

SYMPOSIUM ON DRUGS

Further ethical and social issues in using a cocaine vaccine: response to Hall and Carter

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Evaluation of the potential of a cocaine vaccine requires a detailed understanding of the intended and unintended social consequences of its use. Prospective technology assessment is always difficult, but in the case of treatment and prevention of cocaine addiction we need to understand not only the neuroscience and pharmacology of cocaine addiction, but also social attitudes to drug use and addiction, the social context of drug use, and the factors which make drug use a rational strategy for an addict and make treatment seeking or relapse more or less likely. By considering different scenarios related to differing levels of effectiveness of the vaccine, the authors argue that vaccination will be at best a useful adjunct to existing methods of treatment, rather than a substitute for them.

consent by addicts to taking part in a trial in which they are offered free supplies of their drug of choice, the political and law enforcement attitude to such research, and controversy over the nature and extent of risks to addicts in such research.^{9–11} Clearly, in the absence of trials which would permit a realistic assessment of the effectiveness of a vaccine in the sorts of situation in which it would be most useful, we would have no real sense of its value, even if it became a licensed product. Any useful trial ought to consider the vaccine in a naturalistic setting, in order to permit an evaluation of how it would actually be used, and what the consequences of such use would be. This is particularly important in the drug field, where patients' behaviour in controlled treatment settings and behaviour in ordinary society can differ widely.

The debate over clinical trials of a cocaine vaccine (or an opiate vaccine) largely turns on two factors: our image of the addict as someone suffering from a "disease of the will" or a "pathology of choice", and the prevailing political attitude towards drugs of addiction.^{12–13} There is a strong interrelation between these two factors. Furthermore, current scientific debates about the neuroscientific basis of addiction provoke profound responses (if not always profundity of thought) on freewill, responsibility, agency, and addiction from a materialist point of view.¹⁴ Many of the issues in this area parallel those in debates over the possible genetic basis of criminal behaviour, in terms of the contested relation between explanation and justification of behaviour, and the moral status of biological behaviour modification as a response to "immoral" or "dangerous" behaviour.¹⁵ A biological treatment for addiction challenges us both as a way of achieving by "force" what should be achieved by "honest hard work" and as a reminder of what many people disapprove of in drugs in the first place. This issue is central to all the current debates over neuroethics, although it is hardly new.^{16–17}

Although these tangled issues are important, it is questionable whether they can be resolved in the near future. Whether or not these issues admit clear metaphysical answers, it is likely, as Nikolas Rose has suggested, that interventions of this kind will reshape our social attitudes toward addiction, drug use, and drug users, as well as ideas of human agency and society generally.¹⁸ It is to these social and behavioural consequence we should attend. Hall and Carter identify several of the possible unintended consequences of using a vaccine (for instance, greatly increasing the dose of cocaine used in order to overcome

The study of the mechanisms of addiction in the neurosciences and pharmacology has been extensive in recent years.^{1–2} As understanding of these mechanisms improves, a number of biotechnology companies have been developing different approaches to the treatment of addiction, with particular attention being paid to addiction to opiates, cocaine, and nicotine. Although most of these treatments are only at a very early stage of clinical development, as Hall and Carter point out (*see page XXX*), they are regularly discussed in the press and other news media.^{3–5} Part of the reason for this is undoubtedly due to the commercial interest in maintaining stock prices and investor interest for the companies involved, but in addition there is considerable clinical interest in a medical approach to treating and preventing cocaine addiction. This interest has much to do with both the difficulties in treating cocaine addiction through more traditional detoxification, abstinence, and behavioural modification approaches, and with the impact of persistent cocaine use on user and society.¹ Uses suggested for cocaine vaccines include provision of a biological cue to initiate detoxification, prevention of relapse, primary prevention of addiction, treatment of overdose, and protection of a fetus during pregnancy in a drug user.^{3–6}

This approach to treatment and prevention of addiction has provoked as much scepticism as interest. Firstly, as Hall and colleagues discuss in another article, there are considerable difficulties surrounding the possibility of clinical trials to determine the efficacy of a vaccine.^{7–8} These difficulties concern the possibility of voluntary

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antibody blockade, or switching to alternative stimulant or euphoriant drugs). They also consider specific contexts in which the drug would be used (for instance in law enforcement, and in child protection). Yet the more complex societal impact of the availability of a vaccine is not really discussed by Hall and Carter, nor is the impact on addicts and users at risk of addiction considered in detail.

One way to consider the possibility of effective treatment for drug addiction is as follows. Psychoactive drugs offer a fast track to pleasure or oblivion, which currently is often at the price of susceptibility to addiction. Effective, quick, and straightforward treatment lowers the probability of an unshakeable addiction, perhaps even to zero. With the prospect both of a fast track to pleasure or oblivion, and a fast track out of addiction, the risk/benefit portfolio of cocaine and opiates is dramatically altered in favour of benefit. The social attitude to these drugs may thus shift in favour of tolerance, and there may be a significant number of people who would otherwise avoid drugs for reasons of risk adversity who would now be interested in experimenting with them.

This scenario would provoke quite a wide range of responses, we suspect on largely predictable lines. What is hard to evaluate is whether the scenario is realistic. Another, equally plausible scenario is this: vaccines turn out to have relatively limited effectiveness as therapies. They may have similar utility to the existing treatments for opiate addictions (such as naltrexone) and alcohol addiction (such as Antabuse).¹ For addicts committed to coming off cocaine, they have some value in terms of providing support to the addict's willpower by weakening the efficacy of cocaine for them, and by providing a clearly staged programme for coming off the drug. Unlike Antabuse, there are no (or few) unpleasant side effects—although it is not clear whether that would make a vaccine more or less appealing to the addict, or more or less effective in stimulating the addict to avoid the drug. For most cocaine addicts, however, the attraction of the vaccine programme is severely limited by the need for periodic revaccination, by the relative attractiveness of taking the drug over not taking it, by the need to take up a patient role, and by their participation in the social world of drug use. Thus the vaccine has some use within the armamentarium of treatments for drug addiction, but it represents no radical leap forward. Instead, it would need to be used as an adjunct to existing social and psychological interventions, and its effectiveness would depend on the effectiveness of those interventions.

Much of the press attention to the idea of a vaccine has focused on the preventive use of such vaccines. This is hardly surprising. Firstly, our lay conception of a vaccine is as a preventive measure, rather than a therapy. Secondly, the dominant perception of addictions is that they are hard to treat and overcome, so that there is a natural preference for strategies to avoid addiction rather than to improve treatments. As Hall and Carter point out, if there is a regular need for revaccination (for example, every 3–4 months), the appeal of this approach as a way of managing risk of addiction is very limited. One should again distinguish two elements: reduction of risk of addiction, and reduction of risk of drug use. Much of the mainstream social response to a vaccine will have more to do with social disapproval of drug use, rather than specific aversion to the risk of addiction. The debate will become more interesting if risks can be categorised with greater biological precision—for instance, if there is a simple or complex characterisation of genetic factors influencing susceptibility to addiction. The debate would then turn on whether the vaccine approach is more effective for at risk individuals than social interventions (such as modification of the “risk environment”).¹⁹ In

addition, there are profound questions of principle, such as whether preventive vaccination violates the potential user's “right to an open future”, whether it violates their right to exercise the virtues of abstinence, and whether, if addiction can be treated effectively, there is any value in prevention as such.²⁰

Prospective technology assessment is hard. What is clear is that the social context of use of a cocaine vaccine is of central importance here. Issues such as how far we consider addiction a medical condition, a social problem, a moral problem, or a personal problem for the addict him or herself are critical. There is an important role for pragmatic clinical trials here (rather than the simple trials of efficacy normally used for licensing purposes). Equally important, however, will be good sociological studies into current and former cocaine users' views of the strengths and weaknesses of this approach. It may be, for example, that treatment and prevention approaches focus far too much on identifying simple biomedical mechanisms, and too little on why people seek to use drugs, how their patterns of use are socially shaped, and what the triggers or deficits in their personal or social situation may be that make drug use “rational”.¹³ A scenario in which an addict is successfully treated with the vaccine, and their needs only considered every three months when they appear for revaccination, would be likely to fail to deliver the sort of formal and informal social support which would enable the recovering addict to thrive. An obvious analogy here would be with the criminal justice system's various approaches to rehabilitation of offenders. As there is, in many cases, a close link between addiction and criminal behaviour, we need to think more systematically about their treatment and support. The principal risk, as we see it, of a vaccine is that it encourages a quick fix for society, while reducing social attention to the other needs of the drug user.

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BOOK REVIEW

Public Health Law and Ethics: a Reader

Edited by L O Gostin. University of California Press, 2002, US\$35, pp 523. ISBN 0520231740

The legion of nettlesome, even litigious, issues at the interface of the entwined fields of law, public health, and ethics sorely warrant rapt, informed discussion. Indeed, unabashed confronting of the thicket of thorny issues overfilling the enmeshed, vexing fields of public health, law, and ethics is, in sooth, a Sisyphean task. Distinguished lawyer, experienced public health researcher, and very able writer Lawrence Gostin merits hearty felicitations for his workaday efforts in editing this prolix tome, entitled *Public Health Law and Ethics: a Reader*, which illumines a quite broad swathe of the complex fabric of issues interconnecting law, public health, and ethics.

The excellently edited tome crafted by Gostin is structured as a congeries of reprinted materials, principally academic articles and law cases, presented in excerpted fashion, with expert, insightful commentary provided by Gostin germane to the reprinted materials and generally appertaining to the practice and theory of public health law and ethics. Gostin assigned himself the daunting task of raising the most enduring and important issues and practical problems relevant to the kindred realms of law, public health, and ethics, wishing to provoke reasoned discourse among interested scholars, practitioners, and students.

Gostin's staunch efforts, in the foregoing regard, were truly fruitful. Working assiduously with a legal scalpel, Gostin has carefully probed and examined the somewhat nebulous, and amorphous, terrains of public health, law, and ethics. Lawyer Gostin does a particularly good job of laying bare and examining the legal infrastructure underpinning public health and ethics. The

excerpted materials included in the volume, together with Gostin's adroit commentary and exposition, should indeed incite robust, salutary debate and discussion with respect to multitudinous, thought provoking problems and questions. The volume, in fact, is more skewed towards raising vexing, and often litigious, issues, rather than revealing ineluctable truths. This is consonant, however, with the ever evolving, thorny nature of public health law and ethics, which belies facile, or definitive, answers. Gostin's "handbook" should be a luminous beacon for practitioners, researchers, and other interested persons searching earnestly for direction in the expansive, shifting firmaments enveloping public health, law and ethics.

Because the dynamic, interdisciplinary field of public health law and ethics is mercurial in nature, and subject to continual metamorphosis, it is noteworthy that the volume shows a snapshot of a continuously transmuted field, taken at a particular moment in time. Gostin has however, helpfully and innovatively, constructed a companion website for the volume (www.publichealthlaw.net/reader), which materially embellishes and updates the information presented in the volume. A number of photographs, tables, and figures add to the intellectual body of the volume. A bibliography, adjoining the textual material and comprised of a multitude of references, should be pleasing to research minded readers.

The core essence of the volume, though, is the well selected array of timely, excerpted materials, relating to public health law and ethics. And the glue which cements together the abridged, reprinted materials are the insightful, expository, and synthesising commentaries prepared by Gostin. Using this structure, Gostin introduces, explains, and interrelates an intellectually absorbing, panoramic display of public health law issues and problems, and points out many of the profundities and diverging points of view in this vast realm. Although many of the issues broached by Gostin are complex and recondite, he renders them fathomable for the discerning reader.

The volume is divided into four "parts", which are the key pillars upholding the foundation of the book. One part examines population health from varied perspectives, including the communitarian tradition, and also human rights and public health, encompassing potential conflicts between individualistic thinking and a public health focus on collective wellbeing. A second part identifies and expounds on the major branches of the trunk of public health law, including administrative, constitutional, and tort law. Topics include the lawful exercising of governmental power to secure the public's health and constitutionally imposed restraints on governmental power. The focus of a third part is on some of the major tensions and recurring themes in the theory and practice of public health. This part—for example, discourses on tension between individual privacy interests and communal interests in data collection; the conflict between autonomy and health promotion, and conflict between collective wellbeing and individual claims for bodily integrity and autonomy, with respect, for instance to compulsory immunisation. The remaining part of the volume has a forward looking focus, and tersely adumbrates the contours and lineaments of some of the challenges facing public health in the new (21st) century—for example, biological warfare, and drug resistant organisms.

Presenting sophisticated academic and legal material in excerpted fashion, as is done in this fine volume, runs the risk of unwittingly altering the subtle, albeit vital, nuances embedded in the pristine, unadulterated materials. With this notable caveat, the volume, in the reviewer's opinion, is a seminal contribution to the burgeoning public health law and ethics field. It is meat for, and indeed should surely gladden the inquisitive minds of, all persons with a serious interest in this fascinating field. These will likely encompass public health professionals, bioethicists, health care lawyers, and health policy makers. The volume is suitable, as well, for didactic purposes.

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