



Law Enforcement's Role in a Harm Reduction Regime

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Law enforcement can play a valuable role within a harm reduction paradigm, but this possibility is often overlooked. This paper reviews a framework for thinking about harm reduction goals, and illustrates how some harm reduction perspectives are more receptive than others to a prominent law enforcement role. Five specific roles for law enforcement are then outlined: partnerships with treatment and other interventions, constraining supply, time-focused intervention early in an epidemic, reducing control costs and associated harms, and exploiting drug markets' inherent adaptability.

INTRODUCTION

Over the last decade there has been a vigorous debate over the merits of a 'harm reduction' as opposed to a 'use reduction' approach to drug policy. To oversimplify greatly, harm reduction has won out in some countries (e.g. the Netherlands), but not in others (e.g. the US). To a great, unnecessary, and substantially misleading extent, this debate has conflated goals and interventions. Harm reduction has been seen as the province of drug treatment and public health interventions such as syringe distribution. Use reduction has been seen as the province of law enforcement (and sometimes primary prevention).

As a result, relatively little thought has been given to what law enforcement's role should be within a harm reduction regime, and with some exceptions (e.g. Weatherburn & Lind, 1999), most of what has been written tends to be very negative (e.g. Maher & Dixon, 1999; 2001). This paper addresses that gap in two ways. First, it provides a conceptual framework for thinking about harm reduction in terms of goals, not interventions (e.g. one, though by no

means the only possible, definition of harm reduction is seeking to minimize the total societal harm caused by the production, distribution, use, and control of drugs, using whatever interventions are most effective). Second, five ways law enforcement can contribute to achieving harm reduction goals are discussed.

DRUG POLICY GOALS

Harm reduction means different things to different people. This essay will consciously eschew delving into the academic debate about definitions of harm reduction (see, for example, Erickson et al., 1997), striving instead to present a necessarily somewhat subtle set of ideas in as transparent a fashion as possible. In doing so, it draws heavily on the ideas of MacCoun and Reuter (2001).

The first point to make is the distinction between means and ends, or between goals and programs or policies. Harm reduction and use reduction are most constructively thought of as characterizing a goal (striving to reduce harm or use,

respectively), not a specific set of policies or means toward that end. (e.g. many observers believe that syringe exchanges reduce harm, but that needn't mean syringe exchange is synonymous with harm reduction).

Whether a particular policy or program contributes constructively toward achieving a goal is an empirical question. Giving youth accurate factual information about date rape drugs might or might not reduce the number of times those drugs are used in sexual assault, depending on what the youth knew, or thought they knew about the drug, how the information was presented, and a host of other factors. If the would-be perpetrators already knew of the drugs' ability to be misused in this way, but potential victims did not, the information would likely help. But if even the potential perpetrators were unaware of the drugs' effects, the education campaign might backfire. Likewise, aggressive enforcement against Ecstasy might reduce cases of dehydration and heat exhaustion by reducing use, or it might increase such cases by driving the activity underground, discouraging users from seeking medical attention, and suppressing safe use information.

A consequence of this simple observation is that the mere articulation of a goal does not in and of itself rule out any type of intervention. Rather, one must inquire as to the nature of the consequences of the intervention.

A second point to make is that harm reduction and use reduction are not intrinsically contradictory goals. We do not face a zero sum game in which reducing harm necessarily increases use or vice versa. Quite the contrary, most observers would agree that all other things equal, reducing harm and reducing drug use are both desirable outcomes. The choice or conflict in the selection of goals stems from differences in priorities and the fact that all other things are not necessarily equal.

Considering a simple equation makes the point. By definition:

$$\text{Total harm} = \text{Total use} \times \text{average harm per unit of use} \quad (1)$$

A use reduction strategy seeks to reduce the first term on the right hand side of the equality, namely total use. Reducing use while holding everything else equal, including the average harm per unit of use, will also reduce total harm. The catch is that some interventions that reduce use also increase the average harm per unit of use. An intervention that reduced use by 10 per cent but increased the average harm per unit of use by 20 per cent would reduce use, but increase total harm. It would be a successful use reduction program, but a failure as a harm reduction program. Some people think that crackdowns on street markets have this character because they encourage oral and nasal storage of drugs and increase needle sharing because users are reluctant to carry injection equipment (Maher & Dixon, 2001).

What exactly a harm reduction strategy seeks to reduce is less clear. For some, harm reduction seeks to reduce the harm per unit of use. MacCoun (1998) calls this 'micro' harm reduction. In complete parallel with use reduction, micro harm reduction may or may not reduce total harm. Interventions that reduce harm per unit use without increasing use clearly reduce total harm, but an intervention that reduced harm per unit use by 10 per cent and increased use by 20 per cent would not.

Hence, others conceptualize harm reduction as seeking to reduce the total harm. Total harm can be ameliorated by reducing use, average harm per unit of use, or some combination thereof. This goal, which MacCoun calls 'macro' harm reduction, is hard to argue against. It is similar to the Benthamite goal of maximizing social welfare. Indeed, if we augmented the equation above by subtracting off drug-related benefits, it would be synonymous with maximizing social welfare, since mathematically there is no difference between minimizing harm minus benefits and maximizing benefits minus harm. Some might argue for counting such benefits, but we do not here because they derive from illegal activities and few policy makers are likely to want them included.

Law enforcement can play a role in either micro or macro harm reduction, but the options for contributing to macro harm reduction are clearly greater, for the simple reason that both use reduction and micro harm reduction strategies can contribute to reducing macro harm.

A second equation distinguishes who generates the harms that are being reduced. In particular, four sources of harm can be distinguished if one defines macro harm reduction as reducing the total harms caused by drug production, drug distribution, drug use, and drug control. In particular we might elaborate the equation above to become:

$$\begin{aligned} \text{Total harm} = & \text{Total use} \times \\ & (\text{average per unit harm from production} \\ & + \text{average per unit harm from distribution} \\ & + \text{average per unit harm from consumption}) \\ & + \text{Control costs and associated harms.} \quad (2) \end{aligned}$$

Again, any of these five terms can be attacked, and reducing any one reduces total harm, as long as doing so does not increase the other terms by too much. For example, cutting control efforts in half would clearly reduce the last term (control costs and harms), but it might increase total harms if use increased substantially. On the other hand, if there were ways of reducing the harms of control without reducing the beneficial effects, that would clearly reduce total harm. For example, eliminating inappropriate racial profiling would reduce harms to civil liberties and improve police-community relations and it might also increase, not decrease, enforcement's effectiveness.

When people conflate the harm reduction end with treatment and public health means, they sometimes overlook opportunities to reduce total harm by reducing the harms per unit produced or distributed. For example, in the US, most drug-related violence is in Goldstein's (1985) terminology 'systemic violence' (related to the drug trade) not 'psychopharmacological' (related to drug use itself). An intervention that reduced psychopharmacological violence per kilogram consumed to zero might contribute less to reducing total harm than would an intervention that reduced systemic violence per kilogram sold by 50 per cent. Clearly law enforcement has a more proximate impact on systemic violence than do, say, treatment and syringe exchanges. Some opportunities in that regard will be elaborated below.

It can also be useful to distinguish who bears the burden of the harms being minimized. For example:

$$\begin{aligned} \text{Total harm} = & \text{harms to users} \\ & + \text{harms to sellers} \\ & + \text{harms to friends and family of users and sellers} \\ & + \text{harms to the general public} \quad (3) \end{aligned}$$

This summation is mathematically uncontroversial, but it lays bare fundamental differences in values that underpin some contentious debates concerning drug policy. For some people, drug users are victims, and it is society's responsibility to help them. To others, drug users are criminals, and it is society's responsibility to punish them. Likewise with sellers, although some who see users as victims see sellers as culpable, and a few excuse sellers as merely catering to users' needs while condemning users as the root cause of the drug problem.

To punish is not synonymous with harming. Ideally, punishments would be unwanted but nonetheless beneficial to the person punished. Compulsory community service might have that character. Practically speaking, however, most criminal punishment expends resources (notably the taxpayers' money) and inflicts harm on perpetrators. Hence, if harms to users and sellers are counted in the sum of total harms to be minimized, punitive drug-control policies must pass a stiff test in order to find favour in a

macro harm reduction framework. In particular, the punishment must deter enough drug-related activity that the harms averted by that reduction outweigh the increased harm accruing directly from the punishment of those not deterred. Whether a particular punishment policy passes this test is an empirical question, depending in large measure on how effective the threat of punishment is at deterring drug-related behaviour.

Note, this stiff test becomes an impossible one if the goal is reducing harm per user (micro harm). When the focus is on harms per user, interventions get no credit for reducing the number of users. Indeed, convincing users to quit can actually *increase* harm per user if the users who quit were primarily casual users and a larger proportion of the dependent users who suffer the greatest harm continue to use. That happened in the US cocaine market in the 1980s, and such contradictions are a good argument for focusing on macro rather than micro harm reduction.

Harms to the general public accrue in rather diffuse ways: increased taxes to pay for drug control programs and for welfare for users who do not work, burglary and other criminal victimization by drug-involved offenders, disorder in public spaces, reduction in tax revenues when addiction diminishes labour market productivity, etc. In contrast harms to users (e.g. overdose), sellers (e.g. incarceration), and friends and family of drug-involved offenders (e.g. domestic violence and child neglect) are much more poignant. That does not mean, however, that harms to the general public represent a trivial fraction of total harm. Harwood et al. (1998) estimate that the social costs of illicit drugs in the US were in the vicinity of \$98B in 1992. Taxpayer-financed spending on control programs was on the order of \$28B at the time (including state and local spending), and a portion of the \$20B in crime-related costs was borne by people not themselves involved in drugs. Hence, although the typical member of the general public does not suffer as great drug-related harms as does the typical user, in aggregate harms to the general public are not negligible.

Harms to friends and family of drug offenders represent a smaller fraction of official tallies of drug related harm, but I suspect that reflects data and methodological limitations. For example, Harwood et al. (1998) do not even consider child abuse and neglect by drug dependent parents. Likewise, I am not aware of contingent valuation studies assessing parents' willingness to pay to have their children not be drug dependent. The economic, emotional, and physical toll addiction takes on friends and family is considerable, particularly when one remembers that there are typically several friends and family members for each addict. I do not believe an accurate accounting has been made, but my sense is that all three categories (harms to users and sellers, harms to friends and family, and harms to the rest of the citizenry) are important. None is so much larger than another as to make the second be of comparatively minor importance.

Some notions of harm reduction are inclusive, counting all three sets of stakeholders. Others consciously or implicitly focus only on the harms suffered by those who are themselves involved with drugs. Punitive approaches are more likely to pass the test of being harm reducing if one considers not only harms to drug offenders but also harms to friends and family of offenders and harms to society generally.

Punitive approaches are even more likely to be seen as reducing total harm if harms suffered by drug offenders are not counted. Few who currently espouse harm reduction exclude these harms, but perhaps some who now favour use reduction over harm reduction as conventionally construed might accept a goal of reducing drug-related harms suffered by those who are not themselves involved with drugs.

To summarize, it is more constructive to define harm reduction in terms of goals than programs. Even so, there remain multiple definitions of harm reduction because there are multiple ways of tallying harm. Generally speaking, enforcement is more likely to reduce total (macro) harm than harm per user or per kilogram consumed (micro harm). Likewise, enforcement is more likely to reduce accountings of harm that include harms

from all sources and harms suffered by all people than it is to reduce just the harm suffered by users or the harms caused by use. One would expect advocates of users' interests to favour the narrower definitions of harm and, hence, to be sceptical that enforcement can play a constructive role. Advocates of the public interest more generally may be more willing to embrace interventions that harm users but benefit those not themselves involved with drugs.

SOME HARM REDUCTION ROLES FOR LAW ENFORCEMENT

There are many roles for law enforcement within a harm reduction regime. Five are outlined here.

PARTNERSHIPS

Too often different types of drug control programs are viewed as competing alternatives (Weatherburn & Lind, 1999). We can fund treatment or enforcement. We should beef up prevention or interdiction. If one's thinking is constrained to seeing these as either/or choices and one is unalterably committed to something other than law enforcement, then there might seem to be little need or room for law enforcement. But such thinking is artificially constrained. In some cases law enforcement can enhance the effectiveness of interventions customarily pursued in order to achieve harm reduction ends. In drug policy, just as in life more generally, the carrot and the stick together may be preferred to either alone.

Partnerships between law enforcement and non-enforcement interventions can be explicit or implicit. Regrettably, one of the better known explicit partnerships – the use of police officers in school-based drug prevention curricula such as DARE – has not proved to be very effective (Ennett et al., 1994). Partnerships with treatment are more promising, whether they take the form of drug courts (Belenko, 2001), treatment in prison, or making compliance with treatment a condition of probation/parole. In such cases, the law enforcement 'stick' can be

used to get people into treatment who would not enter voluntarily, to keep people in treatment when they might want to drop out, and/or to keep them from relapsing into drug use during or following the formal treatment program.

These partnerships are innovative for adult offenders in the US, but they reflect the traditional emphasis on rehabilitation in the juvenile justice system. Convicted juvenile offenders may be punished, including by incarceration, but assignment to a case worker, probation with monitoring, and group homes are also common dispositions. The practical realities in a resource-constrained juvenile justice system may deviate considerably from the ideal, but the concept of using the criminal justice system as a front end to an intensive intervention designed to help and rehabilitate the offender is entirely familiar. Law enforcement may play a singularly important role vis-a-vis juvenile drug offenders inasmuch as many do not yet perceive that they want or need treatment.

More innovative partnerships are easy to imagine, and may well already exist in a variety of places. For example, one barrier to expanding treatment centres and syringe exchange operations is the familiar NIMBY (Not In My Back Yard) syndrome. Many people who support expanding treatment generally are less enthused about the prospect of having a centre open next door. Some typical concerns about disorder or burglary by treatment clients with criminal histories might be allayed by increased law enforcement presence. One could imagine a policy of co-locating police substations and treatment centres to address citizens' fears. Co-location might also discourage drug sellers from operating near the treatment clinic, which could improve treatment outcomes for clients subject to cravings when they see drug-related 'cues'.

Information exchange is another form of partnership. Police may know where there are drug users not being served by existing harm reduction programs, and health data (e.g. concerning changes in the number of people seeking treatment) might help law enforcement assess its effectiveness.

Not all partnerships need be explicit. Law enforcement activities may usefully complement other interventions even if they are not directly linked programmatically. For example, police enforcement may make all sorts of drug prevention activities more effective, not just those that bring police officers into the classroom. Again, this is an empirical question. One can imagine a scenario in which the opposite might be true. For example, if policing is so heavy-handed and racially biased that use of drugs becomes an appealing political protest. But it is just as easy to describe beneficial scenarios.

Resistance skills programs instruct youth to practice declining offers to use drugs, citing 'cool' or defensible arguments. Concern about arrest, loss of athletic scholarship, or about workplace drug testing may be useful 'excuses' for declining drugs. Indeed, threat of sanction can for some be a real incentive not to use drugs, not just a convenient excuse, and even though it is popular to flag 'forbidden fruit' effects, whereby prohibition makes a substance enticing, for many people the moral force of the law and associated enforcement discourages rather than encourages the behaviour in question.

Law enforcement can also help treatment programs (Weatherburn & Lind, 1999). A conventional wisdom is that dependent users do not enter treatment until they have 'hit bottom'. Inasmuch as aggressive enforcement makes life unpleasant for drug users, it may promote treatment seeking and perhaps retention in treatment even if there is not an explicit programmatic linkage, as with drug courts (Weatherburn, et al., 1999).

Enforcement may play a similar role in efforts to 'self-treat'. The majority of people who become dependent on drugs cease use on their own or only with informal support (e.g. of friends and family), not through a formal treatment regimen. If enforcement can have even a modest beneficial percentage impact on the relatively large flow out of heavy drug use that is not associated with treatment, it could be of comparable value to larger percentage increases in the small flow out of heavy drug use through treatment. Whether the effect is beneficial at all is an empirical question and may depend on the nature of the enforcement.

CONSTRAINING SUPPLY

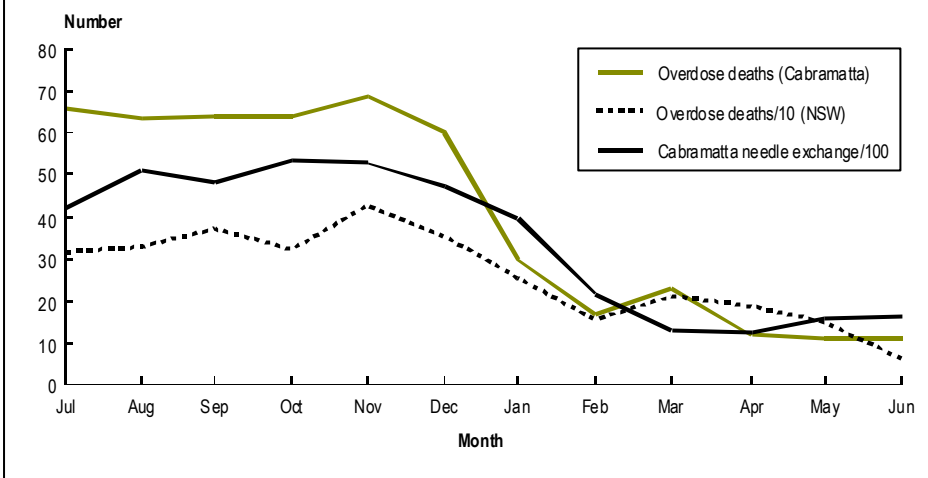
Drug consumption is in one sense very like consumption of other goods. It is the result of demand and supply interacting in the marketplace. Enforcement and other factors that constrain supply will tend to reduce use, and as discussed above, all other things being equal, reducing drug use will tend to reduce total (macro) drug-related harm.

Enforcement sceptics counter this line of reasoning with one or more of three arguments: (1) Reducing supply has little impact on use, (2) Any reductions in use are more than offset by increases in the harm per unit of use, and/or (3) Enforcement cannot reduce supply in the first place.

The first counter-argument seems increasingly dubious in the face of mounting evidence that consumption is in fact quite responsive to price. In particular, when prices go up, use goes down, and vice versa. Chaloupka and Pacula (2000) provide a useful review of this literature. The old view was that even if price increases reduced drug use, they did so less than proportionately, so spending on drugs would increase rather than decrease when prices rose. In other words, demand for drugs was assumed to be relatively price-inelastic. More recent evidence suggests that drug demand may be closer to unitary elasticity (price changes induce no change in spending) or even be relatively elastic (price increases reduce total spending) so it is no longer clear that 'the drug squad makes work for the burglary squad'.

Furthermore, price seems to be correlated negatively not only with per capita consumption by current users, but also with initiation (Caulkins, 1999) and emergency room mentions (ONDCP, 1992; Caulkins, 2001). The latter is noteworthy because it is a fairly direct challenge to the notion that harms per unit of use rise by enough to more than offset any reductions in use. Likewise the Australian heroin drought that began in late 2000 or early 2001 seems not only to have driven price up and use down, but also to have had a beneficial effect on a variety of harm related indicators. Figure 1 illustrates this for needle use and overdoses in New South

Figure 1: Trends in needle exchange and overdose (July 2000 - June 2001)



Wales and Cabramatta (a major heroin market). Weatherburn et al. (2001) elaborate this point for a broader range of indicators.

The third counter-argument, that enforcement is not very effective at constraining supply in the first place, may be the hardest to dismiss. Certainly there is little evidence that the ramp up in US enforcement spending over the last 20 years has increased prices or scarcity. Except for one significant price spike in 1989-1990 and a much smaller one in 1995, cocaine prices have been falling, sharply in the 1980s and more modestly since. Heroin prices have fallen in parallel, and availability of drugs generally as reported by high school seniors has not been reduced. Among the three major drugs, only marijuana prices have risen for extended periods within this time frame, and marijuana is not the principal target of enforcement. With the conspicuous exception of Crane et al. (1997), studies that correlated enforcement measures, such as seizures, with price and purity have found no evidence that enforcement was able to constrain supply (Weatherburn & Lind, 1997; Yuan & Caulkins, 1998).

There have been some bright spots. The combination of the Turkish opium ban and the French connection case substantially disrupted the US heroin market in the early 1970s (Kleiman,

1992, p.132). Emergency room mentions for cocaine were lower during the 1989-1990 price spike (ONDCP, 1992). And, more recently, it seems likely that enforcement caused or at least contributed very substantially to the Australian heroin drought.

Still, it is very important to differentiate between enforcement's capacity to rescue a blighted area versus its ability to keep a drug from emerging where it heretofore is not established. Likewise, enforcement may have much less capacity to constrain the supply of a well-established drug supported by mature markets vs. an emerging but still not widely used substance, a topic to which we turn next.

TIME-FOCUSED INTERVENTION EARLY IN AN EPIDEMIC

Many drugs pass through an epidemic cycle. Initially use is low. For some reason, not necessarily common to all substances, use begins to grow. Positive feedback kicks in, with existing users introducing new users to the substance, leading to a contagious spread. At that stage of the epidemic, drug use is virulent, and adding an additional user to the population could stimulate a chain reaction that eventually prompts the initiation of many others. Conversely, preventing one initiation may indirectly avert many others. (Caulkins et al., 1999, Appendix D)

The explosive growth stage does not continue forever. Eventually initiation declines, use stabilizes, and the epidemic moves into an endemic phase, usually with prevalence decaying slowly from its peak. There are various explanations for why epidemics peak and subside (c.f. Caulkins, forthcoming), but one plausible story is that when the drug's negative effects become widely understood, fewer people want to start using the drug. In short, the drug acquires a negative reputation as being dangerous or linked with crime. There are two reasons why it takes time for such a negative reputation to develop. First, at the individual level, most users experience a honeymoon period of some years during which the drug brings them more pleasure than apparent harm. Second, at the population level, by the time the first users begin to manifest the ill effects of heavy use, they are surrounded by a sea of new light users who are still in their honeymoon period. Eventually the ratio of problem users to newer users increases because exit from heavy use is slow, but by the time harmful consequences are seen as a significant risk rather than a rare exception, several annual birth cohorts will have gone through their prime initiation years with the drug commonly available and perceived as relatively benign.

Researchers (e.g. Musto, 1987; Kleiman, 1992) have long described these dynamics in qualitative terms. More recently Everingham and Rydell (1994) and Behrens et al. (1999, 2000) proposed a formal mathematical model that captures these behaviours. Despite the model's simplicity, it matches historical data on the US cocaine epidemic surprisingly well and yields important policy implications. Perhaps the most important and robust finding is that interventions early in an epidemic, during its contagious growth stage, can have a much greater impact on total use over the epidemic than can comparable efforts later in the epidemic. This result is not surprising. With almost any positive feedback process, early intervention is powerful. Fighting forest fires is a familiar parallel from a different context. A principal implication of this simple observation is that law enforcement has an absolutely critical

role in controlling the early stages of a drug epidemic. No other intervention mechanism has comparable capacity to focus on the early stages of an epidemic.

Treatment is unhelpful for two reasons. First, during the explosive growth stage most users are in their honeymoon phase and are not interested in treatment. Second, removing problem users from the population would have a mixed impact on subsequent initiation. To the extent that removing heavy users erodes demand sufficiently that the market becomes sparse and inefficient, treatment may help. But to the extent that treatment removes visible reminders of the potential risks of drug use, treatment could actually slow accumulation of the drug's negative reputation and thereby reduce a disincentive to initiation.

Classic harm reduction efforts may be even less useful. They can reduce or delay accumulation of the negative reputation without helping to thin the market.

Prevention interventions are not necessarily unwise, but cannot be relied upon alone for several reasons. First, quite simply, even the best prevention programs change the behaviour of only a small proportion of would be users. If a set of youth who would have tried drugs in the absence of a prevention program are instead exposed to a cutting-edge prevention program, most will still use. Prevention tends to be cost-effective not so much because it is enormously effective but rather because it is so inexpensive.

Second, there are inherent lags built into school-based drug prevention. During the recent US cocaine epidemic the median age of cocaine initiation was 21.5, but the typical school-based drug prevention program is run with 13- or 14-year-olds, so prevention is most effective at controlling cocaine when done about eight years *before* the rapid increase in initiation. US cocaine initiation rose sharply during the 1970s reaching a peak in the late 1970s or early 1980s, so that would mean doing school-based prevention in the late 1960s and early 1970s. However, it was not widely understood that the cocaine epidemic was a serious problem until the 1980s.

Other forms of prevention (such as mass media campaigns) have a shorter lag, but the evidence concerning their efficacy is thin at best. Furthermore, it is possible (though as far as I know untested) that the scare tactics most amenable to media-based prevention are least effective in the early stages of an epidemic when (1) awareness of the drug may not yet be universal, so mass media coverage may pique interest in the drug and (2) the reputation of the drug is relatively benign, undermining the credibility of campaigns that stress the drug's risks. More subtle approaches, such as life skills or resistance training, may be more effective in the early stages of an epidemic, but they are typically deployed to younger children and, hence, are subject to the lag problem.

Furthermore, treatment, prevention, and some aspects of harm reduction tend not to be very drug-specific. Enforcement, in contrast, has the capacity to focus its effects in the present, to respond quickly, and to be drug-specific.

It is important to recognize that many of the reasons enforcement tends not to be very cost-effective at addressing a mature epidemic do not apply early in an epidemic. The fact that sellers are easily replaced is perhaps the greatest limitation of enforcement directed against black market suppliers. Late in an epidemic there are many potential sellers relative to demand, in part because addicts make up a large share of total demand and many addicts are themselves willing to sell. Also, past enforcement has created a pool of sellers who have been incarcerated and released and whose legitimate labour market prospects may be meagre as a result. In contrast, early in an epidemic there may be relatively more buyers than retail sellers, so removing retailers could reduce availability.

Likewise, a mature drug market's distribution chain is robust, with many lateral linkages. Removing one wholesaler or breaking one link has little effect. However, soon after a new drug reaches a city there may be only a limited number of wholesale connections for that drug, and removing one could reduce availability.

Such reductions are at best only temporary, and temporary disruptions to a mature market may or may not be of value. A principal hope for temporary disruptions is that they would allow a birth cohort to pass through its ages of greatest initiation risk during that 'window' of low availability. However, mature markets bounce back from disruptions quickly and, at any rate, initiation is already lower in mature markets regardless of availability, e.g. because the dangers of the drug are widely appreciated. Also, Boyum (1992) has even raised the (untested) possibility that oscillations in price and availability may increase use and crime for dependent users, and dependant users constitute the majority of demand in a mature market.

Early in a contagious drug epidemic, by contrast, modest disruptions can have lasting impacts. The eventual size of the epidemic is determined in part by how much 'momentum' the initial contagious spread generates before the long-run negative feedback kicks in and dampens initiation. And the relation is nonlinear. Letting the contagious spread continue unfettered for a little longer can substantially increase the total amount of drug use over the course of the epidemic. Conversely, modest disruptions during that exponential growth stage can yield more than proportionate long-term reductions in use.

For an analogy, again think of fighting fires, in this case a house fire. If the doors in the house are closed, there is less risk the house will burn to the ground. That is not because the closed doors extinguish the fire, but because they can slow its spread just enough for the negative feedback (i.e. the fire department) to arrive before the positive feedback (the fire's spread) has gotten out of control. Temporary market disruptions can be like closed doors, slowing the spread. Even if enforcement does not actually reduce availability, merely making users and sellers more cautious about proselytizing to new users could be extremely beneficial in the context of such a feedback system.

This vision of enforcement delaying and softening the peak of an epidemic rather than reversing or eradicating it presents an interesting conundrum for evaluators.

It suggests that enforcement intensity ought to be greatest when drug use is increasing fastest, and enforcement intensity should be reduced when drug use is ebbing. If that policy were followed, then *ex post facto*, one would observe a positive rather than a negative correlation between enforcement intensity and drug use and related problems. The natural (albeit naïve) interpretation would be that enforcement exacerbates drug use, even if in fact enforcement had averted a considerable proportion of the use that would otherwise have occurred. Good social scientists would not fall victim to such inferential errors, but in forums where it is not customary to talk about 'counterfactuals' and to distinguish between 'correlation and causation' opponents of enforcement could mount intellectually bankrupt but politically potent attacks.

Great enthusiasm for enforcement's unique value early in an epidemic does not imply that all aspects of enforcement are equally valuable. Administratively, the easiest way to amplify enforcement pressure in the present is to lengthen sentences. The incapacitation effects (and the costs) of lengthening sentences are deferred. If someone who would have been incarcerated for two years will instead serve five, the change in incapacitation (and costs) does not manifest until year three. But the deterrent impact of longer sentences manifests around the time of arrest. So without redeploying any resources in the current fiscal year, one can increase risks immediately and substantially.

In theory sellers respond to such enforcement risks. Indeed, the 'risks and prices' theory of drug markets (Reuter & Kleiman, 1986) explains the high monetary income of dealer primarily as compensation for the risks of enforcement (and violence). However, there is some question as to whether risk-based deterrence works as well for drug sellers as rational-actor theories might suggest (Caulkins & MacCoun, in submission). Furthermore, long sentences clearly defer incapacitation effects into the future. It costs roughly the same amount to incarcerate one seller for ten years as five sellers for two years each. But if early in the epidemic incapacitation is useful and later on replacement renders it moot, and if early

in an epidemic the positive feedback effect is dominant, incarcerating five people each for two years early in an epidemic could be much more effective.

Later in an epidemic, arresting large numbers of typical sellers may be less valuable than arresting a smaller number of sellers whose dealing tactics are particularly harmful (see below). Early in an epidemic, however, the principal harm caused by any seller is feeding the positive feedback process, and, ironically, sellers who are unusually violent or otherwise disruptive could actually contribute to the drug's negative reputation and, hence, help limit initiation.

Thus, the amount and nature of cocaine enforcement that is most effective at reducing harm in the US, where the cocaine epidemic has matured, may be very different than the amount and type of cocaine enforcement that is appropriate in Australia, where cocaine is not so well established and may be growing. In contrast, aggressive enforcement toward methamphetamine/amphetamine may be appropriate in both countries since those markets are not well established. Ironically, there is a tendency for the most enforcement to be devoted to the largest markets, not to the fastest growing.

REDUCING CONTROL COSTS AND ASSOCIATED HARMS

Societies face a fundamental choice concerning drugs and their prohibition. Prohibition reduces use, but creates high costs of control, including black markets. Legalization eliminates most costs of control, but risks greatly increased use and attendant problems. As Mark Kleiman (1992) puts it, you can choose your drug problem (one of use or one of control), but you can't choose not to have a problem.

With respect to most psychoactive substances except alcohol and nicotine, most countries have opted for prohibition. That typically means that what Weatherburn and Lind (1999) call 'direct harms' of use are modest whereas the 'induced harms' from control efforts are larger. Hence, reforms that simply reduced those induced harms, without doing anything to affect direct harms, could make a valuable contribution. In

contrast, improving the administrative efficiency of tobacco excise tax collection would have minimal impact on the total social cost or harm associated with tobacco use.

The combination of three fundamental observations about drug supply and supply control, at least in the US, suggest there are important opportunities of this sort for illicit drugs. In general, there is substantial variability in the activities of drug sellers and the amount of harm they generate for others (Caulkins & Heymann, 2001); the intensity of enforcement directed at mass market drugs is in a region of sharply diminishing returns (Caulkins, 2000); and sentencing laws do a poor job of targeting the longest sentences on the most problematic sellers (e.g. Schulhofer, 1993; Human Rights Watch, 1997). Thus, one might be able to combine an across-the-board reduction in enforcement with improved targeting, yielding no net reduction in enforcement's impact but a reduction in the number of people sanctioned. It takes resources to target effectively. Sweeping the streets for low-level operatives is easier. But that fact that incarceration costs are large relative to investigation and adjudication costs may make such strategies viable. In effect, one would be calling for *increased* budgets for police and prosecution, but demanding that the criminal justice system arrest and convict *fewer* drug-offenders, thereby reducing incarceration costs.

Alternately, one could focus on the quality definitions, not the budget reallocation. That is, the incentive systems for law enforcement personnel tend to reward large volumes of arrests, with quality distinctions being made only on highly imperfect measures, such as the quantity possessed at the time of arrest. Redesigning performance review and promotion criterion to stress outcomes that are more closely tied to harm reduction goals might be constructive. For example, one might imagine defining a 'narcotics squad's most wanted' list of known dealers who the community name as causing the greatest harm, with special accolades for arrest of people on that list. Likewise arrest totals could be broken down not by quantity possessed but by the presence or absence of weapons or by whether the offenders operated through corruption or stealth.

Inasmuch as measures matter, another suggestion would be to develop data monitoring systems for the harms that are large but overlooked. For example, if national reports annually detailed the number of children abused or neglected by drug addicted parents and the number of citizens detained at drug check points who were not in fact carrying drugs, the mere existence of those numbers might influence behaviour even if they were not explicitly tied to incentives.

TAKING ADVANTAGE OF DRUG MARKETS' ADAPTABILITY

When law enforcement seeks to suppress drug use, its greatest curse is the amazing adaptability of drug markets. Push down in one place, and they pop up somewhere else, whether the displacement is physical (one location to another), temporal, or in terms of tactics (shut down street markets, and dealers switch to beeper-based delivery methods).

When law enforcement seeks to suppress drug-related harm, its greatest ally is the amazing adaptability of drug markets. That is, law enforcement can turn the markets' resilience to great advantage (Dorn & South, 1990).

The difference is that markets have an intrinsic desire to meet demand (i.e. to provide whatever quantity of drugs is desired at the going price). Trying to block that desire is like trying to sweep back a flood. But markets have no similar innate need to create externalities (harms suffered by others). By definition, market participants are indifferent to the level of externalities. In principle, all that sellers care about is delivering the product and making profits. So if they can make a little more money by changing their tactics in a way that harms others, they will. But conversely, if they can make a little more money by changing tactics in way that reduces harm to others, they will. Pragmatically, sellers may care about the welfare of others, including their customers, but the central point remains. Sellers are primarily motivated by something other than thwarting harm reduction.

To borrow the terminology of competitive games, when law enforcement tries to reduce use, law enforcement and drug

suppliers are in what amounts to almost a zero sum game, and the market will resist every effort by law enforcement to achieve its goal of reducing use. But when law enforcement tries to reduce harm, the game is no longer zero sum. There are ways of manipulating the market into achieving more of what law enforcement wants (less harm) without inducing push-back by the market.

The reason this is possible is that different distribution methods and tactics produce more or less harm per unit delivered or per dollar the sellers make. Shifting the market from its current form into a form that generates less harm per unit produced and distributed while keeping the quantity delivered constant will reduce total harm.

Lest this sound like a corrupt bargain with criminals, it is important to remember that the market is atomized not monopolized. One is generally manipulating incentives in order to influence the population of sellers generally, not bargaining with a specific selling organization.

The concept is best made clear with a simple example. Suppose there is a flagrant street market at a street corner near a school, a treatment centre, a playground, and a residential neighbourhood. The very existence of such a market generates many harms. Suppose that a crackdown closed this market, but it reappeared in an abandoned industrial area not far away. Conceivably, there would be no noticeable change in drug use. The same dealers and the same users could ply their trade in the same way in the new location, but expose fewer children, recovering addicts, and members of the public generally to the disorder, stray bullets, and other externalities drug markets generate. Pushing the market to a different location might do nothing to reduce use, but still make a real contribution to harm reduction, and a contribution that no agency or intervention other than law enforcement could plausibly make.

Note, that when the goal is to merely to displace rather than to eradicate distribution and use, law enforcement can employ methods that are less expensive than arrest, prosecution, and sentencing to long terms. For example,

Reuben Greenberg, police chief of Charleston South Carolina, has shut down a particularly problematic crack house simply by parking a marked police car in front of the house for a few days. Customers were unwilling to walk past the car to buy drugs, so the crack house was soon abandoned. The sellers presumably shifted operations elsewhere, but the pressing problem was addressed quickly and with minimal resources.

There are an almost limitless number of variations of this basic theme (Boyum & Kleiman, forthcoming). For example, even in the US most drug sellers are not extremely violent. Approximately 1,000,000 Americans sold cocaine in the last 12 months, but the total number of homicides is 'only' around 15,000 so clearly most dealers do not kill most of the time. But some do. And selective enforcement that makes it uneconomical to sell drugs by routinely employing violence could displace selling into forms that attract less enforcement attention. Mandatory sentence enhancements for carrying drugs and weapons simultaneously can help in this regard, although stiff mandatory minimum sentences simply for drug possession with intent to distribute can make it difficult to create a sharp incentive difference. That is, if the floor for 'simple' distribution offences is too high, it can be hard to create a meaningful distinction between routine and 'enhanced' distribution offences. In such cases, the differential incentive can still be created through variation in the probability of arrest.

Just as not all sellers routinely employ violence, not all employ children as lookouts, not all evade enforcement by corrupting officials, and not all occupy and dominate physical spaces in ways that are disruptive to everyday life. Those that do may merit special attention in an effort to place them at a competitive disadvantage relative to less caustic forms of selling. To draw a parallel with prostitution enforcement, if street walkers are perceived to be more harmful to civic life than call girls, one can focus enforcement on the street walkers. Indeed, many cities do just that, and MacCoun & Reuter (2001) describe prostitution control as an example of law enforcement following a harm reduction philosophy.

Distinctions can be made at other market levels as well. A case could be made that a ton of heroin smuggled in by body carriers is less harmful than the same amount smuggled into the country in large shipments. Large shipments are worth enough to create incentives for employing violence, either to steal the shipments or to defend against such theft. Also, any organization that moves such large quantities must be powerful, whereas a smaller dealer who arranges for delivery by body carriers may have fewer resources. Ten small organizations each importing by body carrier may have less capacity to corrupt or threaten state institutions than one large organization that imports as much as the ten small organizations do collectively.

A more subtle point has to do with the flows of money associated with these two smuggling methods. When large quantities are smuggled between rather than through ports of entry, profits for successful dealers are very large. Markups between the import price and price at export in the source country are large to compensate for the risks of seizure, incarceration, and other probabilistic losses. Although the price differential may just compensate smugglers on average, chance will create winners and losers, and the winners will be very powerful. Looked at another way, the money flowing from the drug users ultimately goes to criminals to compensate them for their risks.

The money flows are different for smuggling modest amounts on (or in) one's person on commercial airline flights. Markups between export and import must be high to compensate for the cost of their airline tickets and for couriers' time, not so much for the risks of incarceration. More of the money flowing from the drug users ultimately ends up going to legitimate businesses, such as airlines, not violent criminals.

In effect, society faces the choice of having drugs smuggled into the country in one of two ways. In the first, drug users' money is used to pay armed, violent criminals to move large quantities by corrupting government officials and/or engaging in dangerous cat and mouse games with law enforcement. In the second, the money is used to have unarmed people—usually with no criminal record and ideally not 'looking' like a

criminal in any way—take a bunch of aeroplane trips. Presumably if the price of the delivered drugs were the same in each case, society would prefer drugs to be imported the second way.

The lesson is not to cease all inspections of incoming plane flights. A little bit of enforcement can force smugglers to operate in inefficient ways (e.g. carrying small packages per trip, necessitating multiple flights to deliver a given amount). But applying enough enforcement to 'successfully' deter small-quantity couriers may shift drug smuggling to other, more harmful means.

Some countries (e.g. the US) have a hard time creating enforcement-based incentive differentials because they prosecute all drug-involved offenders aggressively. Others have no such qualms. The Zurich needle-park can be seen as an extreme example of such enforcement incentive differentials. That particular experiment didn't work. But in a practical world (and our world may or may not be this practical) it may make sense to push down hardest on the kinds of dealing that are most noxious, and to be somewhat less aggressive towards forms of dealing that are somewhat less harmful.

CONCLUSIONS

Harm reduction paradigms have gained increasing acceptance in a variety of countries around the world. Typically their proponents do not come from law enforcement ranks, and they tend not to have much to say about what if any role law enforcement should play in a harm reduction regime. This is a serious omission. Absent complete legalization, the distribution and sale of the substance remain illegal, and some policy needs to govern what will be done with offenders who are caught. Even if one doesn't aggressively investigate drug offences, some will manifest (e.g. when a traffic stop reveals contraband or when the selling activity prompts complaints and calls for action from neighbours).

More fundamentally, though, when harm reduction advocates ignore law enforcement they ignore a uniquely potent force for harm reduction. Narrow constructions of what harms should be reduced may necessarily relegate law

enforcement to a secondary role (e.g. if harm reduction were only about reducing the average harm users experience because of pharmacological consequences of use, then the drug problem essentially gets defined as a medical problem. But such parochial perspectives are unsatisfying to citizens who worry about disorder, corruption, and violence associated with black markets or the harms suffered by family members of dependent users.

It may be that law enforcement has not been embraced by harm reduction for the simple reason that law enforcement has not itself historically embraced harm reduction. Law enforcement has a reputation—at least partially deserved—for sometimes increasing harms (cf., Reuter, 1997). But the mere fact that law enforcement can be pursued in harm increasing ways does not mean that it cannot be pursued in harm reducing ways.

It has been noted that few arms of government enjoy more discretion than law enforcement. Likewise, few are more centrally controlled or given such fundamental powers over the actions of others, particularly those who violate the law. The combination makes law enforcement a uniquely powerful resource for drug control efforts, regardless of whether the overall goal is reducing drug use, reducing drug-related harm, or some other goal. Unfortunately, at least the academic literature concerning harm reduction has yet to appreciate and take advantage of this resource.

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