

PREVENTING HOMICIDE THROUGH TRIAL AND ERROR

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SKIP GOODMANSON HAD BEEN A MINNEAPOLIS POLICE OFFICER FOR TWO decades, but he had never had a case that was a 'homicide waiting to happen'. And nothing he did about it seemed to help. Goodmanson had recently joined an experimental police unit designed to do nothing but solve problems at the hottest crime spots in the city. The Repeat Call Address Policing (RECAP) Unit had been assigned the top 250 commercial and residential addresses in the city, ranked by total number of emergency calls to police. This turned out to be far more work than the five RECAP officers could handle, especially when each one of the addresses could have four or more apartments with chronic repeat calls for domestic violence.

Few of those calls, fortunately, resulted in serious injury, but one of the sixty addresses Skip Goodmanson was assigned appeared to be headed that way. He detected the case from his weekly computer printout when he noticed eleven calls in three weeks from the same apartment. These calls, in response to assaults of increasing severity, resulted in apparently ineffective action by all sectors of the criminal justice system.

The assaults culminated in a particularly brutal incident, and it was Skip Goodmanson's conviction that this near-homicide would not have happened if the system had just been tougher: if his fellow officers had made more arrests, if the prosecutors had filed charges on all the arrests that were made, if the judge had not released the offender on bail, or if the sentence had been longer. Maybe he was right, but maybe not.

The system had been very tough in trying to protect Shirley Lowery in Milwaukee in early 1992. She was finally stabbed to death in the county courthouse by her ex-boyfriend. The government had provided her with bodyguards while moving her possessions out of their residence, and the local police had long practised a mandatory arrest policy for domestic violence. Yet the only reason the offender came to the courthouse that day, carrying a butcher's knife and a pistol, was because he had been summoned by the court about a permanent injunction barring him from contact with Shirley Lowery. Perhaps if the court had not summoned him, he may never have killed her.

The point of these two stories is that the lessons of experience may be unclear at best, and at worst, deceptive. As Dr. Johnson put it, 'if experience were the best teacher, then the streets of London would be wisest of all'. In both the Minneapolis and the Milwaukee cases, it is equally plausible to conclude that the murderous assaults were the result of either too little legal intervention or too much. While more intervention may deter the deterrable, it may only challenge the defiant to become even more violent. Without a more systematic means of examining cause and effect, such stories can teach us little about how to prevent homicide more effectively.

The key question for this keynote address, then, is how can we learn to prevent homicide more effectively? This answer is through trial and error—but far more aggressively and systematically than we have ever tried before. This paper will begin by explaining and illustrating the range of trial and error methods, especially in light of recent experiments in domestic violence control. It will then suggest four key targets for homicide prevention, areas in which the payoff from successful learning could be very great indeed: chronically violent households, violent pubs and entertainment 'hot spots', infant surveillance, and emergency medical care. This paper will conclude with one question on which we have already learned far too much from trial and error, and about which the entire world should be pressuring my country, the USA, to stop polluting the globe: gun availability.

Learning Through Trial and Error

Learning through trial and error is the foundation of all human progress. In the area of cancer treatment, some half a million chemical compounds were tested in order to discover only forty forms of chemotherapy that are moderately effective (Oldham 1987). In the area of economics, the people of Russia have judged their experiment in total government control a failure, and now hope to learn from trial and error how best to structure a free market economy.

Methods of trial and error are far more advanced in some arenas, however, than in others. Controlled experiments in national economic policy, for example, are impossible, because each subject is an entire country, or even the world. It is very hard to learn systematically from a sample of one—which may help to explain why we still have not learned how to prevent recessions. Medical science, in contrast, has flourished because there is no shortage of sick people for experiments. But the systematic, trial and

error methods of epidemiology and experimentation have been slow to catch on in the arena of crime control, even though there is no shortage of offenders and victims for testing better strategies. We may take heart and guidance from the fact that systematic methods were also initially slow to catch on in preventive medicine, and until they did, much of what doctors did to help patients was doing more harm than good.

How much of what we do in the name of preventing homicide or other violence actually causes more of it? We will never know until we carefully test what we are doing. Systematic learning through trial and error cannot be done on a case-by-case basis. It does not come easily through the normal flow of daily experience. Experience is valuable in generating hypotheses, but is not enough for testing hypotheses. Testing requires the hard work of collaboration between researchers and practitioners, the creation of control groups, and gathering a lot more data than ordinary operations require. But that is a price many practitioners are willing to pay, and they are increasingly doing so in the USA.

Experiments in Domestic Violence Control

One recent example of systematic trial-and-error learning in violence control is the seven controlled experiments in policing domestic violence conducted across the USA in the past decade. In 1981, forty-four Minneapolis police officers volunteered to give up their discretion in misdemeanour domestic assault cases in order to conduct a randomised comparison of arrest, mediation and separation in cases where arrest was legally possible. The results of this experiment, which was designed and directed by myself, showed that arrest reduced the prevalence of repeat violence against the same victim by half, from about 20 per cent to 10 per cent (Sherman & Berk 1984).

This highly publicised experiment was followed by a major shift from mediation to arrest as the most common police policy for domestic violence in cities in the USA (Sherman & Cohn 1989). Many advocates cited the Minneapolis experiment as the major justification for new laws requiring mandatory arrest in misdemeanour domestic cases, now enacted in fifteen states (Sherman 1992a). Some of them even cited the Minneapolis experiment as evidence that arrest could have a preventive effect on domestic homicide, even though there was absolutely no data on homicide in the Minneapolis experiment. Multimillion dollar lawsuits against the police for failing to prevent homicides have been won around the USA, with 'expert' witnesses testifying on the basis of the non-existent Minneapolis data that arrest would have prevented the homicide.

The authors of the Minneapolis experiment, however, have testified on behalf of police agencies on the limitations of their data to misdemeanour assault cases. More important, the Minneapolis reports cautioned against passing mandatory arrest laws until the experiment could be replicated in other cities. Their two major concerns were: first, that arrest might have different effects in different cities; and second, that arrests might have different effects on different kinds of people. Worst of all, there was a fear that arrest might increase domestic violence under certain conditions.

The National Institute of Justice accepted our recommendation to fund a multimillion dollar replication program in 1986, and all but one of the replication experiments has now been reported. The results confirmed both the fears of the Minneapolis experimenters. They first showed that arrest had different effects in different cities. Three of the six experiments found some evidence of an individual deterrent effect from arrest, while the other three found that arrest had actually increased the rate of domestic violence overall (Sherman 1992b). A possible explanation for this difference across cities is found in the most consistent result of the entire research program: the different effects of arrest on different kinds of people within each city.

In Milwaukee—the only replication experiment directed by myself—the hypothesis that unemployed and unmarried people would react differently to arrest from persons with more of a 'stake in conformity' was tested and confirmed. While arrest reduced repeat violence among employed persons by 9 per cent, it increased it by 43 per cent among unemployed persons. Arrest also increased repeat violence by 30 per cent among unmarried suspects, with a small deterrent effect among married suspects. The greatest increase arrest caused in repeat violence (49 per cent) was found among suspects who were both unemployed and unmarried, and hence had the least stake in conformity to lose from more violence.

These findings were eventually confirmed in data from the Omaha experiment, conducted by Dunford, Huizinga and Elliott (1990). While the marriage effect was not found, the unemployment effect was even stronger, with a 52 per cent increase in the rate of violence caused by arresting unemployed suspects in Omaha, compared to a 37 per cent reduction in repeat violence caused by arrest among employed suspects (Sherman & Smith 1992).

Based on these results, two independent investigators have confirmed the unemployment interaction: Berk et al. (1992) with the Colorado Springs experiment and Pate and Hamilton (1992) with the Miami experiment. Thus in four out of four experiments where the hypothesis was tested, the results consistently show that arrest has different effects on different kinds of people and, unfortunately, the results show that the suspects most likely to come to police attention for domestic violence are the ones most likely to increase their violence against women in general if they are arrested. While this leaves us in a major quandary about how to police domestic violence, it is a far better thing to have learned of our dilemma than to proceed with good intentions in blissful ignorance. We have done the trials, and learned our error.

Key Targets for Homicide Prevention

The domestic violence experiments should make us very cautious about policies for homicide prevention in Australia. As the National Committee on Violence said in its report:

programs and policies for the prevention and control of violence [should] be subject to rigorous, independent evaluation. Provision for this evaluation should be incorporated in the design and budget of the program in question. Good intentions, warm feelings, and trendy ideas . . . are simply not a sufficient basis for the expenditure of public

funds. Measures which are heralded as successful in one jurisdiction, whether in Australia or overseas, should not be blindly embraced without careful provision for their evaluation and their eventual dismantling in the event of unsatisfactory performance. Australia simply cannot afford to waste money on ineffective ventures (Australia 1990).

It might be added that no country can afford to pursue policies which actually increase violence, regardless of their cost. The way to avoid pursuing those policies is to adopt all new policies on a trial and error basis, with strong, randomised research designs used to evaluate their effects wherever possible. Since so much of the homicide problem in Australia is related to domestic/family violence, this paper recommends four key target areas for testing homicide prevention ideas. These areas are:

- chronically violent families;
- pub and hot spot violence;
- infant surveillance; and
- emergency medical care.

What can we do about chronically violent families?

Unfortunately, we cannot predict very well which chronically violent families will wind up in a homicide. The early Police Foundation (1976) study of domestic homicides in Kansas City did find that 85 per cent of all domestic homicides had been preceded by at least one police call at that address in the past two years, and 50 per cent had at least five prior calls. This led many of us to expect that homicide could be predicted with some accuracy. Unfortunately, the study asked the wrong question. The right question, at least for making predictions, is what proportion of addresses with repeated domestic disturbance calls have domestic homicides.

The answer, according to our analysis in Minneapolis, is about 3 per cent over five years, or less than 1 per cent per year. Even at addresses with nine or more domestic calls in one year, the rate of domestic homicide is fortunately only 3 per 1,000. While the rate of domestic homicide increases substantially as the number of domestic calls increases, three-fifths of all domestic homicides occur at addresses to which police have never been called. The highest rate of domestic homicide per address is 17 per 1,000 high call addresses over five years. On an annual basis of prediction, that equals 3 per 1,000. With foresight rather than hindsight, a prediction of homicide from chronic domestic disturbance calls would be wrong 997 times out of 1,000. That does not seem to be much of an 'early warning system'. Vastly over-predicting domestic homicide would not start World War III, but it could certainly divert scarce police resources with little payoff (Sherman 1992a).

Similarly poor predictions resulted in Milwaukee when individual couples, as distinct from street addresses, were examined. The data included all 15,000 domestic assault reports over three years. Of the thirty-two domestic homicides

during that period, only one of the couples had a prior police record of an assault. Even 110 prior episodes of gun pointing and death threats were followed by no homicide (Sherman, Schmidt, Rogan & DeRiso 1991).

Even with the difficulty of predicting homicide, however, it is worth pursuing the problem of chronically violent families. As Skip Goodmanson's case illustrates, some of these families have very high levels of serious violence. While it cannot be predicted which chronically violent families will result in the rare event of homicide, investing in chronically violent families can be justified on several grounds. Perhaps the clearest of these is cost: the chronic families consume the most police time. Just 20 per cent of the couples reporting any domestic violence in the Milwaukee experiment, for example, produced almost half (46 per cent) of all the reported cases. Most of the couples, in contrast, did not have any repeat cases. There is thus a clear distinction between the chronic and non-chronic couples. And among the chronic couples, a small portion of repeat cases involve serious violence.

Police computer systems can easily be designed to flag the chronically violent families. When such families are identified, they need to be included in systematic, randomised tests of a wide range of ideas for intervention. These interventions could be mounted by social service agencies, women's shelters, police, churches, relatives or even neighbours. The important thing is to test them in stages: first in a few demonstration cases, then in a larger experiment of 100 cases or so, and then, if the results still look promising, in a larger experiment in several different cities.

The fact that domestic homicide cannot be predicted does not detract from our excellent ability to predict less lethal violence among chronic couples. Among couples with nine or more incidents, it can be predicted that they will have further incidents with 75 per cent accuracy. Chronically violent buildings can also be identified with 72 per cent accuracy, regardless of the specific couples living in them at any given time. It would be surprising if similar predictive accuracy cannot be found in Australia.

Thus assuming we clearly know where to begin, the next question is what to do. For example, it would be valuable to test frequent surprise police visits to chronically-violent addresses, as well as programs to enlist relatives and neighbours to stay in close touch with the victim and call police instantly in the event of an assault. Maximum prosecution for threats or any other cause may also be worth testing, with prosecutors actually doing something about this very small but high risk group.

Chronically violent couples are also good candidates for testing the value of court orders of protection. The effectiveness of these orders has been called into question since three New York women were killed in quick succession in 1989 by their husbands after the restraining orders were issued. One of the women even carried a radio-operated alarm around her neck that was connected to the police. These tragedies anticipated the Shirley Lowery case in Milwaukee, which led to increased use of the bodyguard service. Both the orders and actual protection procedures could be tested in a randomised experiment, which could justify the major expense to the state involved in providing bodyguards for free. Financial and counselling assistance in moving to another state is another option for the most serious cases. It may be

that protection orders backfire, while one or more of the procedures of protection may be highly cost-effective. The only way to find out is to invest in trial and error research.

Pubs and hot spots

The prediction of domestic violence by residential locations is matched by the great ability to predict pub violence. As in the case of residences, a small percentage of all pubs usually produce the majority of all violence. This is important to remember, since over the past decade over 12 per cent of all Milwaukee homicides began or ended in a pub: this is twice the percentage reported by Strang (1991) for Australia, but it is still the leading type of location outside the home even in Australia.

The Crime Control Institute's study of pub homicides in Milwaukee found that homicides were eighteen times more likely to happen in a pub than in all other kinds of addresses city-wide. Pubs are also seven times more likely to be the locations of aggravated assault. Yet only 10 per cent of all pubs produced 43 per cent of all violent crimes in pubs. Moreover, almost all of that violence in the hottest pubs occurred between the hours of 7 p.m. and 3 a.m.

Thus over a five year period, it can be predicted with up to 86 per cent accuracy which pubs will have more violent crime, and with 83 per cent accuracy the hours during which those violent crimes will occur.

The level of violence in these pubs can be staggering. Moby Dick's Bar of Minneapolis, for example, is a 'hot spot of crime'; one of the 3 per cent of all addresses in that city that produce over half of all the crime. The bar was famous for serving a 'whale of a drink'. It also served cocaine with the cocktails. And if you went there every night for a year, you had a one in four chance of being assaulted, at least according to official data. (Sherman, Gartin & Buerger 1989). A similar pub in Vancouver was subjected to an observational study which found that there was an act of violence—mostly unreported to police—observed to occur every twenty minutes (Graham, La Rocque, Yetman, Ross & Guistra 1980).

Pub violence also spills over into the surrounding block. The odds of a Milwaukee block becoming chronically violent outside the pub are three times higher if there is a violent pub on the block (51 per cent) than if there is not (15 per cent).

The trial and error response to these data should be a variety of options for making violent pubs less violent. The most obvious solution is revocation of a liquor license in that location, which is what the Minneapolis achieved with two of the most homicidal bars in town. But less extreme measures may also be effective, especially those concentrating on pub management techniques. Simply warning the pub managers, for example, that they have too much violent crime and will be closed if they do not reduce it may have some beneficial effects. It may also encourage them to hide violent crimes from the police. There are no easy answers here, but creative thinking and persistence should be able to come up with strategies that work.

Infant surveillance

One of the most interesting findings of Strang's analysis (1991) was that the highest risk of homicide victimisation in 1989-90 was in the youngest age group—under one year. While the total number of victims is not high, the rate may suggest that serious consideration be given to the question of how to intervene in potentially lethal child abuse. Countries vary enormously in respect to infant surveillance, with the USA doing almost nothing and the French almost raising your baby by official decree of visiting nurses. Just as epidemiological research has identified high risk factors for chronically violent couples and pubs, similar research might be able to identify infants at high risk of abuse.

One good place to begin might be chronically violent couples. Using police data to identify those couples, researchers could interview relatives, neighbours, physicians or others about their knowledge of any excessive force used against infants by the couple. With a large enough sample, these findings could be compared to rates of officially detected incidents of injury to infants. If those couples are found to be more abusive than average, a wide range of strategies from intensive visiting to foster care might be tested and refined through trial and error. The involvement of physicians and nurses in identifying such cases is critical. But they may play an even larger role in reducing homicides, after an attack but before a death has occurred.

Emergency medical care

Emergency medical care is rarely given credit for homicide prevention. Yet the biggest reduction in homicide in this century—observed after World War I in both Australia and the USA—may well have been due in large part to the widespread introduction of telephones, automobile ambulances and emergency rooms, rather than solely due to a decline in assaultive behaviour. Even today, variations across Florida counties in the speed and quality of post-assaultive medical care strongly affect the lethality of aggravated assaults, and hence the total homicide rate (Doerner & Speir 1986; Doerner 1988). This may also have something to do with the variations in homicide rates within Australia, such as the much higher rates in the Northern Territory. How can emergency medical care be improved? Again, the specifics will need careful testing through trial and error to be determined, but selected investments in equipment, special training for ambulance technicians, and perhaps the ambulance system itself could make a substantial dent in Australia's homicide problem. While many might call this suggestion beside the point of reducing assaultive behaviour, it may have a significant effect on deaths resulting from such behaviour.

Another important medical issue is the question of the effect of alcohol on the body's trauma defence mechanisms. Alcohol reportedly slows the body's reaction to puncture or bullet wounds, jeopardising cardiocirculatory functions and depressing the central nervous system shock reactions which aid in survival (Doerner 1988, p. 176). This may explain the finding that alcohol use is more common in homicide victims than in aggravated assault victims (Pittman & Handy 1964, p. 470). Alcohol may thus be even more of a

medical problem in surviving assaults than it is a behavioural problem in causing assaults. This clue gives a mandate to doctors: discovery of some medical intervention to neutralise those specific effects of alcohol and allow the body's shock defence system to work could be a major breakthrough in homicide prevention.

The Trial and Error of Open Access to Guns

Of all the things that Australia can do to prevent homicide, the most important may be to cap the number of guns now in circulation, especially high powered and semiautomatic guns. Whatever the cultural traditions and politics of guns may be, there is growing evidence that the total homicide rate is heavily determined by gun density in the society. The often-cited exception of Switzerland should not divert us from the weight of the evidence on the other side: that homicides in cities in the USA have risen directly with the proportions of homicides committed with guns (McDowall 1991), that regions within the USA with higher gun density generally have higher homicide rates, and that the same pattern is found in comparisons across nations (Killias 1990).

Figure 1 shows the relationship between proportions of homicides committed with guns and total homicide rates in nine industrialised countries. With the Swiss exception, there is almost a straight line towards higher homicide rates with higher gun use. The line is even clearer in Figure 2, with both suicides and homicides. Whether gun use varies more by cultural preference than by gun availability cannot be said, but the possibility of guns playing such a strong causal role in homicide is serious enough to examine. Australia already has more than twice the homicide rate of England and Wales, and over twice the measured level of gun density. Australia obviously has a long way to go to catch up to the USA, but it is a vision of Australia's future to be avoided if at all possible.

The USA is currently suffering a steady national growth in homicides—10 per cent in 1990—fuelled by soaring rates in central cities. Washington DC, with a population of 600,000 people, has more homicides annually (489 in 1991) than Australia's entire population of 17 million. In just five years, homicides in Washington DC have risen from a rate of 30 homicides per 100,000 to over 80 per 100,000. Other cities with large populations of young black males and concentrated poverty areas have experienced similar increases. At the same time, the arrest rate of all juveniles for committing homicide nationwide has doubled, from 5 to 10 per 100,000.

How did homicide rise so rapidly? Did people suddenly become much more cruel? Did Reaganomics cause an overnight breakdown of the social order? Or did something less mysterious occur—like a rapid change in the means of destruction? The latter theory is more believable. Throughout the 1980s, semi-automatic pistols flooded into poor black areas. In Washington, semi-automatic pistols increased from 25 per cent of all guns seized by police in 1981 to 56 per cent in 1991. Crack cocaine provided the cash and the culture for carrying expensive 'semi' guns around as a major article of clothing. Guns have become integrally tied up with self-respect and the local status hierarchy.

Figure 1

Percentage of Homicides with Guns vs. Total Homicides per Million

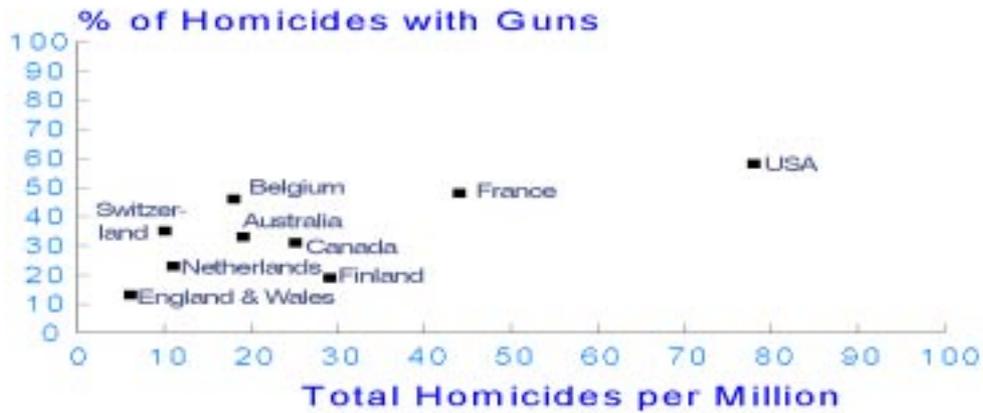
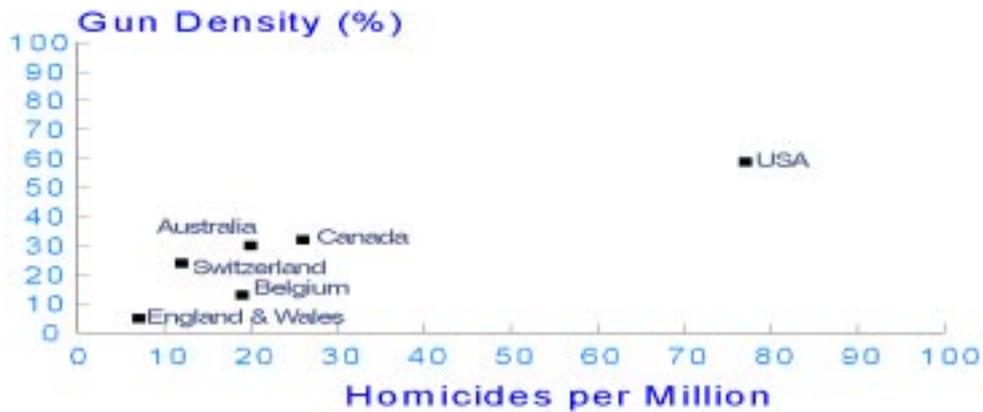


Figure 2

Gun Density* vs. Homicides per Million



* Defined as number of suicides and homicides committed by gun, divided by total suicides and homicides.

The importance of semi-automatic guns can be demonstrated with just one statistic: in 1991 the number of gun assaults in Washington declined, but the number of homicides from guns increased. Why? Because the number of bullets in the bodies of the victims increased. Five years ago, most victims had one or two bullet wounds; today, it is often eight or ten. The more bullet wounds, the greater the chance of death. Even the type of bullet makes a difference, with semi-automatic pistols reportedly shooting 'hotter' bullets that tumble more within the body, tearing more organs and fracturing more bones than a revolver bullet (Thomas 1992).

The semi-automatic has fomented a revolution in homicide. Instead of trying to kill a specific person, today's killer will spray bullets at an entire crowd—in a pub, at a party, on a porch, or on a street corner. The result has been soaring increases in innocent bystanders being shot and killed, up to 100 per cent increases per year (Sherman, Steele Lauffersweiler, Hoffer & Julian 1989).

The power to spray bullets has spawned the 'driveby' shooting, reminiscent of the gangster movies with big submachine guns in the 1930s. Now the guns are small, inexpensive, easy-to-conceal semi-automatics, which can rattle off eighteen bullets as you pass by a target crowd. In one target area in Kansas City where a community policing program against guns is being tested, there were twenty-four driveby shooting incidents in 1991 in eighty blocks. Los Angeles has seen drivebys become a staple of gang warfare, and even small rural communities have reported this innovation in death.

The USA's gun problem is clearly tied to its problems of structural unemployment, race, and residential segregation by social class. Most Americans suffer little risk of a gun homicide, but if current trends continue, the contagion of gun violence will spread.

This description of what has happened in the USA does not constitute a highly scientific analysis of what the effects of growing gun density would be in Australia, but that is one trial and error you may not wish to undertake. The growing economic problems of a post-industrial age can quickly create disenfranchised groups, cut off from the mainstream economy, as Australian young people may increasingly become. If Australia were to combine that factor with widespread gun availability, it may expect an explosion in homicide.

Conclusion

Asking an American for advice on how to reduce homicides is tantamount to asking a Russian for advice on how to improve your economy. We may not know what to do, but we sure know what not to do. Whether Australia can avoid our fate seems largely dependent on its political decisions about guns. Whether Australia's homicide rate can be even further reduced may depend more on the ability to develop effective prevention methods for chronically violent families, pubs, potentially victimised infants, and emergency medical care systems.

Australia is blessed with a highly developed discipline of criminology. Criminologists like Gordon Hawkins, John Braithwaite and Duncan Chappell have brought Australia renown around the world. The creation of the Australian Institute of Criminology (AIC) two decades ago made Australia a world leader in developing a scientific basis for crime control policy, and the AIC has become one

of the most productive research centres to be found in its subject area. With that foundation firmly established, it is time for Australia to move forward to greater collaboration between criminologists and crime control agencies.

Some academic criminologists define their role as a criminology of the criminal justice system, studying its behaviour as the principal focus of inquiry. Others define their role as criminology for the system, answering the often fairly narrow or descriptive kinds of questions that the system raises in its day to day operations. But in my view, we can accomplish the most in controlling homicide by doing criminology with the operational agencies.

Yes, you can learn something about controlling disease by studying matters of hospital administration, but not a whole lot. Even more can be learned by studying the patterns of epidemics, and developing theories about their causes, but the most is learned about combating disease by enlisting doctors from all over the country in systematic comparisons of different drugs, surgical procedures, vaccines or other measures. It is not the biochemistry of medical practice, or even for medical practice, that makes the most difference; it is the biochemistry with medical practice that saves the most lives. So will a criminologist with the police, the courts, the prisons, the medical and social services.

Most of all, Australia's ability to reduce its homicide rate will depend on its commitment to the experimental method. While some lessons of trial and error—such as gun accessibility in the USA—appear so obvious that no experimentation is needed, others—such as the effects of arrest on domestic violence—are far more ambiguous. Wherever there is little experience with an idea or program, experimentation is essential for learning just what effect it will have, and of all the things we have learned from the trial and error method, the most important is how little we can ever learn about specific methods without scientifically controlled evaluations.

The political rhetoric may say we do not need research, we just need to get tough on crime, but World War II was fought and won through innovative research and development. Five to 10 per cent of our defence budgets are spent on research and development. Does criminal justice spending anywhere even approach that? Yet it is only with scientific testing that the methods of crime control which may be doing more harm than good may be discovered. In crime prevention, as in disease prevention, the primary ethical principle is this—first, do no harm.

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