinforcement of clear, consistent norms.
 - Teaching of social competency skills.
 - Coaching of high-risk youth in "thinking skills."
- **For older male ex-offenders:** Vocational training.
- **For rental housing with drug dealing:** Nuisance abatement action on landlords.
- **For high-crime hot spots:** Extra police patrols.
- **For high-risk repeat offenders:**
 - Monitoring by specialized police units.
 - Incarceration.
- **For domestic abusers who are employed:** On-scene arrests.
- **For convicted offenders:** Rehabilitation programs with risk-focused treatments.
- **For drug-using offenders in prison:** Therapeutic community treatment programs.

Issues and Findings

continued...

review was completed and is expected to change continually as more program evaluation findings are completed and reported.

Target audience: Federal, State, and local policymakers; criminal and juvenile justice professionals, practitioners, and researchers; educators; and leaders of community organizations promoting prevention of crime, juvenile delinquency, and drug abuse.

Updates: The most recent lists of what works, what doesn't, and what's promising are regularly updated at the University of Maryland Web site, <http://www.preventingcrime.org>. The full text of the 1997 report, this Research in Brief, and annual updates can all be downloaded from that Web site.

effectiveness of State and local crime prevention assistance programs funded by the U.S. Department of Justice, "with special emphasis on factors that relate to juvenile crime and the effect of these programs on youth violence." The law required that the review "employ rigorous and scientifically recognized standards and methodologies." Framers of the law expected that the evaluation would measure:

"(a) reductions in delinquency, juvenile crime, youth gang activity, youth substance abuse, and other high-risk factors; (b) reductions in the risk factors in the community, schools, and family environments that contribute to juvenile violence; and (c) increases in the protective factors that reduce the likelihood of delinquency and criminal behavior."¹

After an external, peer-reviewed competition, the National Institute of Justice selected the proposal of a group from the University of Maryland's Department of Criminology and Criminal Justice to perform the review.

The review defined "crime prevention" broadly as any practice shown to result in less crime than would occur without the practice. It also examined any program that claims to prevent crime or drug abuse, especially youth violence, and, in accordance with the congressional mandate, examined the effects of programs on risk and protective factors for youth violence and drug abuse.

Programs meeting any of these criteria were classified into seven local institutional settings in which these practices operated:

- In communities.
- In families.
- In schools.
- In labor markets.

- In places (such as businesses, hotels, and other locations).²
- By police.
- By criminal justice agencies after arrest.

Crime prevention programs in each of these settings are legally eligible for Justice Department crime prevention funding. However, because Congress requires that most funding decisions about specific programs be decentralized to State and local governments, no detailed breakdown of funding is available by setting or by program. The review focused on whether there is scientific evidence favoring the types of programs that are eligible for funding, showing they can accomplish their goals.

This Research in Brief describes the scientific methodologies used to perform the review as well as the limitations of the available data. It then summarizes the conclusions reached by the authors to develop three separate lists of programs for which a minimum level of scientific evidence was available: what works, what doesn't, and what's promising. The text provides more details on the evaluations of each type of program as well as citations to the sources of data the authors reviewed to reach their conclusions.

Note: The page references in brackets and italics that follow the bibliographic citations refer the reader to the pages in the printed version of the full 1997 report to Congress where the authors discuss the topics in greater detail.

The science of crime prevention

To most practitioners, crime prevention is an art. But as the U.S. Congress indicated in the law requiring this report, the art of crime prevention (like the art of medicine) can be evaluated and guided by the

science of measuring program effects. Scientific evaluations of crime prevention have both limitations and strengths. The major limitation is that scientific knowledge is provisional, because the accuracy of generalizations to all programs drawn from one or even several tests of specific programs is always uncertain. The major strength of scientific evaluations is that rules of science provide a consistent and reasonably objective way to draw conclusions about cause and effect.

Limitations

Scientific knowledge is provisional. The most important limitation of science is that the knowledge it produces is always becoming more refined, and therefore no conclusion is permanent. All of the conclusions presented in this Research in Brief, as in the report to Congress, are provisional—just as all scientific knowledge is provisional. As the U.S. Supreme Court noted in its analysis of scientific evidence in the case of *Daubert vs. Merrell Dow* (1993),³ no theory (or program) of cause and effect can ever be *proved* to be true. It can only be disproved. Every test of a theory provides an opportunity to disprove it. The stronger the test and the more tests each theory survives, the more confidence we may have that the theory is true. But all theories can be disproved or, more likely, revised by new findings. All conclusions reported in this Research in Brief reflect the state of scientific knowledge as of late 1996 when the initial review was concluded. By the time this Research in Brief is published, new research results may be available that would modify the conclusions.

Generalizations are uncertain. The rules of science are relatively clear

about the way to test cause and effect in any given study—a concept known as “internal validity.” The rules are far less clear, especially in social sciences, about how to judge how widely the results of any study may be generalized—a concept known as “external validity.” The results of a very strong, internally valid test of how to reduce child abuse among rural, white teenage mothers, for example, may or may not generalize to a population of inner-city African-American mothers. The two populations are clearly different, but the question of whether those differences change the effects of the program can best be answered by testing the program in both populations.

There is a child abuse prevention program discussed below that has been found effective in both kinds of populations (Olds et al., 1988). Many prevention programs, however, have been tested in only one kind of population. Tests that have reasonably strong internal validity provide some evidence for *external* validity, but the strength of external validity cannot be assessed using standard scientific methods and rules in the same way that we can assess internal validity. The test of the external validity or generalizability of internally valid results of an evaluation is continued testing, that is, *replication*. Until replications become far more common in crime prevention evaluations, the field will continue to suffer from the uncertain external validity of both positive and negative findings.

Strengths

The strength of the scientific method is that there are widely agreed-upon rules for assessing the level of certainty that a conclusion in any one test is correct. These rules are presented in

detail in standard texts, notably Cook and Campbell (1979). In the course of preparing this review, the authors developed a shorthand means of summarizing these rules called the Maryland Scale of Scientific Methods [see pp. 2–15 to 2–19 and the Appendix]. This scale was modified from a similar system for coding evaluations in a major review of drug prevention work performed by the Center for Substance Abuse Prevention (1995) and was later found to be similar to scales used to assess the internal validity of clinical trials in medicine (Millenson, 1997, p. 131). These standards for assessing internal validity have been developed over the past century in a wide range of fields and are directly responsive to the congressional mandate to employ “rigorous and scientifically recognized standards and methodologies” in preparing the report.

Research methods

Deciding what works in the prevention of crime called for applying rigorous means for determining which programs have had a demonstrated impact on the reduction of crime and delinquency.

The search for impact evaluations

The first step was to identify and review reports evaluating the effectiveness of crime prevention programs.

Impact versus process evaluations.

The primary factor used to select such evaluations was evidence about the impact of programs on crime. Many evaluations funded by the Federal Government—perhaps the majority—are “process” evaluations describing what was done, rather than “impact” evaluations assessing what effect the program had on crime. While process

evaluations can produce much valuable data on the implementation of programs and the logic of their strategies, they cannot offer evidence as to whether the programs “work” to prevent crime. Evaluations containing both process and impact measures provide the most information, but they are rarely funded or reported.

Crime and other effects. A related issue is whether an evaluation reports the impact of a program on other measures besides crime. There are many potential costs and benefits to any program. Evidence about these costs and benefits might change the overall assessment of whether the program works. This report, however, had a focused mandate from Congress to concentrate on crime impacts. Because Congress provided neither the time nor the mandate to examine the other effects programs might have, the report generally disregarded those issues and excluded any evaluation that lacked outcome measures of crime or crime risk factors.

Published and unpublished reports. With only 6 months to produce the report, we limited our search for scientific evidence to readily available sources. Most accessible were the evaluations that had been published in scientific journals, as well as several reviews of such studies that had recently been completed. With the assistance of the National Institute of Justice, we were also able to locate some unpublished evaluations. We made every effort to be comprehensive, in that no eligible study that was located was excluded. However, there is a large “fugitive” literature of unpublished crime prevention evaluations that could not be tapped in this study, including some that undoubtedly have been published outside the

mainstream outlets in criminology, such as governmental reports in other countries.

We anticipate that as this project continues, new reports will be found that may modify some conclusions and will certainly improve the strength of the evidence. The project has clearly demonstrated the need for a central registry of crime prevention evaluations so that all findings, published or unpublished, can be integrated into the knowledge base. Because there is a widely reported bias against publishing reports of statistically insignificant differences, the existence of a registry would improve the scientific basis for the conclusions reported in this Research in Brief. This would help reinforce the value of learning what does *not* work as well as what does. Both kinds of findings are essential for the scientific method.

The Maryland Scale of Scientific Methods

We developed and employed the Maryland Scale of Scientific Methods summarized below, ranking each study from 1 (weakest) to 5 (strongest) on overall internal validity. There were a few modest differences across the seven settings cited earlier in the exact coding rules for scoring an evaluation, generally based on differences in the evaluation literature across these settings [see pp. 2–18 to 2–19]. The appendix to the full report shows the full rating instrument for seven different dimensions of the methods used in each study, but this instrument could not be used for coding studies from secondary reviews or meta-analyses.

What could be used with greatest consistency, for both individual evaluations, secondary reviews, and meta-

analyses, was an overall rating based primarily on three factors:

- **Control of other variables** in the analysis that might have been the true causes of any observed connection between a program and crime.
- **Measurement error** from such things as subjects lost over time or low interview response rates.
- **Statistical power** to detect program effects (including sample size, base rate of crime, and other factors affecting the likelihood of the study detecting a true difference not due to chance).

Research design. Exhibit 1 summarizes the key elements in the scoring of evaluations. The scientific issues for inferring cause and effect vary somewhat by setting, and the specific criteria for applying the scientific methods scale vary accordingly. Issues such as “sample attrition,” or subjects dropping out of treatment or measurement, for example, do not apply to most evaluations of commercial security practices. But across all settings, the scientific methods scale does include these core criteria, which define the five levels of the Maryland Scale of Scientific Methods:

Level 1. Correlation between a crime prevention program and a measure of crime or crime risk factors at a single point in time.

Level 2. Temporal sequence between the program and the crime or risk outcome clearly observed, or the presence of a comparison group without demonstrated comparability to the treatment group.

Level 3. A comparison between two or more comparable units of analysis, one with and one without the program.

Level 4. Comparison between multiple units with and without the program, controlling for other factors, or using comparison units that evidence only minor differences.

Level 5. Random assignment and analysis of comparable units to program and comparison groups.

Threats to internal validity. The scientific importance of these elements is illustrated in the bottom half of exhibit 1, showing the extent to which each level on the scientific methods scale controls for various threats to internal

validity. The main threats to validity indicated in the four columns are these:

- **Causal direction**, the question of whether the crime caused the program to be present or the program caused the observed level of crime.
- **History**, the passage of time or other factors external to the program that may have caused a change in crime rather than the prevention program itself.
- **Chance factors**, or events within the program group (such as imprisoning a few active offenders), that could

have been the true cause of any measured change in crime.

- **Selection bias**, or factors characterizing the group receiving a program, that independently affect the observed level of crime.

As exhibit 1 shows, each higher level of the Maryland scale from weakest to strongest removes more of these threats to validity, with the highest level on the scale generally controlling all four of them and the bottom level suffering all four. The progressive removal of such threats to demonstrating

Exhibit 1: The Maryland Scale of Scientific Methods

A. Research Designs

| | Before-After | Control | Multiple Units | Randomization |
|---------------|--------------|---------|----------------|---------------|
| Methods Score | | | | |
| Level 1 | O | O | X | O |
| Level 2 | X | O | O* | O |
| Level 3 | X | X | O | O |
| Level 4 | X | X | X | O |
| Level 5 | X | X | X | X |

B. Threats to Internal Validity

| | Causal Direction | History | Chance Factors | Selection Bias |
|---------------|------------------|---------|----------------|----------------|
| Methods Score | | | | |
| Level 1 | X | X | X | X |
| Level 2 | O | X | X | X |
| Level 3 | O | O | X | X |
| Level 4 | O | O | O | X |
| Level 5 | O | O | O | O |

Key: X = present
O = absent

*Except where a comparison unit is employed without demonstrated comparability.

the causal link between the program effect and crime is the logical basis for the increasing confidence scientists put into studies with fewer threats to internal validity (Cook and Campbell, 1979).

Deciding what works

The current state of the research-based evidence creates a dilemma in responding to the congressional mandate: How high should the threshold of scientific evidence be for answering the congressional question about program effectiveness? A very conservative approach might require at least two level 5 studies showing that a program is effective (or ineffective), with the preponderance of the remaining evidence in favor of the same conclusion. Employing a threshold that high, however, would leave very little to say about crime prevention, based on the existing science. There is a clear tradeoff between the level of certainty in the answers that can be given to Congress and the level of useful information that can be gleaned from the available science. The report takes the middle road between reaching very few conclusions with great certainty and reaching very many conclusions with very little certainty.

Based on the scientific strength and substantive findings of the available evaluations, the report classifies all programs into one of four categories: what works, what doesn't, what's promising, and what's unknown. The criteria for classification applied across all seven institutional settings are as follows [see more detailed definitions on pp. 2–20 to 2–21 of the full report]:

- **What works.** These are programs that we are reasonably certain prevent crime or reduce risk factors for crime

in the kinds of social contexts in which they have been evaluated and for which the findings can be generalized to similar settings in other places and times. Programs coded as “working” by this definition must have at least two level 3 evaluations with statistical significance tests and the preponderance of all available evidence showing effectiveness.

- **What doesn't work.** These are programs that we are reasonably certain from available evidence fail to prevent crime or reduce risk factors for crime, using the identical scientific criteria used for deciding what works. Programs coded as “not working” by this definition must have at least two level 3 evaluations with statistical significance tests showing ineffectiveness and the preponderance of all available evidence supporting the same conclusion.

- **What's promising.** These are programs for which the level of certainty from available evidence is too low to support generalizable conclusions, but for which there is some empirical basis for predicting that further research could support such conclusions. Programs are coded as “promising” if they were found effective in at least one level 3 evaluation and the preponderance of the remaining evidence.

- **What's unknown.** Any program not classified in one of the three above categories is defined as having unknown effects.

The weakest aspect of this classification system is that there is no standard means for determining external validity: exactly what variations in program content and setting might affect the generalizability of findings from existing evaluations. In the current state of science, that can be accomplished only by

the accumulation of many tests in many settings with all major variations on the program theme. None of the programs reviewed for this report have accumulated such a body of knowledge so far. The conclusions drawn in the report about what works and what doesn't should be read, therefore, as more certain to the extent that all conditions of the programs that were evaluated (e.g., population demographics, program elements, social context) are replicated in other settings. The greater the differences on such dimensions between evaluated programs and other programs using the same name, the less certain the application of this report's conclusions must be.

What works?

Programs similar in prevention approach and social setting to the evaluations cited for each program discussed below are reasonably likely, but not guaranteed, to be effective in preventing some form of crime or drug abuse. Each program type assessed as “working” or “effective” meets the standard of having two or more evaluations (as cited below) that were coded level 3 or higher on the Maryland Scale of Scientific Methods, and a preponderance of other evidence, in support of this conclusion.

In communities

Using this standard, there are no community-based crime prevention programs proved to be effective at preventing crime. Several, however, can be found on the list of promising programs, which have at least one evaluation at level 3 or higher showing a crime reduction effect and a preponderance of other evidence supporting the same conclusion.

In families

- Frequent home visits to infants aged 0–2 by trained nurses and other helpers reduce child abuse and other injuries to the infants (Gray et al., 1979; Larson, 1980; Olds, 1986, 1988; Barth, Hacking, and Ash, 1988) [see pp. 4–10 to 4–15].
- **Preschool and weekly home visits by teachers** to children under 5 substantially reduce arrests at least through age 15 (Lally et al., 1988) and up to age 19 (Berrueta-Clement et al., 1985) [see pp. 4–10 to 4–15].
- **Family therapy and parent training about delinquent and at-risk preadolescents** reduce risk factors for delinquency such as aggression and hyperactivity (review by Tremblay and Craig, 1995) [see pp. 4–19 to 4–24].

In schools

- **Building school capacity to initiate and sustain innovation through the use of school teams or other organizational development strategies** reduces crime and delinquency (D. Gottfredson, 1986, 1987; Kenney and Watson, 1996) [see pp. 5–15 to 5–17].
- **Clarifying and communicating norms** about behavior through rules, reinforcement of positive behavior, and schoolwide initiatives (such as antibullying campaigns) reduces crime and delinquency (Mayer et al., 1983; Olweus, 1991, 1992) and substance abuse (Institute of Medicine, 1994; Hansen and Graham, 1991) [see pp. 5–17 to 5–20].
- Social competency skills curriculums, such as Life Skills Training

(L.S.T.), which teach over a long period of time such skills as stress management, problem solving, self-control, and emotional intelligence, reduce delinquency, and substance abuse (Botvin, et al., 1984; Weissberg and Caplan, 1994), or conduct problems (Greenberg et al., 1995) [see pp. 5–29 to 5–31; 5–36 to 5–38].

- **Training or coaching in thinking skills for high-risk youth** using behavior modification techniques or rewards and punishments reduces substance abuse (Lochman et al., 1984; Bry, 1982; Lipsey, 1992) [see pp. 5–43 to 5–46].

In labor markets

- **Ex-offender job training** for older males no longer under criminal justice supervision reduces repeat

What Doesn't Work

- Gun “buyback” programs.
- Community mobilization against crime in high-crime poverty areas.
- Police counseling visits to homes of couples days after domestic violence incidents.
- Counseling and peer counseling of students in schools.
- Drug Abuse Resistance Education (D.A.R.E.).
- Drug prevention classes focused on fear and other emotional appeals, including self-esteem.
- School-based leisure-time enrichment programs.
- Summer jobs or subsidized work programs for at-risk youth.
- Short-term, nonresidential training programs for at-risk youth.
- Diversion from court to job training as a condition of case dismissal.
- Neighborhood watch programs organized with police.
- Arrests of juveniles for minor offenses.
- Arrests of unemployed suspects for domestic assault.
- Increased arrests or raids on drug market locations.
- Storefront police offices.
- Police newsletters with local crime information.
- Correctional boot camps using traditional military basic training.
- “Scared Straight” programs whereby minor juvenile offenders visit adult prisons.
- Shock probation, shock parole, and split sentences adding jail time to probation or parole.
- Home detention with electronic monitoring.
- Intensive supervision on parole or probation (ISP).
- Rehabilitation programs using vague, unstructured counseling.
- Residential programs for juvenile offenders using challenging experiences in rural settings.

offending (Mallar and Thornton, 1978; Piliavin and Masters, 1981) [see pp. 6–10, 6–14 to 6–17].

In places

- **Nuisance abatement** threatening civil action against landlords for not addressing drug problems on the premises reduces drug dealing and crime in privately owned rental housing (Green, 1993, 1995; Eck and Wartell, 1996) [see pp. 7–11 to 7–12].

By police

- **Extra police patrols in high-crime hot spots** reduce crime in those places (Press, 1971; Chaiken et al., 1975; Chaiken, 1978; Sherman and Weisburd, 1995; Koper, 1995) [see pp. 8–13 to 8–15].

- **Repeat offender units** that reduce the time on the streets of known high-risk repeat offenders by monitoring them and returning them to prison more quickly than when they are not monitored reduces their crimes (Martin and Sherman, 1986; Abrahamse et al., 1991) [see pp. 8–20 to 8–21].

- **Arresting domestic abusers** reduces repeat domestic abuse by employed suspects (Sherman and Smith, 1992; Pate and Hamilton, 1992; Berk et al., 1992a, 1992b) as well as offenders living in neighborhoods where most households have an employed adult (Marciniak, 1994) [see pp. 8–16 to 8–20].

By criminal justice agencies after arrest

- **Incarceration of offenders who will continue to commit crime** prevents crimes they would commit on the street, but the number of crimes prevented by locking up each additional offender declines with diminishing re-

turns as less active or serious offenders are incarcerated (Visher, 1987; Cohen and Canela-Cacho, 1994) [see pp. 9–6 to 9–11].

- **Rehabilitation programs for adult and juvenile offenders** using treatments appropriate to their risk factors reduces their repeat offending rates (Andrews et al., 1990; Lipton and Pearson, 1996) [see pp. 9–15 to 9–19].

- **Drug treatment in prison** in therapeutic community programs reduces repeat offending after release from prison (Wexler et al., 1992, 1995; Martin et al., 1995) [see pp. 9–41 to 9–43].

What doesn't work?

In communities

- **Gun buyback programs** operated without geographic limitations on the eligibility of people providing guns for money fail to reduce gun violence in cities, as evaluated in St. Louis and Seattle (Rosenfeld, 1995; Callahan et al., 1995) [see pp. 3–28 to 3–30].

- **Community mobilization of residents' efforts against crime** in high-crime, inner-city areas of concentrated poverty fails to reduce crime in those areas (review by Hope, 1995) [see pp. 3–9 to 3–10].

In families

- **Home visits by police to couples after domestic violence incidents** to provide counseling and monitoring failed to reduce repeat violence in Dade County, Florida, after either an arrest had been made or after a warning had been issued (Pate et al., 1991), and in public housing projects in New York City (Davis and Taylor, 1997) [see pp. 4–16 to 4–18].

In schools

- **Individual counseling and peer counseling of students** fail to reduce substance abuse or delinquency and can increase delinquency (Gottfredson, 1986; G. Gottfredson, 1987; Lipsey, 1992) [see pp. 5–46 to 5–48].

- **Drug Abuse Resistance Education (D.A.R.E.)**, a curriculum taught by uniformed police officers primarily to 5th and 6th graders over 17 lessons, fails to reduce drug abuse when the original D.A.R.E. curriculum (pre-1993) is used (Ringwalt et al., 1994; Rosenbaum et al., 1994; Clayton et al., 1996) [see pp. 5–28 to 5–29, 5–32 to 5–36].

- **Instructional programs focusing on information dissemination, fear arousal, moral appeal, self-esteem, and affective education** fail to reduce substance abuse (review by Botvin, 1990) [see p. 5–29].

- **School-based leisure-time enrichment programs**, including supervised homework and self-esteem exercises, fail to reduce delinquency risk factors or drug abuse (Botvin, 1990; Hansen, 1992; Ross et al., 1992; Stoil et al., 1994; Cronin, 1996) [see pp. 5–48, 5–50 to 5–53].

In labor markets

- **Summer job or subsidized work programs for at-risk youth** fail to reduce crime or arrests (Maynard, 1980; Piliavin and Masters, 1981; Ahlstrom and Havighurst, 1982) [see pp. 6–18 to 6–25].

- **Short-term, nonresidential training programs** for at-risk youth, including JTPA (Job Training and Partnership Act) and a more intensive version of JTPA called JOBSTART,

fail to reduce crime (Cave et al., 1993; Bloom et al., 1994) [see pp. 6–18 to 6–22].

- **Diversion from court to job training** for adult offenders as a condition of case dismissal fails to reduce repeat offending during or after an adult program (Vera Institute, 1970; Baker and Sadd, 1981) and increased offending in a juvenile program (Leiber and Mawhorr, 1995) [see pp. 6–16, 6–13].

In places

Using the same assessment standard, there are as yet no place-focused crime prevention programs proved to be ineffective. However, relative to other areas of crime prevention, few place-focused crime prevention methods have been studied by criminologists in the United States.

By police

- **Neighborhood watch programs organized with police** fail to reduce burglary or other target crimes, especially in higher crime areas where voluntary participation often fails (Rosenbaum, 1986; Pate et al., 1987) [see pp. 8–25 to 8–27].

- **Arrests of juveniles for minor offenses** cause them to become more delinquent in the future than if police exercise discretion to merely warn them or use other alternatives to formal charging (Farrington, 1977; Klein, 1986) [see pp. 8–16 to 8–18].

- **Arrests of unemployed suspects for domestic assault** cause higher rates of repeat offending over the long term than nonarrest alternatives (Sherman and Smith, 1992; Pate and Hamilton, 1992) [see pp. 8–16 to 8–20].

- **Increased arrests or raids on drug markets** fail to reduce violent crime or disorder for more than a few days, if at all (Sviridoff et al., 1992; Annan and Skogan, 1993; Sherman and Rogan, 1995b) [see pp. 8–20 to 8–25].

- **Storefront police offices** fail to prevent crime in the surrounding areas (Wycoff and Skogan, 1986; Uchida et al., 1992) [see pp. 8–25 to 8–29].

- **Police newsletters with local crime information** failed to reduce victimization rates in Newark, New Jersey, and Houston, Texas (Pate et al., 1986) [see pp. 8–26 to 8–28].

By criminal justice agencies after arrest

- **Correctional boot camps using traditional military basic training** fail to reduce repeat offending after release compared to having similar offenders serve time on probation or parole, both for adults (Flowers, Carr, and Ruback, 1991; MacKenzie, 1991, MacKenzie et al., 1995) and for juveniles (Peters, 1996a, 1996b, 1996c; Bottcher et al., 1996) [see pp. 9–27 to 9–31].

- **“Scared Straight”** programs bringing minor juvenile offenders to visit maximum security prisons to see the severity of prison conditions fail to reduce the participants’ reoffending rates and may increase crime (Finckenauer, 1982; Buckner and Chesney-Lind, 1983; Lewis, 1983) [see pp. 9–14 to 9–15].

- **Shock probation, shock parole, and split sentences**, in which offenders are incarcerated for a short period of time at the beginning of the sentence and then supervised in the community, do not reduce repeat offending compared to the placement of similar

offenders only under community supervision and increase crime rates for some groups (Vito and Allen, 1981; Vito, 1984; Boudouris and Turnbull, 1985) [see pp. 9–14 to 9–15].

- **Home detention with electronic monitoring** for low-risk offenders fails to reduce offending compared to the placement of similar offenders under standard community supervision without electronic monitoring (Baumer and Mendelsohn, 1991; Austin and Hardyman, 1991) [see pp. 9–24 to 9–25].

- **Intensive supervision on parole or probation (ISP)** does not reduce repeat offending compared to normal levels of community supervision, although there are some exceptions; findings vary by site (Petersilia and Turner, 1993; Deschenes et al., 1995) [see pp. 9–19 to 9–24].

- **Rehabilitation programs using counseling** that does not specifically focus on each offender’s risk factors fail to reduce repeat offending (from meta-analysis by Lipsey, 1992) [see pp. 9–15 to 9–19].

- **Residential programs for juvenile offenders** in rural settings using “outward bound,” wilderness, challenge, or counseling programs fail to reduce repeat offending significantly in comparison to standard training schools (Deschenes et al., 1996a; Greenwood and Turner, 1993) [see pp. 9–33 to 9–37].

What’s promising?

In communities

- **Gang offender monitoring by community workers and probation and police officers** can reduce gang violence (review by Howell, 1995), although similar programs can

What's Promising?

- **Proactive drunk driving arrests with breath testing** (may reduce accident deaths).
- **Community policing with meetings to set priorities** (may reduce perceptions of crime).
- **Police showing greater respect to arrested offenders** (may reduce repeat offending).
- **Polite field interrogations of suspicious persons** (may reduce street crime).
- **Mailing arrest warrants to domestic violence suspects who leave the scene before police arrive.**
- **Higher numbers of police officers in cities** (may reduce crime generally).
- **Gang monitoring by community workers and probation and police officers.**
- **Community-based mentoring by Big Brothers/Big Sisters of America** (may prevent drug abuse).
- **Community-based afterschool recreation programs** (may reduce local juvenile crime).
- **Battered women's shelters** (may help some women reduce repeat domestic violence).
- **"Schools within schools" that group students into smaller units** (may prevent crime).
- **Training or coaching in "thinking" skills for high-risk youth** (may prevent crime).
- **Building school capacity through organizational development** (may prevent substance abuse).
- **Improved classroom management and instructional techniques** (may reduce alcohol use).
- **Job Corps residential training programs for at-risk youth** (may reduce felonies).
- **Prison-based vocational education programs for adult inmates** (in Federal prisons).
- **Moving urban public housing residents to suburban homes** (may reduce risk factors for crime).
- **Enterprise zones** (may reduce area unemployment, a risk factor for crime).
- **Two clerks in already-robbed convenience stores** (may reduce robbery).
- **Redesigned layout of retail stores** (may reduce shoplifting).
- **Improved training and management of bar and tavern staff** (may reduce violence, DUI).
- **Metal detectors** (may reduce skyjacking, weapon carrying in schools).
- **Street closures, barricades, and rerouting** (may reduce violence, burglary).
- **"Target hardening"** (may reduce vandalism of parking meters and crime involving phones).
- **"Problem-solving" analysis unique to the crime situation at each location.**
- **Proactive arrests for carrying concealed weapons** (may reduce gun crime).
- **Drug courts** (may reduce repeat offending).
- **Drug treatment in jails followed by urine testing in the community.**
- **Intensive supervision and aftercare of juvenile offenders** (both minor and serious).
- **Fines for criminal acts.**

increase gang crime if they increase gang cohesion (Klein, 1968) [see pp. 3-10 to 3-19].

- **Community-based mentoring by Big Brothers/Big Sisters of America** substantially reduced drug abuse in one experiment (rated level 5 on the Maryland Scale) (Tierney and Grossman, 1995), although evaluations of other programs with mentoring as a major component did not (McCord, 1978, 1992; Fo and O'Donnell, 1974, 1975) [see pp. 3-21 to 3-26].

- **Community-based afterschool recreation programs** may reduce juvenile crime in the areas immediately around the recreation center (review by Howell, 1995) [see pp. 3-26 to 3-28]. Similar programs based in schools, however, have failed to prevent crime [see pp. 5-48, 5-50 to 5-53].

In families

- **Battered women's shelters** were found to reduce at least the short-term (6-week) rate of repeat victimization for women who take other steps to seek help beyond staying in the shelter in Santa Barbara (Berk et al., 1986) [see p. 4-26].

In schools

- **"Schools within schools"** programs such as Student Training Through Urban Strategies (STATUS) that group students into smaller units for more supportive interaction or flexibility in instruction have reduced drug abuse and delinquency (Gottfredson, 1990) [see pp. 5-26 to 5-27].

- **Training or coaching in thinking skills for high-risk youth** using behavior modification techniques or rewards and punishments may reduce

delinquency (Bry, 1982), and can reduce substance abuse [see pp. 5–43 to 5–46].

- **Building school capacity to initiate and sustain innovation through the use of school teams or other organizational development strategies** worked to reduce delinquency and substance abuse in one study (D. Gottfredson, 1986) [see pp. 5–15 to 5–17].

- **Improved classroom management and instructional techniques** reduced alcohol use in one study (Battistich et al., 1996) [see p. 5–25].

In labor markets

- **Job Corps**, an intensive residential training program for at-risk youth, in one study reduced felony arrests for 4 years after participants left the program and increased earnings and educational attainment (Mallar et al., 1982), although it also produced higher rates of misdemeanor and traffic arrests [see pp. 6–23 to 6–25].

- **Prison-based vocational education** programs for adult inmates in Federal prisons can reduce postrelease repeat offending (Saylor and Gaes, 1993), although the evidence is unclear as to which of several vocational education programs had the effect and whether the effect was achieved through higher rates of employment [see p. 6–15].

- **Dispersing inner-city public housing residents to scattered-site suburban public housing** by rental of single units in middle-income neighborhoods reduced risk factors for crime, including high school dropout rates and parental unemployment (Rosenbaum, 1992) [see pp. 6–25 to 6–28].

- **Enterprise zones** with tax-break incentives in areas of extremely high unemployment reduced adult unemployment rates in the targeted neighborhoods (a risk factor for crime) in Indiana (Papke, 1994), although not in New Jersey (Boarnet and Bogart, 1996) [see pp. 6–29 to 6–35; 6–40 to 6–41].

In places

- **Adding a second clerk may reduce robberies in already robbed convenience stores** but probably does not prevent robberies in convenience stores that have never been robbed (National Association of Convenience Stores, 1991) [see pp. 7–13, 7–16].

- **Redesigning the layout of retail stores can reduce shoplifting** according to one evaluation in Great Britain (Farrington et al., 1993) [see pp. 7–18 to 7–19].

- **Improving training and management of bar and tavern staff** can substantially reduce tavern-related violence, according to one Australian evaluation (Felson et al., 1997; Homel et al., 1997) and can reduce drunk driving (Saltz, 1987) and accidents (Putnam et al., 1993) [see pp. 7–20 to 7–21].

- **Metal detectors can reduce weapon carrying in schools**, according to one study (Centers for Disease Control and Prevention, 1993), although they did not reduce assaults within or outside schools [see p. 7–30].

- **Airport metal detectors to screen airplane passengers** appear to reduce hijackings according to several studies, one of which used scientific methods approximating level 3 on the Maryland Scale (Landes, 1978) [see pp. 7–29 to 7–30].

- **Sky marshals on airplanes** produced a slight reduction in hijacking in the period before the introduction of metal detectors for passenger screening (Landes, 1978) [see p. 7–29].

- **Street closures, barricades, and rerouting** reduced several types of crime, including burglary (Atlas and LeBlanc, 1994), homicides in Los Angeles (Lasley, 1996), and violent crime in Dayton (Newman, 1996), according to single studies [see pp. 7–33 to 7–35].

- **“Target hardening” or use of strengthened materials and designs** reduced the use of slugs in New York City parking meters (Decker, 1972) [see p. 7–39] and reduced crimes involving telephones in New York City’s Port Authority Bus Terminal (Bichler and Clarke, 1996) and in one of its jails (LaVigne, 1994) [see pp. 7–38 to 7–39].

- **“Problem-solving” analysis addressed to the specific crime situation at each location** (Goldstein, 1990; Clarke, 1992) has been successful according to one experiment (rated level 5 on the Maryland Scale) in convenience stores (Crow and Bull, 1975) and in an English public housing project at Kirkholt, according to one evaluation (rated level 5 on the Maryland Scale) of a multitactic strategy to reduce repeat victimizations (Forrester et al., 1988) [see pp. 7–10 to 7–11, 7–16, and 7–44]. Negative findings from the Minneapolis Repeat Call Address Policing (RECAP) experiment (rated level 5 on the Maryland Scale), however, suggest that these strategies may not work when applied across the universe of high-crime locations in a city (Sherman, 1990; Buerger, 1994) [see p. 8–31].

By police

- **Proactive arrests for carrying concealed weapons** made by officers on directed patrols in gun crime hot spots, using traffic enforcement and field interrogations, substantially reduced gun crimes in Kansas City (Sherman and Rogan, 1995a) [see pp. 8–30 to 8–32].
- **Proactive drunk driving arrests** through systematic breath testing reduced deaths due to drunk driving in Australia (Homel, 1990), with consistent but scientifically weaker evidence from numerous evaluations in the United States [see pp. 8–20 to 8–24].
- **Community policing with meetings to set priorities** reduced community perceptions of the severity of crime problems in Chicago (Skogan and Hartnett, 1997) [see pp. 8–25 to 8–27].
- **Policing with greater respect to offenders** reduced repeat offending in one analysis of arrested offenders (Paternoster et al., 1997) and increased respect for the law and police in another (Sherman et al., 1997) [see pp. 8–26 to 8–27].
- **Field interrogations of suspicious persons** reduced crime in a San Diego experiment without harming the legitimacy of the police in the eyes of the public (Boydston, 1975) [see pp. 8–20 to 8–25].
- **Mailing arrest warrants to domestic violence suspects who leave the scene before police arrive** reduced repeat spouse abuse substantially in Omaha (Dunford, 1990) [see pp. 8–16 to 8–20].
- **Higher numbers of police officers in cities** generally reduced many types of crime (Marvell and Moody, 1996), although in some cities an

increase in the number of police officers was not accompanied by a drop in crime [see pp. 8–8 to 8–10].

By criminal justice agencies after arrest

- **Drug courts** that ordered and monitored a combination of rehabilitation and drug treatment reduced repeat incarcerations compared to regular probation among offenders convicted of a first-time drug possession felony (Deschenes et al., 1996b) [see pp. 9–47 to 9–48].
- **Drug treatment in jails followed by urine testing in the community** has been found in one study to reduce repeat arrests compared to drug-using inmates who did not receive treatment and followup (Taxman and Spinner, 1996) [see pp. 9–45 to 9–46].
- **Intensive supervision and after-care of minor juvenile offenders**, primarily status offenders like run-aways or truants, reduced future offending relative to status offenders who did not receive enhanced surveillance and services in North Carolina. The finding held true for first offenders but not for those with prior delinquency in one experiment (rated level 5 on the Maryland Scale) (Land et al., 1990) [see pp. 9–37 to 9–41].
- **Intensive supervision and after-care of serious juvenile offenders** in a Pennsylvania program reduced rearrests compared to putting offenders on probation (Sontheimer and Goodstein, 1993) [see p. 9–39].
- **Fines for criminal acts** in combination with other penalties may produce lower rates of repeat offending (Gordon and Glaser, 1991), and day fines may produce lower rates of technical violations (Turner and Petersilia, 1996) than sentencing offenders to

community-based corrections without fines [see pp. 9–12 to 9–14].

Future research

The University of Maryland's Department of Criminology has established a Crime Prevention Effectiveness Program with the support of gifts and grants from private foundations and donors. The purpose is to continue the work summarized in this Research in Brief and to make it widely available through publications and the Internet at www.preventingcrime.org. More than 20,000 copies of the full report have been downloaded from the Internet, with governors, State legislatures, congressional committees, and several other nations requesting briefings on the results in the first year after the full report was submitted to Congress. The United Kingdom has relied heavily on this report in drafting its new national strategy for reducing crime. These facts suggest widespread interest in using scientific evidence about what works to prevent crime in making policy and budget decisions.

The central conclusion of the report is that the current development of scientific evidence is inadequate to the task of policymaking. Many more impact evaluations using stronger scientific methods are needed before even minimally valid conclusions can be reached about the impact on crime of programs costing billions each year. Substantial progress does not require that all evaluations reach the "gold standard" of level 5. In many areas, modifying research designs by adding a control group can raise the strength of an evaluation design method significantly, from a level 2 to a level 3. That modest change would provide far more information from which to derive more certain conclusions about what works.

Recommendations for a Statutory Evaluation Plan

Three principles for evaluating crime prevention programs emerge from the evidence reviewed for this report:

Not every grant requires an evaluation. Absent the resources and the skill needed for achieving the statutory definition of an evaluation as an impact assessment, the requirement that all crime programs be evaluated has resulted in few being evaluated. Spending adequate funds for strong evaluations in a few sites is far more cost-effective than spending little amounts of money for weak evaluations in thousands of sites.

Evaluation funds should be conserved for impact assessments. Limited funding resources have forced DOJ to choose between many descriptive evaluations or a few impact evaluations, which do not provide Congress with the information it

requires unless there is enough funding for strong science. Such studies routinely cost \$15 million or more in other agencies and are often mandated by Congress, but there is no precedent for such “big science” at DOJ, according to the study researchers.

Impact evaluations should be conducted at a level 3 scientific methods score or higher. If Congress needs to know the effectiveness of a program, it needs to know that answer to a reasonable degree of scientific certainty. The study authors suggest that just as the U.S. Supreme Court has asked Federal judges to be the gatekeepers of valid science to be placed in the hands of a jury, Congress can ask that independent peer review panels serve the same function for congressional evidence. The panels can be asked to certify that impact evaluations recommended for funding by DOJ are at least

designed with a scientific methods score of 3 or more. This model can be achieved by congressional enactment of the following recommendations, according to this study:

1. Set aside 10 percent of all DOJ funding of local assistance for crime prevention (as defined in this report) for operational program funds to be controlled by a central research office within OJP.
2. Authorize the research office to distribute the 10 percent “evaluated program” funds on the sole criterion of producing rigorous scientific impact evaluations, the results of which can be generalized to other locations nationwide.
3. Set aside an additional 10 percent of all DOJ local assistance appropriations for crime prevention as defined in this report to fund the scientific evaluation costs.

Other parts of the full report address other issues. One issue involves how the allocation of resources for crime prevention is made in relation to the geography of crime, especially given the concentration of youth homicide in a small number of inner-city areas. Another issue is the direct implications of these findings for congressional appropriations for various prevention funding streams, such as Byrne grants in the Anti-Drug Abuse Act of 1988 as amended or the 100,000 community police officers in the Crime Act of 1994 as amended. A final issue addressed in the full report is the matter of Federal policy for crime prevention evaluations. The

reader is referred to the report for all these matters, especially chapters 1 and 10, as well as the final pages of chapters 3 through 9. Future reports from the University of Maryland will also address these issues in greater detail.

The need for more impact evaluations is shown most clearly by this final observation. There are 15 programs on the list of what works and 23 on the list of what doesn’t. The longest list, however, is the 30 promising programs. If even half of these programs were found effective with one additional level 3 impact evaluation, the number of programs known to prevent

crime through the scientific standards employed in this report would double.

Endnotes

1. 104th Congress, 1st Session, House of Representatives, Report 104–378.
2. A “place” is defined here as a very small area reserved for a narrow range of functions, often controlled by a single owner, and separated from the surrounding area.
3. *Daubert vs. Merrell Dow* (1993), U.S. Sup. Ct. No. 92–102, June 28, 1993 [509 U.S. 579].

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The study reported in this Research in Brief was conducted by the Department of Criminology and Criminal Justice, University of Maryland at College Park, under grant no. 96-MU-MU-0019.

Lawrence W. Sherman is Professor and Chair of the Department.

Doris L. MacKenzie is Professor of Criminology and Criminal Justice in the Department.

Denise C. Gottfredson is also Professor of Criminology and Criminal Justice in the Department.

John Eck is Associate Professor of Criminal Justice, University of Cincinnati, and Research Fellow in the Crime Prevention Effectiveness Program, Department of Criminology and Criminal Justice, University of Maryland.

Peter Reuter is Professor in the University of Maryland's School of Public Affairs and

Department of Criminology and Criminal Justice.

Shawn D. Bushway is Assistant Professor, Department of Criminology and Criminal Justice, University of Maryland, and Postdoctoral Fellow, National Consortium on Violence Research.

This Research in Brief and the full report to Congress are available online at the following Web sites:

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A book version of the full report will be available in 1999 from the Russell Sage Foundation, 112 East 64th Street, New York, NY 10021 (tel. 212-750-6000).

Findings and conclusions of the research reported here are those of the authors and do not necessarily reflect the official position or policies of the U.S. Department of Justice.

The National Institute of Justice is a component of the Office of Justice Programs, which also includes the Bureau of Justice Assistance, the Bureau of Justice Statistics, the Office of Juvenile Justice and Delinquency Prevention, and the Office for Victims of Crime.

NCJ 171676