Risk Compensation, Needle Exchanges and Bioethics

Drug Summit Conference 2000

Gregory K Pike, June 2000

Part of the task of ethics is to clarify all of the relevant factors that bear upon an issue. Once they have been identified, ethical principles can then be applied so that a conclusion can be reached about the best and most sound course of action.

For a complete and fair assessment of what to do about the use and abuse of psychoactive drugs, those relevant factors can be far reaching and include the impact not only on the individual, but also family, friends, the community and the values by which the community wishes to live.

Bioethics is centred on the human person, and the principles it relies upon have much to do with the nature of human beings as well as their just treatment. The basic principles upon which we agree serve as a foundational guide to direct us in difficult areas such as the abuse of psychoactive drugs.

I would like to address some of the ethical issues surrounding needle exchanges, which were perhaps the first major harm minimisation measure implemented in this country in the late eighties. But before doing that, I would like to briefly examine a feature of human nature that to a varying extent is characteristic of us all and may have an important bearing upon any new approach to this vexing problem.

This characteristic may be described as risk compensation. For all sorts of actions we set a level of acceptable risk that seeks to balance the benefits against the possible harms. We make a judgement about the acceptable level of risk we are prepared to allow to derive whatever benefit we are pursuing. How much risk is acceptable depends upon our perception of possible harm as well as the attraction of the benefit. For our judgement to be accurate the possible harms need to be clearly identified and put in perspective. Furthermore, different individuals will assess the risk of harm differently, and some will take far greater risks than others. These individuals we call risk-takers, and where the benefit is a good one risk-takers can be valuable people to have around. The relationship between these factors is not straightforward, but is complicated by individual preferences, perceptions, experiences, circumstances, and values, and what's more, the actual benefit and actual harm are easily misjudged.

The idea behind risk compensation is that the judgement displayed in carrying out a particular action, or even deciding whether to or not, is influenced by the perception of safety. The introduction of a safety measure has the potential to shift the balance so that in perceiving the action to be safer, we may compensate by upping the level of risky behaviour. This risk compensation means that an individual believes they are taking the same degree of risk as before because they believe the harm is now reduced. Or alternatively, the benefit is more easily derived so greater risk can be taken.

In a recent article in the medical journal *The Lancet* a theory of risk compensation was applied to the introduction of seat belts in motor vehicles.[1] This study was conducted because the promised benefits of seat belts in reducing road mortality and morbidity had not been realised. This may come as a shock to those of us who thought the wearing of seat belts afforded obvious protection. Whereas it is true in any given set of circumstances that the

[1] John Richens *et al*., Condoms and seat belts: the parallels and the lessons. *The Lancet*, January 29, 2000, **355**, 400-403.

individual directly exposed to the risk, that is, the driver does benefit from wearing a seatbelt, when scrutinized at the population level the overall benefit fades.

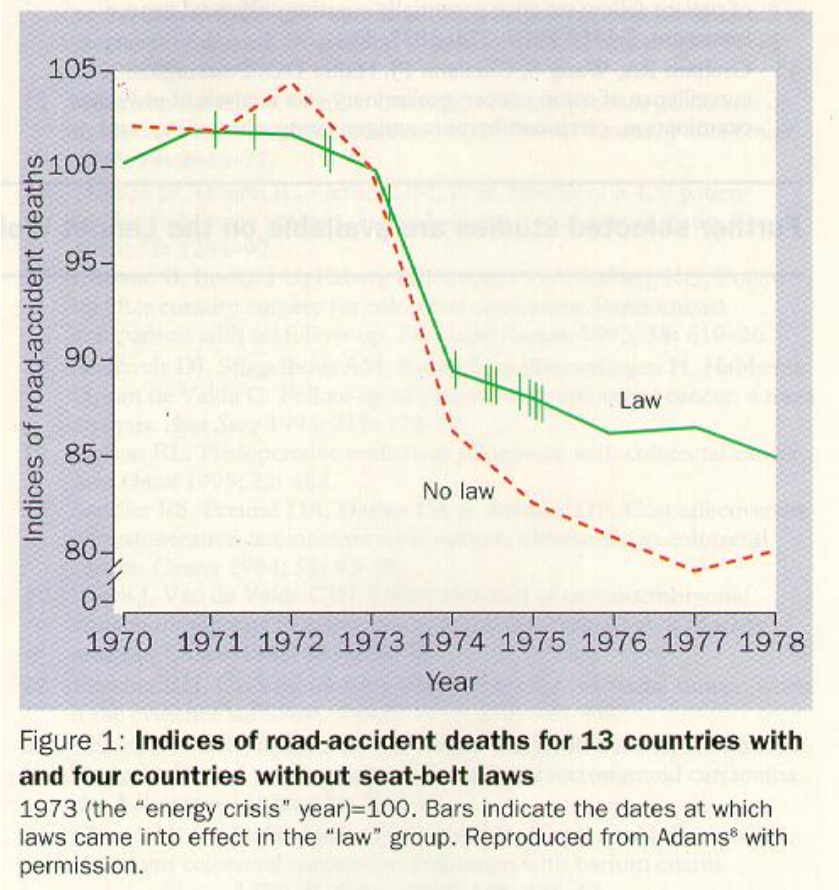

Figure 1: **Indices of road-accident deaths for 13 countries with and four countries without seat-belt laws**
1973 (the "energy crisis" year)=100. Bars indicate the dates at which laws came into effect in the "law" group. Reproduced from Adams[8] with permission.

A report of the European experience on the introduction of seatbelts, commissioned by the UK government's Department of Transport and then suppressed by that department, concluded that "available data for eight Western European countries that introduced a seatbelt law between 1973 and 1976 suggest that it has not led to a detectable change in road deaths".[2]

In addition, following the introduction of the UK law there were increases in deaths among unbelted users both inside and outside cars – i.e. pedestrians, cyclists and unbelted rear seat passengers. Harm was being transferred to those unprotected members of the public. Some of the parallels with harm minimisation efforts in the field of drug abuse may be starting to emerge.

It is possible that enough people feel safer by wearing a seatbelt and compensate for it by taking greater risks, that is by risk compensation in the form of driving faster and more carelessly. As *The Lancet* authors note:

> The benefits of seat belts for drivers wearing belts during serious accidents could be offset by increases in the absolute number of accidents, increases in the speed at which accidents occur, and increases in deaths among unbelted road users inside or outside cars.[3]

[2] J.G.U. Adams, Seat belt legislation: the evidence revisited. *Safety Science* 1994, **18**, 135-152.
[3] *Ibid*., 401.

While this theory may not apply to all drivers at all times, perhaps enough people are prepared to take greater risks under specific circumstances to account for the maintained high mortality and morbidity rates.

The authors then go on to discuss whether improvements in sexual health by condom promotion could also be undermined by unintended changes in sexual risk perception and behaviour, concluding that a similar compensatory adaptation may occur.

The question now needs to be asked, "Could a similar mechanism be at work in safety measures applied to illicit drug use? It may well be time to apply the same sort of scrutiny to such safety measures as has begun to be applied to road deaths.

Let us consider for example the proposal to make Narcan readily available to heroin injectors so that if a peer overdoses they can be immediately revived without having the time delay of calling an ambulance. While it is possible among some users that lives will be saved, it is also possible that the mere presence of such a safety measure may be all that is needed for some to initiate using, and thereby set in motion a series of events that will not always be protected by the presence of Narcan. Furthermore, with Narcan on hand, more experienced users may consider it safer to increase their dose in search of a greater high, trusting that their peers will be on hand if anything goes wrong. But the potential damage resulting from a period of oxygen deprivation during an overdose is a serious consideration in its own right. An overdose, even one from which someone recovers, can have lasting effects. And more overdoses mean more overall damage.

It is by no means easy to predict the outcomes arising from the provision of Narcan as a safety measure, but if risk compensation does indeed occur, and there are reasonable grounds for believing that it does, then overall harm might be expected to increase. Just as *The Lancet* authors propose that seatbelts protect the driver, but harm others, could it be that the provision of Narcan would likewise protect smarter and more careful users but harm new initiates and the more vulnerable who may be on the verge of considering using.

Other safety measures include needle exchanges, soon to be followed by safe injecting rooms and in some parts of the world, heroin provision. As safety measures, the same sorts of issues arise as with Narcan provision. Whereas the perceived benefit of injecting drug use by any one individual over time is unlikely to change greatly, a lowered perception of the risks associated with injecting drug use is likely when clean needles and a 'safe' room are provided. What needs to be asked about these measures, is whether there will be increases in the absolute numbers of 'accidents', that is, overdoses and deaths, increases in the speed of accidents, perhaps higher injecting frequency and higher dose rates, and increases in harm to unbelted users, that is the newly inducted into drug use, families, friends, and the wider community.

Needle exchange facilities are widespread across Australia and are generally an accepted part of the management of injecting drug use. They represent for many an acceptable harm minimisation strategy with a proven record in the reduction in disease transmission and the maintenance of contact with injecting drug users. While there are grounds for questioning the claimed successes, it is an arena in which it is notoriously difficult to obtain hard facts about efficacy and only in recent years have studies been conducted with any rigour.

Reliable information is essential for a complete examination of the ethics of needle exchanges. Ethics does not exist in abstraction from the evidence, however, even with limited evidence, it brings a valuable perspective to the debate.

When needle exchange facilities were first set up in Australia, their primary purpose was to limit the spread of infectious disease. At the time there was little if any evidence to support their introduction, and hence the move was not an evidence-based treatment. To say

that the motivation for their introduction was compassion for the plight of heroin addicts is only partly true, since the larger concern on the part of the community was the possibility that an epidemic of AIDS could spread from injecting drug users into the rest of the community. Compassion is often raised as the primary motivator in harm minimisation efforts. Whether that is true is hard to know for certain. But for compassion to be genuine it cannot stand apart from a truly ethical framework. Whilst compassion is an essential and powerful motivator for helping those in need, it is misplaced compassion to ignore all of the ramifications of a particular proposal, or to allow people to be viewed as incurable when that is not so, or to aim for short-term gains at the expense of long-term substantial life-giving change. True compassion is to suffer with, often in the painful process of a long, slow recovery.

But is there something wrong in principle with the provision of clean needles? To begin to answer that question it is first necessary to decide whether there is anything wrong in principle with the use of a psychoactive drug. Many psychoactive drugs are useful therapeutically for their direct mood-altering effect, for example antidepressants. Other psychoactive drugs are useful therapeutically at doses where no mind-altering effect occurs, for example morphine or codeine. The ethical use of these drugs is always considered in relation to their reasonable use grounded in an intelligible good such as health. Abuse occurs when no intelligible good can be identified. Some claim that the mind-altering experience in itself is a positive phenomenon as consciousness is 'expanded'. However, it is not always clear what that expansion means and whether it is falsely perceived or can be achieved by other more authentic means. In short it can probably be agreed that the abuse of psychoactive drugs in this way does not serve the good of health or any other good and hence is detrimental.

So at the very least, the provision of clean needles contributes to behaviour that is not good. But in ethical terms, for the provision of clean needles to be wrong in principle, it would need to be shown that those who set up and operated the programme actually intended for the clients to participate in drug abuse, rather than saw it as an unintended side-effect. However, given that it is unlikely that anyone actually intends that clients use illegal drugs, adoption of a needle exchange program is therefore not wrong in principle. The stated intention of the programme is to reduce the transmission of infectious disease, and encourage addicts into treatment. Both of these intentions are good. Intentions are important in themselves for what they mean about the moral character of the person involved as well as how they direct the future actions resulting from the first action.

However, were other intentions to exist within such a programme, other agendas, then the needle exchange could be considered wrong in principle. Other intentions might include the promotion of the wider use of illicit drugs, or use of the facility for political purposes directed towards making drug laws more lax, or use of the needle exchange as a meeting place where drug sales can occur, or providing a place where injecting drug users would be kept out of the public eye, and so on.

However, even if we accept that the intentions are good, the programme would still represent what may in ethical terms be called material cooperation in wrongdoing. Whether this material cooperation is tolerable depends on the acceptability of side effects.

Assuming that only good intentions exist, the programme's bad side effects must be considered in reference to three things.

First, scandal, or leading others to do wrong; second, undercutting public witness to the truth about drug abuse; and third, fairness to injecting drug users and others.

First, clean needles allow users to be generous in supplying needles to inexperienced users. Therefore, some who would otherwise have been unwilling to begin injecting drugs

may now be persuaded to start. Thus, an important motive for not taking up drug use has been removed. There would need to very good reasons to accept this bad side effect.

Second, the programme has the potential to undercut the law, and in doing so reduces its effective teaching power, especially towards young people who may not use but have been tempted to do so. By running a needle exchange facility, officials will know whom users and perhaps dealers are but will not do anything about it and therefore assist them in ongoing unlawful behaviour. This cooperation makes laws appear arbitrary which contributes to undercutting respect for that law and for law in general. As the moral philosopher Germain Grisez notes:

> These bad effects are extremely serious, since law's effectiveness depends far more on forming the majority's practical reasoning and judgements than on forcing the unwilling minority to comply.[4]

Third, whether a needle exchange programme is fair to injecting drug users themselves depends upon the programme's direct benefits and harms. Where a needle exchange facility leads to an individual not sharing needles and thereby not contracting HIV or Hepatitis C, and at the same time making contacts whereby recovery from addiction can be addressed, then the outcome is good and is what the exchange was intended for. In this sense it is fair to injecting drug users.

However, it is unfair to offer little other alternative than a needle exchange and perhaps instructions on how to safely inject. When there are good alternatives to perpetuating the addiction lifestyle, then they ought to be pursued. Furthermore, is it in anyone's best interests to encourage the use of clean needles to avert a life-threatening disease only to ignore that they may suffer a life-threatening addiction? In other words if it is claimed that AIDS and Hepatitis C can kill you without reinforcing that so can an addiction to heroin, it is hardly fair to users. In this instance, the individual is being treated as an incurable when this is not so, and therefore a serious injustice is done to that person. Where clean needles have become a substitute for treatment programmes they have sent the message that addiction is incurable. Given that hope is one of the most profound of human powers in the face of all kinds of adversity, to take it away by treating an addicted individual as hopelessly addicted is deeply damaging. Do needle exchanges by implication harbour that message?

Furthermore, when other treatment programmes are struggling to raise the necessary funds to simply stay open, and large amounts of money are necessary to run needle exchanges, the question of the best use of resources must be raised. In Adelaide last year the Drug and Alcohol Services Council Needle Exchange budget blow-out alone came to $600,000, and the programme is steadily expanding.

Whether a needle exchange is fair to others depends upon whether the ready availability of free needles can be said to induce new inexperienced users into trying drug injection. This possibility is usually hotly denied by those in favour of needle exchanges, but the reality is that hard evidence is not forthcoming and indeed may be almost impossible to obtain, other than by anecdotal reporting. An additional problem for others is the increasing prevalence of discarded needles. There can be little doubt that this problem was virtually non-existent before the introduction of needle exchanges and will only go away with either a dramatic increase in return rates or a redesign of needles so that the needle itself is not exposed after use. Of course a reduction in the total number of needles used would also reduce the number of discarded needles.

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[4] Germain Grisez, *Should the city council vote to supply needles to drug addicts?* In: The Way Of The Lord Jesus. Vol. 3. Difficult Moral Questions, Franciscan Press, Quincy University, Illinois, 1997, 830.

From an ethical perspective all of these side effects add up to quite serious problems. Whether there are any unintended positive side effects remains to be seen, but for the negative side effects to be acceptable, they would need to be proportionately less problematic than the attainment of the intended benefits. Remembering that the intended benefits are a reduction in disease transmission and the provision of a point of first contact for injecting drug users to come into treatment, it is now important to revisit these two factors and look at what data is available.

It is fair to say that when the data is summarized there is no unequivocal evidence to show a reduction in the transmission of HIV caused by needle exchanges, notwithstanding claims to the contrary. Few studies are conducted with scientific rigour, and where self-report must be relied upon, the data will always be lacking. For accurate data on HIV transmission rates in injecting drug users, individual cases need to be assessed apart from homosexual or bisexual contact. In Australia, Dr Lucy Sullivan has made a case that needle exchanges possibly contribute to a slight increase, if anything, in the rate of HIV transmission among injecting drug users.[5]

The second major disease associated with injecting drug use, Hepatitis C, which is not transmitted by sexual contact, may be a better indicator of the impact of needle exchanges on disease transmission. In one study[6], the 1997 prevalence of Hepatitis C among users was around 50%, but may be higher, given that the study in question was conducted through needle exchange facilities and only 48% of clients provided a blood sample. National Health and Medical Research Council estimates are closer to 70%[7]. It is likely that Hepatitis C transmission occurs via utensils, swabs and other contact, as well as via needles and syringes, in which case, the environment in and around a needle exchange and certainly in a 'safe' injecting room, could actually prove conducive to the further spread of the virus.

In a recent assessment of Hepatitis C in injecting drug users reported in the *Medical Journal of Australia*, the authors concluded that for the Hepatitis C epidemic to be brought under control there ought to be a "deregulation of the supply of needles and syringes so they can be purchased from outlets such as service stations and convenience stores." [8] Clearly, there are some who consider the expansion of needle exchange programmes as the best way to address the Hepatitis C epidemic.

However, a consideration of the ethics of needle exchange facilities suggests that already they are in a precarious position, and with the evidence on hand at this point in time, sufficiently problematic to warrant a careful reconsideration of their continued existence. Whilst it would be unwise to implement a *sudden* dismantling of the programmes, it is time for the emphasis to shift from needle exchange programmes and other proposals such as safe injecting rooms and heroin trials to ethically sound alternative treatment programmes directed towards assisting injecting drug users to regain their lives free from addiction.

And finally, ethical evaluations ought to precede major changes in treatment policies, as well as contribute to ongoing implementation of treatment programmes. Ethics is more like the yeast in the bun than the icing on top.

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[5] Lucy Sullivan, Needle exchange programs: why they failed. *News Weekly*, February 13, 1999, 8.
[6] Margaret A. MacDonald *et al*., Hepatitis C virus antibody prevalence among injecting drug users at selected needle and syringe programs in Australia, 1995-1997. *The Medical Journal of Australia*, 17 January 2000, **172**, 57-61.
[7] L. Lamont. Sydney Morning Herald, 27 August 1997.
[8] Nick Crofts *et al*., The force of numbers: why hepatitis C is spreading among Australia injecting drug users while HIV is not. *The Medical Journal of Australia*, 1 March 1999, **170**, 220-221.