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**Special Section:
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SPECIAL SECTION: Mandating naltrexone among court-referred patients: Is it ethical?

Introduction

Naltrexone for probationers and parolees

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Abstract

Heroin addiction is a chronic disorder that is usually associated with crimes aimed to obtain funds for the purchase of this illegal drug. When these addicted individuals are apprehended and incarcerated, they temporarily obtain drug-free status, but relapse quickly upon release. There is a medication approved by the Food and Drug Administration (naltrexone) that could prevent relapse and thus break this revolving door cycle. In combination with counseling, former inmates could devote energies to legal jobs or job training instead of drug seeking. The major reasons for the nonuse of this medication appear to be lack of knowledge about the medication and fear that the use of a medication that blocks opiate receptors is somehow unethical.

This special issue presents data, discussions, and suggestions regarding the ethical use of naltrexone in incarcerated populations or in those under supervision for parole or probation. © 2006 Elsevier Inc. All rights reserved.

Keywords: Naltrexone; Probationers; Parolees; Opiate addiction

1. Introduction

Naltrexone was developed by the National Institute on Drug Abuse in the 1970s and early 1980s (O'Brien, Greenstein, Mintz, & Woody, 1975). In 1984, it was approved by the Food and Drug Administration (FDA) for the treatment of heroin addiction (Greenstein, Arndt, McLellan, O'Brien, & Evans, 1984) and, in 1995, it was approved by the FDA for the treatment of alcoholism (Volpicelli, Alterman, Hayashida, & O'Brien, 1992). It was one of the first "orphan drugs" developed primarily from federal research dollars because there had been very little interest in the problem of alcohol or opiate dependence on the part of pharmaceutical companies (Institute of Medicine, 1995). A new extended-release formulation of naltrexone has been developed and

was approved by the FDA in 2006 for use in the treatment of alcohol dependence (Garbutt et al., 2005). This same slow-release technology has been used for other medications, such as antipsychotics and growth hormones. The extended-release formulation requires an injection in the deep muscle of the gluteus maximus, but then provides gradual release of naltrexone at steady state for 30 days, providing long-acting protection from alcohol (or opiate) effects (Garbutt et al., 2005). Because alcohol and opiate addictions are associated with significant crime problems in this country, because many of those now in prison or on probation/parole have underlying opiate or alcohol problems, and because the criminal justice system is the major source of addiction treatment referral in this country, the availability of naltrexone, especially in an extended-release formulation, may be seen as a new option in the management of addiction-related crime through the treatment of opiate and alcohol addictions. But is it legal, ethical, or practical to offer naltrexone in lieu of incarceration, or as a conditional part of probation/parole? Can a patient be given a truly informed choice about

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accepting naltrexone when the other option may be incarceration? Can a patient be forced to accept naltrexone even if he/she does not want it?

These important and real-world questions regarding the use of naltrexone form the basis for the present special issue of the *Journal of Substance Abuse Treatment*. In turn, this article introduces naltrexone and the results of treatment studies with this medication, and introduces the ethical and legal issues surrounding its use in criminal justice settings. Subsequent articles within this issue offer specific background and guidelines to its ethical, practical, and legal use.

2. Opiates, opioids, and the receptor system

The development of naltrexone is the result of neuroscience research that identified specific receptors for opiate drugs that are present in a variety of organ systems throughout the body. These receptors are very similar across species, even in lower species, indicating that they have been present since early in evolution. Subsequently, peptide neurotransmitters and hormones that act on these receptors were discovered, and the whole system is now called the endogenous opioid system. Drugs (such as heroin) made from opium poppy fit very well into these receptors; thus, they can turn them on just as well as—or, in some cases, even more effectively than—natural hormones (Terenius, 1996). Opioids are drugs that are synthesized in laboratories and, thus, are not direct opium derivatives. These synthetic opioids possess structural similarities that cause them to also act on opiate receptors. The natural peptides synthesized in the body that act on these receptors are called endogenous opioids. Opiates and opioids continue to have very important medicinal uses, but they can be abused. The principal opiate of abuse is heroin, which has been a problem in the United States since the early 20th century; since the 1990s, cheaper and more potent heroin has worsened the epidemic (Caulkins, 2001).

3. The science behind naltrexone

Opiate drugs are called *agonists* because they fully activate opiate receptors. Drugs such as heroin, morphine, methadone, oxycodone, and codeine are all agonists because they all activate one or more opiate receptors, particularly the “ μ receptor,” which is believed to be the most important receptor in producing pain relief. In contrast to these well-known opiate agonists, naltrexone is considered as an *antagonist* at these receptors. It was first studied in human subjects in 1973 (Martin, Jasinski, & Mansky, 1973).

This antagonist medication can occupy opiate receptors but not activate them. Indeed, occupation of opiate receptors by an antagonist, such as naltrexone, prevents other opiates or opioids from activating opiate receptors (O'Brien et al., 1975). If naltrexone or its short-acting antagonist cousin,

naloxone, is given to a person who is already taking opiates, whether dependent or not, the antagonist will displace the agonist from the receptor and produce symptoms of opiate withdrawal (O'Brien, Testa, O'Brien, Brady, & Wells, 1977). If naltrexone is given to someone who is not taking opiate drugs, it will displace any endogenous opioid that is adhering to the receptor and will prevent any additional opioid from attaching to the receptor. This blockade has been utilized as therapy because it prevents the effects of opiates such as heroin.

Another benefit of naltrexone, which was discovered at the University of Pennsylvania and the Philadelphia VA Medical Center in the late 1980s, is its therapeutic effect on alcoholism (Volpicelli et al., 1992). It was found that some alcohol-addicted patients, particularly those with a family history of alcoholism, have an endogenous opioid system that is sensitive to alcohol ingestion (King, Volpicelli, Frazer, & O'Brien, 1997). In these drinkers, endorphins are released by alcohol, thus producing euphoria. In turn, treatment with naltrexone blocks this euphoria and aids in the prevention of relapse.

4. Clinical properties of naltrexone

Naltrexone produces no opiate-like effects. Normal volunteers given naltrexone will sometimes report vague unpleasant feelings that are thought to be caused by the blockade of normal endogenous opioids (endorphins) (Hollister, Johnson, Boukhabza, & Gillespie, 1981). Nausea or vomiting can occur on patients who actively use opiates because naltrexone precipitates withdrawal symptoms, as described above. Side effects were few in a large study of alcoholism—mainly a small increase in nausea compared to the placebo group (Garbutt et al., 2005). Liver toxicity has been a potential concern because, when naltrexone was given in doses seven times the normal level in an attempt to treat obesity, liver enzymes became elevated. They returned to normal when the medication was stopped. In studies of alcohol- and heroin-addicted patients, liver toxicity has not been noted, although liver enzymes have been carefully studied (Croop, Faulkner, & Labroila, 1997).

There are therapeutic benefits derived from the blockade of opiate receptors in formerly dependent patients because injected opiates such as heroin are denied access to the receptors and thus do not produce euphoria. Relapse to opiate addiction is therefore impossible. Most heroin-addicted patients, however, have no interest in taking a medication that does not make them feel good. In contrast, methadone and buprenorphine act at the same receptors as heroin and produce feelings of comfort, if not high. Thus, heroin-addicted patients who have the choice of treatment with an antagonist such as naltrexone or an agonist such as methadone or buprenorphine will almost invariably choose the agonist. White-collar addicted patients, such as physicians, nurses, pharmacists, and others who do not wish to be

on methadone, are often motivated to be treated by antagonist strategy. Since the 1980s, naltrexone has been the treatment of choice for physicians with opiate addiction problems (O'Brien, Woody, & McLellan, 1986).

Of course, naltrexone only blocks opiates. There is no apparent effect on reducing cocaine use. On the other hand, there is little evidence that patients who stop the use of opiates spontaneously initiate nonopiate drug abuse (Cornish et al., 1997). For example, unless a patient had prior problems with cocaine abuse, few take it up *de novo* when treated with naltrexone. Naltrexone also does not affect other categories of drugs such as benzodiazepines or amphetamines (Cornish et al., 1997).

A logical question when naltrexone is considered is: What are the negative effects of blocking the body's endogenous opioids? Does this system not have normalizing functions that may be impaired by interfering with it? The answer is that we do not fully understand the normal physiology of the endogenous opioid system. We know that it is involved in the internal blocking of pain perception. This is believed to have developed as part of the "fight or flight" system so that, in an emergency, the organism is not impeded by the perception of pain. Endorphins are also involved in the regulation of mood and appetite. There must be redundant systems for this because most patients suffer no perceptible effects from the long-term blockage of these receptors.

Although we do not yet have full knowledge about the long-term blockade of the endogenous opiate system, we do know the practical effects from using antagonist medications for long periods. There is literature describing the effects of treating patients (many of them physicians) for 15–20 years with continuous opiate receptor blockade by naltrexone, and there had been no apparent side effects (Ling & Wesson, 1984; O'Brien et al., 1986). This treatment is particularly useful for anesthesiologists who must administer opiates to their patients on a daily basis. Knowing that their receptors are blocked removes the temptation to divert opiates for their personal use.

5. Naltrexone for the prevention of relapse in parolees

Heroin-addicted individuals commit many crimes to support their habit (Ball, 1991). These are usually nonviolent crimes, but when heroin-addicted individuals are arrested and convicted, there may be a period of incarceration. The criminal-justice-involved addicted patient becomes abstinent after going through withdrawal in custody, sometimes without the aid of medication. Despite not using opiates for a prolonged period, incarcerated opiate-addicted patients relapse to heroin or other drugs at an alarming rate following their release from custody, even when they are under the supervision of a parole officer (Cornish et al., 1997; Dolan et al., 2005; Hser, Hoffman, Grella, & Anglin, 2001). It may be thought that the period of incarceration would "get the

opiates out of their system" and "teach them a lesson," but this is apparently not enough to prevent readdiction and reincarceration in a majority of opiate-addicted prisoners (Dolan et al., 2005; Hser et al., 2001). This is where the availability of naltrexone may provide real benefits to parolees, the criminal justice system, and the public at large. Uncontrolled trials suggested that the use of naltrexone could be helpful (Capone et al., 1986). In the only randomized, controlled, clinical trial of probationers with a history of opiate addiction, Cornish et al. found that 59% of opiate-addicted parolees who received standard parole supervision, but not naltrexone, relapsed and were reincarcerated within a year following their release. In contrast, a randomly assigned group of similar parolees who also received standard parole supervision, but also naltrexone, from a research nurse stationed at the parole office had a relapse rate of only 25%.

In this regard, it is important to emphasize that naltrexone treatment is not an experimental intervention. It does not require an informed consent procedure any more than does the use of any other FDA-approved medication. It is not addicting, has few side effects, and is not considered a dangerous drug. It does have a "black box" warning in the Physicians' Desk Reference about the potential for liver damage, as described above (O'Brien & McLellan, 1996), but this was a compromise of the approval process.

5.1. Adherence and new naltrexone formulations

One of the problems that has been associated with naltrexone is the compliance or adherence rate. Like any other medication (O'Brien & McLellan, 1996), patients forget or resist taking naltrexone, thus limiting its potential effectiveness. Beyond these general factors, which are common to most medications and patient populations, there are special circumstances that limit the daily taking of naltrexone. First, many opiate-addicted patients have disorganized lives, and this disorganization leads to forgetting. Second, it is a fact that naltrexone prevents the ability to use heroin or other opiates—something that an individual may not wish to give up, consciously or unconsciously. Finally, there are no reinforcing pharmacological effects from taking naltrexone as one gets from taking methadone or buprenorphine; it does not make the patient feel good.

Because of these problems with adherence to daily medication schedules, various companies have been working to develop depot or sustained-release versions of naltrexone to reduce adherence problems. For example, Alkermes has just received approval for what has been called a "sustained-release" formulation delivered via injection into the deep muscle of the gluteus region (Garbutt et al., 2005). Naltrexone is suspended in a composite solution of essentially the same substance used to make surgical sutures. As the material dissolves over a 30-day period, naltrexone is released, providing continuous steady-state medication throughout the period. The other two versions use a similar

technology. Whether called depot or sustained-release naltrexone, the product provides continuous steady-state medication for 30–40 days. In Australia, a group of physicians not connected with a pharmaceutical company has been testing a larger version that is surgically implanted under the skin and is expected to last for 6 months.

5.2. Is naltrexone an ethical part of the treatment for criminal justice clients?

The judicial system has a responsibility to convicted criminals, and their rehabilitation should be a goal, not simply a punishment. Those with a history of heroin addiction will almost always relapse when they are released from incarceration (Dolan et al., 2005; Hser et al., 2001). Group therapy and counseling in prison have little effect on long-term outcome. Even after rehabilitation in a therapeutic community, relapse is frequent. Relapse prevention treatment in the home environment is essential—both for the direct benefit of the recovering offender, but, as importantly, for the protection of society at large. Drug-free treatment of heroin addiction has had minimal success despite decades of effort (Keen, Oliver, Rowse, & Mathers, 2001). Methadone or buprenorphine would be very effective in preventing relapse, but most judges and probation officers are philosophically opposed to this, believing methadone or buprenorphine to be too similar to heroin itself.

Because of the problems faced by opiate-addicted patients in remembering to take daily medications, we believe that sustained-release versions of naltrexone are likely to be very successful. If a naltrexone-protected patient tries to get high, he/she will feel little or no effect from that injection. This may lead to some frustration but also a liberating feeling, in many cases. For the first time, they are able to move about their neighborhoods with no risk of heroin relapse. Some report this as a life-changing experience. However, is it ethical or legal to demand that an offender with an opiate problem receive naltrexone—particularly a long-acting naltrexone preparation—as part of parole or probation?

It is again important to point out that naltrexone treatment is not an experimental intervention. It does not require an informed consent procedure any more than does the use of any other FDA-approved medication. Doctors with opiate addiction have been offered naltrexone as part of a mandated treatment program in which they will lose their license if they relapse (O'Brien et al., 1986). Similarly, parolees and probationers might be motivated to take naltrexone because they could lose their freedom and return to incarceration if they relapse. Making naltrexone or any other medication a requirement of parole or probation would require some assertiveness on the part of the judicial system, which leads to the purpose of this symposium. Can judges offer heroin-addicted patients the option to take medication as a condition of their continued freedom or shortened sentence? Can the offender really make an in-

formed decision in these circumstances? We have evidence (Capone et al., 1986; Cornish et al., 1997; Ling & Wesson, 1984) that the result would be beneficial to the probationer although he/she might protest the “loss of the freedom to high.” As indicated previously, there are some side effects associated with taking naltrexone, such as upset stomach and headaches (Croop et al., 1997), but these are not severe in most patients. In a recent large controlled study comparing two doses of depot naltrexone compared to placebo, side effects were generally mild, and only fatigue, nausea, and decreased appetite occurred with a greater frequency than placebo (Garbutt et al., 2005). This could be translated into protests over side effects and would require the training of prescribing physicians on the common side effects associated with naltrexone and their management.

Another question that is pertinent to the ethical use of this medication concerns the potential need for opiates if the patient is engaged in an accident that produces pain or if the patient develops a painful illness. We have had a lot of experience with naltrexone, and these situations can be managed pharmacologically by other medications and stopping naltrexone (O'Brien et al., 1975). Naltrexone would have no effect on anesthesia; thus, emergency surgery would not be affected. Nerve blocks such as those used in dentistry would not be impaired. Nonsteroidal analgesics such as ibuprofen would not be affected. Opioid chronic use of opiates would be blocked. In cases where other medications could not be used, high doses of opiates would be required until the end of the sustained-release period. In practice and in clinical trials since 1973, this hypothetical situation has rarely been an issue.

In this context and for the sake of improving the national response to the heroin problem, it is important to ask: Why is naltrexone not used more frequently? We admit that we do not know the answers to this question—the reason for developing this special issue. What follows are a combination of our own speculations on this issue and some comments that may set the stage for the articles that follow in this issue:

5.2.1. Is it legal to mandate naltrexone as part of a probation sentence or a parole order; if so, under what restrictions or conditions?

Would mandating naltrexone be within judicial power as determined by the Constitution? There are judges who apparently fear that a mandated sentence or parole order is a violation of the civil rights of an individual offender. In that regard, it is interesting that, in some jurisdictions such as Alaska and California, judges already mandate naltrexone for driving-under-the-influence offenses (National Drug Court Institute, 1999). Is this simply regional variation in judicial behaviors or a difference in statute across states? Apart from direct sentencing or other coerced treatment, is it wise, useful, and practical to offer naltrexone as an option in drug courts; in plea bargaining; or as an option to obtain early release from prison?

5.2.2. Are the side effects associated with this medication significant deterrents to mandated use?

The controversy over the hormonal treatment of sex offenders comes to mind. Naltrexone does not produce a lasting change on patients, and it does not change their personality, although it may reduce craving for heroin and alcohol. As suggested previously, the side effects associated with naltrexone are few—usually not severe and not persistent. Nonetheless, these questions come up regularly in these discussions, perhaps because so few physicians have heard of this treatment and few addiction treatment providers have made it available.

6. A proposal

From a public health perspective and with the benefit of over three decades of research on opiate addiction and opiate treatment, it appears that the most individually and publicly beneficial approach to the disposition of criminal-justice-involved opiate-addicted individuals would be to offer the convicted nonviolent offender the choice of incarceration or probation that includes supervision, counseling, and naltrexone. For similar individuals who are being released from incarceration, we suggest a parole that includes supervision, counseling, and naltrexone. Cases of serious additional psychiatric illnesses such as depression or schizophrenia, in combination with opiate addiction, would require psychotherapy and other psychotropic medications, in addition to probation supervision, drug counseling, and naltrexone.

In summary and as a way of setting the context for the remaining articles in this special issue, we find that treatment with the opiate antagonist naltrexone is effective, safe, and underused. The soon-to-be-available sustained-release formulation of naltrexone should greatly increase its utility and even its effectiveness, as forgetting to take the medication will no longer be an option. We ask that the above proposal be considered by the criminal justice system as a means to rehabilitate a greater proportion of offenders with a history of opiate addiction. In the service of assisting debate and informed consideration of this proposal, we have consulted some experts from the fields of legal, ethical, and behavioral research, as well as practicing drug court judges, probation officers, and parole officers, to consider the questions surrounding this proposal.

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Special article

Research on naltrexone in the criminal justice system

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Abstract

Many parolees and probationers are opioid abusers, and substance abuse is a leading factor for the revocation of probation, parole, and other alternatives to incarceration. The opioid antagonist naltrexone would appear to be an excellent treatment for opioid abuse and dependence in this population and the authors sought to systematically review this literature. Using the PubMed database, the authors identified large bodies of criminal justice (CJS) and naltrexone literature. The search terms used in both searches were crosschecked to identify all articles that involved research on naltrexone in the CJS. Only two articles were identified. The lack of research on naltrexone in the criminal justice system highlights the need for more research on naltrexone in our overburdened CJS. © 2006 Elsevier Inc. All rights reserved.

Keywords: Opioid dependence; Criminal justice; Naltrexone; Offender

1. Introduction

The relationship between opioid abuse and crime is well documented (Kleiman, 1997), and the opioid antagonist naltrexone has been shown to be an effective treatment for opioid dependence. Therefore, as a follow-up to a recent conference at the University of Pennsylvania in which the use of naltrexone for drug offenders was debated, we examined the empirical literature on the use of naltrexone in criminal justice settings. We expected this literature base to be substantial. However, this was not the case. Our searches, which were conducted independently by each author at his respective institution in May 2006, identified only two publications within the relatively large criminal justice and naltrexone literatures in PubMed that addressed this important issue.

2. Literature search methods

The first step in our search strategy was to identify all of the criminal-justice-related literature in PubMed. We then conducted a similar search for all naltrexone-related articles in the PubMed database. For both searches, a “hit” reflected whether the search term was located in the title, abstract, keywords, or body of an article in the PubMed database. We derived our criminal justice search terms based upon the populations and environments of interest. To test the legitimacy of these terms, we entered each term into the PubMed search engine alone and in selected combinations. Table 1 shows the results of our legitimacy test and confirms the presence of a substantial criminal-justice-related literature in the PubMed database.

After confirming the presence of criminal-justice-related literature in PubMed, we conducted a search to identify the number of articles retrieved by a search for the drug naltrexone in PubMed. For this search, the proprietary name “Revia” was used instead of “naltrexone.” By default, PubMed automatically searches for chemical or generic equivalents of any proprietary drugs that are queried. This was confirmed for each search using the “Details” feature and also by testing with other proprietary drug names. For

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example, entering the term "ReVia" into the PubMed search engine generated the search syntax: "(("naltrexone"[TIAB] NOT Medline[SB]) OR "naltrexone"[MeSH Terms] OR Revia[Text Word])." As was true with the criminal justice search terms, a substantial body of literature was identified for ReVia and naltrexone within PubMed. The total number of hits for ReVia was 5,574.

Our search strategy then consisted of cross-checking each criminal justice term with "Revia" to identify the degree of overlap between the two large bodies of literature that were retrieved in the previous searches. As Table 2 indicates, the overlap between our criminal justice terms and ReVia yielded only two articles.

3. Opioid use among offenders

As other contributors to this special issue point out, the United States has a large number of opioid users who are involved with criminal offense (Substance Abuse and Mental Health Services Administration, 2004). It has long been known that criminality and drug use are related (Ball, Shaffer, & Nurco, 1983). In 2003, 1.7 million of the total 13.3 million arrests in this country were drug related, and a substantial number of these were on opioid-related charges (Federal Bureau of Investigation, 2004). Furthermore, it has been estimated that up to 50% of the heroin brought into this country is consumed by people under the supervision of the criminal justice system (Kleiman, 1997).

4. Medications for the treatment of opioid dependence

There are currently three approved medications for opioid dependence: methadone, buprenorphine, and naltrexone. Naltrexone was approved for use in opiate dependence by the Food and Drug Administration in 1985. Naltrexone works by antagonizing the opioid receptors when taken at a dosage of 50 mg a day or 150 mg three times a week. Although drug-cessation medications, such as naltrexone, have been available for more than 30 years, only two peer-reviewed articles were identified in this comprehensive search effort. A number of factors have been posited to explain why the medication regimen is not more widely used, including the fact that adhering to the medication

Table 1
Criminal justice literature

Criminal justice test terms	PubMed hits
Prison	7,577
Mandated	2,788
"Criminal justice"	1,439
Offender	1,238
Prison + "criminal justice"	160
Prison + offender	142
Probation	444
Parole	193

Table 2

Criminal justice and naltrexone crosschecks ($n = 2$ unique articles)

Cross-checked terms	Number of articles	Reference
ReVia	5574	
ReVia + prison	2	Cornish et al., Foster, Brewer, & Steele et al., Cornish et al., Foster et al., 20
ReVia + "criminal justice"	2	
ReVia + offender	0	
Revia + probation	2	Cornish et al., Foster et al., 20
Revia + parole	1	Cornish et al., 1
Revia + mandated	2	Cornish et al., 1 Foster et al., 20

regimen is neither positively nor negatively reinforcing the user (Kleber, Kosten, Gaspari, & Topazian, 1985). Other articles in this edition suggest, naltrexone is particularly useful in clinical populations that have external incentives to comply with treatment, such as addicted persons under criminal justice supervision. Given the large costs to society incurred by criminally active substance users, specific treatments targeting this group are needed.

5. Summary

There are many criminal justice related articles in PubMed database. Similarly, there is an abundance of literature on naltrexone, a highly effective medication used with opioid-dependent individuals. However, when large criminal justice literature body in PubMed is cross-checked with naltrexone, only two empirical articles were identified. From this, we conclude that there has been little substantive effort to examine the potential risks and benefits of naltrexone in a population that is known to be disproportionately affected by opioid dependence. One reason for this may be the perceived ethical dilemma associated with the use of naltrexone in populations that are thought by many to be too vulnerable to coercion. Either way, our findings suggest that the recent conference on the use of naltrexone was long overdue and that there is a clear need for more research regarding the use of naltrexone in criminal justice populations.

We hope that this special issue invites members of our field to conduct more research on naltrexone as a treatment for opioid dependence in the criminal justice system. Then, when a substantial body of literature exists in our field will be in a better position to address the critical issues raised within this special issue.

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Special article

Ethical issues surrounding forced, mandated, or coerced treatment

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1. The centrality of autonomy in bioethics and health law

In my field, bioethics, caution about new drugs and their use is a given. It is one of the obstacles that this drug has to overcome. Bioethics produced the ethical protections that have already been referred to—*informed consent*, *IRB review* for new drugs, and the *disclosure of conflicts of interest* (Lemmens & Waring, 2006). It has been especially concerned with the rights of prisoners because they belong to a population that has been much abused if not neglected in the past and because they are continuously at risk due to lack of advocacy.

Those familiar with bioethical writings over the past three decades know the emphasis that has been placed in American bioethics on the values of personal autonomy and respect for patient self-determination (Beauchamp & Childress, 2001). One of the great achievements that people in bioethics claim for the field is that it shifted medical practice away from a paternalistic model to one respectful of self-determination. Today, you cannot find a stronger value in the ethics of American medicine than respect for self-determination. It is why it is possible to not force a blood transfusion upon an unwilling Jehovah's Witness or to take away feeding tubes from someone like a Terri Schiavo (Caplan, McCartney & Sisti, 2006). Respect for self-determination is why people expect to be told about their diagnoses, whereas 50 years ago, this often did not happen.

Thus, there is a very strong emphasis both in research ethics and in thinking about the ethics that should govern the provision of therapy for respecting autonomy. This is not a value that is easily overcome.

Most physicians, when confronted with an intervention that might do enormous good for a person or a family or even for society, think that autonomy must yield, but that is not so. Autonomy is given much more weight than that.

When a Jehovah's Witness refuses blood, that refusal is binding even if it means that the person leaves behind many children without a parent. When a patient wants to follow nontraditional medicine and chooses not to enter the hospital, no one can force him or her to do so even if it means the loss of his or her life and much grief for his or her spouse and family. Even in areas such as vaccination where there are tremendous benefits from "herd immunity," state mandates requiring vaccination permit individual exemptions based upon personal, religious, or philosophical belief.

Thus, when someone argues in favor of mandatory treatment of drug-addicted individuals on the grounds that they will greatly benefit from a new drug or vaccine or that society will greatly benefit, such arguments are working up a very steep ethical hill. Regardless of the benefit, the notion of overriding a person's autonomy and forcing any type of treatment upon him or her is going to fall on the value of autonomy. A person has the fundamental right, well established in medical ethics and in American law, to refuse beneficial and helpful care even if such a refusal shortens his or her own life and has detrimental consequences for others (Dworkin, 1998). Hence, although many proponents of mandatory treatments for drug-addicted prisoners are inclined to point to the benefits both for prisoners and for society, it is exceedingly unlikely that any form of treatment that is forced, coerced, or mandated upon a vulnerable population such as prisoners is going to find any traction in American ethics, law, or public policy.

There is, however, a way in which self-determination may not conflict so strongly with the compulsory use of drugs for prisoners. The argument that I am going to make is that respect for self-determination sometimes requires mandatory treatment as a way to create or enable autonomy.

2. Infringing autonomy to create autonomy

Some proponents of mandatory treatment think that mandatory treatment may be justified if it is for the good

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of the general public. They say that treating prisoners for drug addiction is morally akin to quarantine. Some argue that it is like forcing treatment on a mother when she refuses a cesarean section or a Jehovah's Witness' child whose parents refuse a blood transfusion.

However, it is very tough to make the argument from public health stick. The analogies are not apt.

The justification for quarantine involves the protection of third parties. The moral justification of mandatory quarantines has nothing to do with benefit for the individual. It is forced confinement to protect others.

Similarly, most of the mandatory treatment cases that arise in medicine involve those who do not have the capacity to consent at all or the protection of third parties who cannot protect themselves, such as a near-term fetus or a baby. Mandatory treatment almost always involves protecting either third parties from extreme health risks or those incapable of autonomy and, thus, consent (Barbera et al., 2001). Those who argue for the forced treatment of prisoners by analogy to other public health situations or care for children are not going to get far trying to overcome the presumption of respect for self-determination by travelling these moral paths. There is another neglected but far more promising moral rationale for compelling the treatment of prisoners who are addicted.

People who are addicted really do not have the full capacity to be self-determining or autonomous because their addiction literally coerces their behavior. They cannot be autonomous agents precisely because they are caught up in the behavioral vice that is addiction. If that is so, then it may be possible to justify compulsory treatment for finite periods of time that could rectify this situation and restore the capacity for autonomy.

If a drug can break the power of addiction sufficiently to restore or reestablish personal autonomy or to markedly increase the capacity for autonomy, then mandating its use might be justifiable. In other words you might force treatment in the name of autonomy. If, through the use of naltrexone, the capacity for self-determination comes into existence or rather, returns, that is, if the medication is enhancing the ability to be autonomous, then I think that could serve as an ethical argument that would allow mandating treatment at least for a short period. If naltrexone or any other drug can permit persons to make choices that are free from the compulsions or cravings that would otherwise completely control their behavior, then it would seem morally sound to permit someone who is in the throes of addiction and who cannot choose anything to have the ability to choose restored through a course of treatment albeit temporary.

A form of this argument, temporary coercion in order to create autonomy, was actually made by the father of the importance of respecting individual liberty and choice—John Stewart Mill. Mill used the example of forcibly restraining a man who is walking toward a place where a bridge has collapsed as a case where coercion is morally

justified. You are allowed to hold him back even if protests because he will lose his autonomy if he goes where he does not realize danger lurks (Mill, 1985).

3. Breaking the back of addiction is a better moral choice than maintaining addiction at a lower cost!

The relapse rate for heroin-addicted individuals is very high. So are the costs associated with drug-addicted individuals maintaining this habit: crime, poor impact on families because they cannot be good parents to their kids, policing cost, jails, insurance cost, costs of HIV and hepatitis C, public anxiety, and fear. Hence, many believe that it is better to use substitute drugs that are not as expensive as heroin to restrain the drive to use this drug.

Methadone seems to be a drug that might work. However, methadone may not break the addictive spell that a person is under—it only substitutes a more socially acceptable form of addiction. There are some treatment models out there involving giving out free heroin and trying to make that form of drug use safer. Such programs exist in the UK, Switzerland, Holland, and Australia. But again these programs, while reducing social cost, do nothing to help the drug-addicted individual who has lost some or much of his capacity for self-determination.

Then there is naltrexone. It looks safe and effective against heroin and it may work against alcohol. The mechanisms behind the drug are well understood. It has been used on some populations safely and effectively for a long time. Thus, doesn't it make sense to use the drug that both reduces the social cost of addiction and removes the barrier that addiction creates to self-determination?

4. What is autonomy?

Individuals do have the right to consent to treatment. This is our ethical foundation for medical care. We even extend this principle to people who have known mental illnesses so they still can refuse some treatments. If you want to bring someone in for alcohol problems, they must, if they are an adult, consent. They cannot be drunk. They have to sign up for treatment. There are many people who have different types of mental illnesses who are still asked to give their consent before medical or surgical interventions are undertaken.

Americans go very far trying to capture even the embers or the sparks of autonomy. Medicine and the law are looking all the time to try and allow people to consent. You could argue that respect for autonomy is overblown in our society—that we go too far in this direction, but we need to put this aside for now. Consider this question, "Can drug-addicted individuals be autonomous when they are addicted when they are detoxing, or when they have been addicted and are clean and sober for a sustained period of time?"

someone going to be competent to choose, to make his or her own choices—to refuse treatment, to accept treatment—that he or she needs to understand his or her options, to be able to find reason for these options, to communicate a choice to someone else in a coherent way, to appreciate the consequences of their choices? This is what autonomy means.

If you make a choice, it has to reflect something that matters to you and that you care about. It has to be something that is a part of your value system whatever that might be. Thus, it is not so easy to be competent. It is not so easy to have informed choice. I often joke around our Bioethics Center and ask people how many times in a year they think they have actually made choices that fit this, and most of us just kind of schlep along doing things. We are not computing our options and deciding our consequences. There are a few people with neurosis in the field of decision theory who live their lives that way, but outside of that, most of us are not sitting down and making the hard choices, very often thinking about what it is we want even if it is against our values.

Medical treatment is probably one instance where this does happen. We decide, “Okay, I’ve got to take the pill, I got to have an operation, I’m going to spend some time getting counseled or treated. That’s going to take away other things I could do. I’m going to think about whether I want to do this or not.” One of the things that has not been recognized widely in the bioethics literature is that addiction can in fact be a form of coercion, and thus, the person who is driven by cravings and desires, which absolutely determine his or her behavior, and who cannot really get away from them is coerced. A drug-addicted individual, while not manifestly incompetent, is certainly fighting internal coercion all the time, often associated with having a drug or alcohol habit or whatever the addiction is. These cravings and habits can set up powerful psychological forces in an overwhelmed person who is a drug or alcohol user. If medicine could create more competency by blocking the coercion that results from these addictive, nearly irresistible cravings and physiological forces that, in fact, completely shape behavior, then this would be restoring autonomy and not interfering with it.

I am not saying that a drug-addicted individual, even a heroin-addicted individual, is completely incompetent. I bet many people can ride the bus, decide what they want to listen to on the radio, and make all kinds of routine decisions. They may know who the president is. They can count backward by sevens. They are going to pass mini mental status exams. But that should not obscure the fact that they are people who are about to face some pretty powerful, internal, coercive forces. If it is possible to use a drug to palliate, meliorate, or lessen the power of these forces and give that person more autonomy, then is this an ethical justification for mandating treatment or at least making treatment an alternative to jail?

5. Precedents for mandating treatment in the name of autonomy

Interestingly enough, we already know that the answer to the ethical acceptability of this rationale for mandatory treatment in our society is positive. We justify education in exactly this way. We force certain interventions upon people in the name of learning in the military, in medical residency, and in on-the-job training in nearly every company in the world. At the university, we force people to go to class, do certain tasks, talk in class, or sit for examinations because the professors are trying to build autonomy in their students. Ironically, by restricting freedom or forcing them to do certain things, live in certain ways, or acquire certain skills, they can become more autonomous.

Consider what goes on in rehabilitation medicine as an example of a part of medicine where short-term infringement of autonomy is tolerated in the name of long-term creation or restoration of autonomy (Caplan, 1997). Patients, after a terrible stroke and becoming paralyzed, often demand that they be allowed to die. They say, “Don’t treat me.” This is true of people with severe burns as well. They simply say, “I can’t live like this.” No one would seriously be able to question their competency. They know where they are. They know what is going on. They understand. However, when these patients are transferred over to rehabilitation units after their initial injuries are treated, staff in such units always ignore these demands! Patient autonomy is not respected. Why?

Rehabilitation experts say that they want to allow adaptation to the new state of affairs—to loss of speech, facial disfigurement, or paralysis. They know from experience that if they do certain things with people (train them, counsel them, try to work with them), then they can get them to start to “adjust.” There are, admittedly, still people who say at the end of a run of rehabilitation “I don’t want to live like this.” The suicide rate is higher in these populations, but, initially, rehabilitation specialists will say that they have to force treatment on patients because they know from experience that they can often get them to accept their new state of affairs. The normal practice of rehabilitation right after a severe injury is to mandate the treatment, ignore what patients have to say, and then see what happens. If they still do not want treatment after that, then it is fine, or they may decide to end their lives. However, in the short run, they can build more autonomy back by mandating interventions.

This is precisely my point of argument: Which is the appropriate model to follow in considering the ethics of using naltrexone? It is not plausible to infringe on autonomy or force treatment in the name of public health or patient benefit when we rarely do so in other contexts. Nor are such arguments oriented toward the best interest of the person being forced to take treatment. However, if the research on naltrexone is sound, if it is possible to say that treatment can

enhance, restore, build up, and add to the autonomy that drug-addicted individuals have by letting them be free from cravings, drives, and habits that inhibit their capacity to make choices, then doctors and prison officials can mandate treatment in the short run. The moral basis for this intervention is for the good of the patient and their autonomy. How long and whether someone ought to be able at some point say, "I've done this for six months, I'm finished, I want to get high again" are problems. But that is not the problem that has to be addressed first. The moral challenge is to open the door to mandatory treatment. That can be done, ironically, on the grounds of autonomy. Moreover, we can put this argument to an empirical test. If, at the end of a mandatory treatment period, prisoners or former prisoners feel that their autonomy and their self-determination are increased and enhanced following a run of naltrexone, then this justifies temporarily ignoring their autonomy. It may press current ethical thinking to the limit,

but mandating treatment in the name of autonomy is not immoral as many might otherwise deem forced treatment to be.

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Special article

Judicially mandated naltrexone use by criminal offenders: A legal analysis

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Abstract

The starting point for this article is the possibility of improving treatment adherence by making naltrexone therapy, particularly the recently developed depot preparation, a condition of probation or parole for nonviolent opiate-addicted offenders who voluntarily agree to these conditions. (I will characterize these arrangements as “leveraged agreements.”) My assigned task is to reflect on the legal principles that would apply to these arrangements. Before addressing the legality of leveraged agreements, however, I want to consider two arrangements. First, I want to consider what I will call “no-agreement arrangements,” in which a probationer or a parolee who does not want to receive naltrexone is required to do so under a threat of incarceration for noncompliance. Second, I want to consider a purely voluntary arrangement in which naltrexone treatment is not at all linked to criminal sentence. Finally, I will consider leveraged agreements. © 2006 Elsevier Inc. All rights reserved.

Keywords: Naltrexone; Mandate; Criminal offenders; Law; Treatment

1. “No-agreement arrangements”

First of all, I want to imagine what I will call a no-agreement arrangement. Assume that probation is the maximum available sanction for an offender’s crime under a state’s applicable sentencing statutes or guidelines, and that the offender is accordingly sentenced to a 2-year term of probation. Assume further that the judge orders the offender, as a condition of probation, to take naltrexone for the duration of the 2-year period, subject to revocation for noncompliance with this condition or with other conditions, including refraining from use of heroin. Revocation of probation, upon proof of violation, would result in immediate incarceration.¹

Legally speaking, making naltrexone treatment a condition of a probationary sentence is analogous to other orders in which a probationer must comply with mandated pharmacological treatment (e.g., antipsychotic medication for mentally ill offenders; anti-androgens such as medroxyprogesterone for sex offenders) subject to incarceration for

noncompliance. Although an offender has de facto prerogative to “refuse” to follow the judge’s order in such cases (and take the consequences), that individual is not given any choice and receives no concessions as part of an agreement. In other words, I am envisioning a legal situation in which the treatment has clearly been “coerced” in the sense that the offender was given no choice in the matter, does not want to take naltrexone, has a statutory right to a noncustodial sentence subject to reasonable conditions, and would prefer to have as few conditions as possible specified in the sentencing order.² Would mandated use of naltrexone be a permissible probation condition in this situation? What legal principles would be applicable?

¹ The situation would be legally analogous if a prisoner were entitled to mandatory release on parole under applicable state laws and were released subject to compliance with a variety of conditions, including the use of naltrexone. I will refer to both probationers and parolees as “offenders.”

² The subject of this article is coercion based on threat of imprisonment, not “compulsion,” by which I mean the use of physical force to administer medication over the offender’s objection. I will assume throughout the article that, in a nonemergency situation, the state does not have the authority to administer addiction medication by force. Such compulsion would “shock the conscience” and is, therefore, impermissible under the due process clause (see *Rochin v. California*, 1952).

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1.1. Does the order restrict constitutionally protected liberty?

The sentencing order would implicate the offender's constitutional liberty interest in refusing unwanted medical treatment grounded in the due-process clause. A competent person's right to refuse unwanted medical treatment³ has been vindicated repeatedly in the past two decades in the context of end-of-life care, in which such right is virtually absolute, with there being no state interest strong enough to override it (*Bouvia v. County of Los Angeles*, 1987; *McKay v. Bergstedt*, 1990).⁴ The right to refuse unwanted antipsychotic medication is also well-developed, mainly in the context of refusal by persons who have been involuntarily committed to psychiatric hospitals (or to prison medical facilities) (e.g., see *Mills v. Rogers*, 1982; *Washington v. Harper*, 1990). The right is naturally more limited in this context because the patient has already been involuntarily hospitalized for treatment, but even here, it may be overridden only if the patient poses danger to himself or others and the treatment is medically necessary and appropriate. It is well established then that every competent individual has a right to refuse unwanted medical treatment and that this right may be overridden only if necessary to serve important governmental interests. This principle presumably applies to a criminal offender who objects to taking naltrexone.

1.2. In this context, may the offender's liberty interest be overridden?

The United States Supreme Court's most recent decision on the right to refuse medical treatment concerned a defendant who had been found incompetent to stand trial and had been committed to a forensic hospital for restoration of trial competence (*Sell v. United States*, 2003). The prisoner, Dr. Charles Sell, a dentist with a delusional disorder, refused antipsychotic medication. Because of the way the case was presented to the Supreme Court, the court assumed that Dr. Sell was competent to make medical decisions and was not dangerous, and that the question was therefore whether the government's interest in bringing him to trial was strong enough to override his "significant" liberty interest in refusing unwanted antipsychotic drugs (*Sell v. United States*, 2003). The court held that: "[T]he Constitution permits the government involuntarily to administer antipsychotic drugs to a mentally ill defendant facing serious criminal charges to render such

defendant competent to stand trial, but only if the treatment is medically appropriate, is substantially unlikely to have side effects that may undermine the fairness of the trial, and, taking account of less intrusive alternatives, is significantly necessary to further important governmental-trial-related interests" (*Sell v. United States*, 2003).

The *Sell* decision pertained to a defendant properly committed to a psychiatric hospital for treatment and is not directly applicable to the mandatory administration of drugs as a condition of probation or parole. However, a variation of the *Sell* test will probably be held to apply to a situation where a state conditions a person's continued freedom or probation or parole on compliance with mandated pharmacological treatment. Indeed, in the only federal case directly on point, *Felce v. Fiedler* (1992), the Seventh Circuit Court of Appeals applied pre-*Sell* precedents dealing with the curtailment of prisoners' constitutional rights to *Felce*, the parolee in that case. *Felce* was required to have monthly injections of prolixin decanoate as a condition of parole from the Wisconsin prison system after serving 6 1/2 years of a 10-year sentence for aggravated assault of his ex-wife. He objected to the medication requirement, signing his parole release agreement under protest. The Seventh Circuit concluded that *Felce* had a conditional liberty interest in being free from the involuntary use of antipsychotic drugs during his period of mandatory parole. "Before the use of such drugs may be made a condition of his continued parole the state must demonstrate that such administration is medically indicated to accomplish the goals of the parole program of reintegrating Mr. *Felce* into the community" (*Felce v. Fiedler*, 1992).

In sum, when the prisoner is otherwise entitled to mandatory release on parole, involuntary administration of antipsychotic drugs is not a permissible condition of parole unless the government can show that it is necessary to prevent criminal conduct during the period of parole or to promote successful rehabilitation. Note that the Circuit Court assumed that *Felce* had been subjected to involuntary medication because he was entitled to release, as a matter of law, after serving 6 1/2 years (*Felce v. Fiedler*, 1992). He was required to take unwanted medication as the price for release on parole to which he was legally entitled. That was a coerced choice although, as the court acknowledged, he could have turned down parole and stayed in prison for another 3 1/2 years (*Felce v. Fiedler*, 1992; see also *United States v. Williams*, 2004).

What are the implications of the *Sell* and *Felce* cases for the administration of naltrexone to a probationer or a parolee? Obviously, these cases pertain to antipsychotic medications, and there are many clinical differences between the two contexts. The court's reasoning in *Sell*, however, does tell us, at the very least, that if naltrexone is ordered over objection, it must be medically appropriate, must serve important governmental interests, must significantly further those interests (i.e., must be effective), and must be necessary to further those interests (i.e., there are no

³ I am assuming throughout this article that the offender is competent to make medical decisions and, specifically, that the offender has the capacity to give informed consent for naltrexone treatment.

⁴ Under the Supreme Court's decision in *Cruzan v. Director of the Missouri Department of Health* (1990), it is also clear that the person's right to refuse treatment is constitutionally protected even after loss of decisional capacity if that individual has executed an advance directive.

less restrictive alternatives that could be as effective) (*Sell v. United States*, 2003). Assuming that the *Sell* criteria apply in this context, the most critical showing a state would need to make is that the imposition of medication would be substantially likely to prevent criminal conduct in the short run and to promote rehabilitation in the long run.

In the present context, the government's interest is in preventing continued opiate use during the period of probation and in reducing the risk of relapse thereafter. Assuming medical appropriateness in the individual case and taking into account the favorable risk–benefit profile of naltrexone, the pivotal issue will be effectiveness. It is difficult to determine exactly how much proof of naltrexone's effectiveness would be needed. Given the paucity of literature on the comparative effectiveness of the treatment in a coerced population of offenders, it is likely that the courts would demand more data than are now available. Additional studies with criminal offenders are urgently needed.

1.3. What procedures are required?

The Constitution requires an individualized determination of necessary facts by a judge or by an impartial fact finder after a proceeding that has satisfied the requirements of due process. The Seventh Circuit ruled in *Felce* that the prison and parole agency had not complied with due-process requirements because they failed to have an independent decision maker determine whether the prisoner's parole in that case should be conditioned upon antipsychotic drug treatment (*Felce v. Fiedler*, 1992). A review by doctors who had treated Mr. Felce was not adequate from the court's perspective because it differed from the procedure approved by the Supreme Court in *Washington v. Harper* (1990)—a review by a three-person panel, none of whom was involved in the patient's treatment at the time of the review.

1.4. Is mandated naltrexone use a reasonable condition of probation or parole?

The legal principles thus far discussed emerge from the so-called right-to-refuse-treatment cases. There is a related body of law pertaining to the conditions that may permissibly be prescribed in a probation or parole order, and analysis of this line of case law leads to the same conclusion. The question raised in these cases is when, if ever, compliance with pharmacological treatment is a "reasonable" condition of probation. Generally, courts decide whether a probation condition is reasonable by weighing the likely effectiveness of the challenged condition in serving the purposes of probation or parole (crime prevention and rehabilitation) against the nature and extent of the infringement of an otherwise constitutionally protected liberty interest, while factoring in the general needs of law enforcement (e.g., see *Closs v. Weber*, 2001; *Felce v. Fiedler*, 1992). To put it another way, being convicted of a crime and being sentenced to probation do not abrogate all

of the offender's constitutional rights; some rights may virtually never be curtailed, and even if a right may be limited, the need for the condition must be specifically justified in individual cases.

Cases involving two particular probation conditions provide illustrative applications of this "balancing" test. On one hand, two federal courts have ruled that a sex offender may be subjected to a penile plethysmograph as a valid condition of his parole (*United States v. Dotson*, 2003; *Walrath v. United States*, 1993). Tests were conducted as part of a general psychological treatment program that was mandated as a condition of parole, and the courts were persuaded that the plethysmograph was not exceptionally more intrusive than other physical/mental examinations or counseling that is typically required as a condition of parole or probation (*Walrath v. United States*, 1993; e.g., see *United States v. Cooper*, 1999: abstaining from consumption of alcohol, participating in testing for drug and alcohol abuse, and mental health counseling; *United States v. Stine*, 1982: mental health treatment program; *United States v. Wilson*, 1998: mental health treatment program). On the other hand, courts have uniformly invalidated bars to procreation as conditions of probation or parole (see *People v. Zaring*, 1992; *State v. Mosburg*, 1989; *Trammel v. State*, 2001), and it is generally assumed that requiring a female offender to take Norplant, a long-acting contraceptive implanted under the skin, as a condition of probation would be impermissible.⁵ Along with obvious policing problems, the courts in these cases have been hesitant to allow such conditions based on the fundamental nature of the right to procreate. The question is: Where does one draw the line along this continuum of probation conditions? Involuntary use of a naltrexone depot preparation probably lies somewhere between the plethysmograph and a ban against procreation or required use of Norplant, and would therefore be permissible only if based on a strong showing of necessity and effectiveness, together with minimal risks, as indicated above.

2. Voluntary arrangements

Thus far, I have assumed that naltrexone treatment has been prescribed as a condition of probation or parole over the

⁵ A search of the reported decisions reveals only two cases on point, but they both were moot by the time they got to the state appellate courts (see *People v. Johnson*, 1992; *People v. Walsh*, 1999). A concurring judge in *Walsh* specifically stated that the sentencing court's order of the implantation of Norplant was an unlawful condition of probation, reasoning that the order is directly analogous to ordering sex offenders to submit to medroxyprogesterone treatment, which the Michigan Supreme Court found to be "unlawful and invalid" in *People v. Gauntlett*, 1984). *Gauntlett* relied solely on nonconstitutional limitations, instead finding that the order to use medroxyprogesterone was unlawful under the state probation statute and that there was no informed consent in this case. There is also some scholarly commentary on the implantation of Norplant as a condition of probation (see *Jebson*, 1995; *Karachuk*, 1994/1995; *Walker*, 1993).

offender's objection. Now, I want to assume that the treatment is sought by the offender on an unequivocally voluntary basis and that the use of naltrexone is not in any way linked to the criminal justice system. Let us assume, for example, that the offender has been sentenced for a drug-related crime to a 2-year term of probation during which he is required to undergo periodic urine screens, and that his probation may be revoked, *inter alia*, for a "dirty" urine. Wanting to reduce the likelihood that the offender will relapse, the individual goes to the community's public substance abuse treatment provider (where the individual has previously received treatment) and asks for naltrexone. Assume further that the offender is denied naltrexone treatment based on an agency policy precluding clients under criminal justice supervision from receiving naltrexone.

I would be prepared to argue that such an agency policy would violate the constitutional guarantee of equal protection of the laws because it arbitrarily denies probationers access to a medically appropriate ameliorative treatment for addiction without any rational justification. It might be argued, in response, that the agency's policy is based on a judgment that people under the supervision of the criminal justice system are under duress and, therefore, lack the capacity to provide voluntary informed consent. I doubt that this argument would survive what the courts call the "rational basis" test, much less the heightened constitutional scrutiny that might be required for policies that deny people access to accepted medical treatments.⁶

I do not know whether any addiction treatment agency has promulgated a policy of the kind that I just imagined, but even if the example is fanciful, it helps me make a very important point. Preoccupation with impediments to obtaining valid consent, particularly with the problem of voluntariness, can lead to policies that unfairly deny access to treatment. Again, the best illustration of this problem has come up in the context of psychiatric treatment, specifically electroconvulsive treatment (ECT).

During the past three decades, states have been concerned about the adequacy of consent for ECT and have prescribed various forms of external review of the appropriateness of the treatment and the adequacy of consent (e.g., see VA Code Ann., 2005)—a review process analogous to the procedures that are sometimes required before people are permitted to enroll in certain types of medical research (e.g., see Bonnie, 1997). Typically, these external review procedures for ECT are required only for patients in public hospitals, reflecting the historical evidence

of abuse in that context. However, when California enacted its special review procedures in 1974, it made them applicable to all ECTs, whether provided in public or private settings (California Welfare and Institutions Code, 1974). The statute permitted ECT only if heightened criteria were met ("all other appropriate treatment modalities have been exhausted and that this mode of treatment is critically needed"), family members were notified, and the need for the treatment and the patient's capacity to consent were affirmed by a three-physician panel (California Welfare and Institutions Code, 1974). The California Supreme Court invalidated these procedures (*Aden v. Younger*, 1976), viewing them as an impermissible interference with medical decision-making autonomy:

[O]nce the competency of a voluntary patient has been confirmed, and the truly voluntary nature of his consent is determined, the state has little excuse to invoke the substitute decision-making process... ECT is not an experimental procedure, nor are its hazards as serious as those of psychosurgery... Where informed consent is adequately insured, there is no justification for infringing upon the patient's right to privacy in selecting and consenting to the treatment. The state has varied interests which are served by the regulation of ECT, but these interests are not served where the patient and his physician are the best judges of the patient's health, safety, and welfare (pp. 549-550).

The same can be said of policies or practices that impede access to naltrexone by patients whose physicians prescribe it for them and who seek treatment even if they are under the supervision of the criminal justice system.

3. "Leveraged agreements"

Now we come to the type of arrangement that O'Brien and Cornish (this issue) envisioned. In this legal arrangement, offenders would be offered an opportunity to receive naltrexone as a part of a favorable disposition of their cases or as a condition of early release on discretionary parole. This arrangement entails what I will call a leveraged agreement. To explore the legal principles applicable to a leveraged agreement in the criminal justice system, I will address two specific variations of such arrangements—plea bargaining for conditional probation and early release on conditional parole.

3.1. Plea agreements for conditional probation

Consider probation first. Assume that the defendant faces a high likelihood of conviction and a possible sentence of 2 years in jail for drug-related offense. However, as part of a plea agreement,⁷ the defendant agrees to take naltrexone in return for the prosecution's recommendation of noncustodial

⁶ I want to emphasize that this argument is an antidiscrimination argument and that it does not obligate the government to provide naltrexone in the first instance. The government is not constitutionally obligated to provide addiction treatment services at all. However, ethicists might argue that the addicted offender has a "right" to addiction treatment, including naltrexone, and that the state is morally obligated to offer it to offenders whose offenses are addiction-related. I can imagine an Eighth Amendment argument to this effect, but I doubt that it would prevail.

⁷ A preadjudication diversion, as envisioned in the proposal of O'Brien and Cornish (this issue), is functionally equivalent to postconviction conditional probation for my purposes.

disposition. He understands that noncompliance with prescribed requirements can result in revocation.

The central question in these cases is whether an individual's consent is valid or has been coerced. Another way of putting the same question is whether the defendant has validly "waived" the right to refuse unwanted medical treatment. If the consent is valid, there is no basis for judicial scrutiny of the medical and behavioral justification for prescribing naltrexone, and the offender's probation may properly be revoked for noncompliance. However, if the consent is said to be invalid, then the permissibility of the condition will be evaluated according to the criteria applicable to a no-agreement arrangement, as discussed above.

There is no doubt that the defendant may "feel coerced" in a psychological sense—the choices are obviously limited. But, the subjective experience of "coercion"—of being faced with a "hard choice"—is not the same as being coerced in a legal or moral sense. Whether a leveraged arrangement is "coercive" (or voluntary) is a normative question, not an empirical one. In the present context, whether the offender's agreement to take naltrexone should be regarded as "voluntary" or coerced ultimately depends on whether the plea agreement itself should be regarded as voluntary or coerced.

The United States Supreme Court has addressed this question directly and has concluded that plea agreements are valid and should be enforced. In *Brady v. United States* (1970), Brady sought to set aside his guilty plea on the ground that he had agreed to plead guilty only to avoid the death penalty and that his plea had accordingly been coerced. The Supreme Court rejected that argument and explained why, as follows (*Brady v. United States*, 1970):

Of course, the agents of the State may not produce a plea by actual or threatened physical harm or by mental coercion overbearing the will of the defendant. But nothing of the sort is claimed in this case; nor is there evidence that Brady was so gripped by fear of the death penalty or hope of leniency that he did not or could not, with the help of counsel, rationally weigh the advantages of going to trial against the advantages of pleading guilty. Brady's claim is of a different sort: that it violates the Fifth Amendment to influence or encourage a guilty plea by opportunity or promise of leniency and that a guilty plea is coerced and invalid if influenced by the fear of a possibly higher penalty for the crime charged if a conviction is obtained after the State is put to its proof.

Insofar as the voluntariness of his plea is concerned, there is little to differentiate Brady from (1) the defendant, in a jurisdiction where the judge and [the] jury have the same range of sentencing power, who pleads guilty because his lawyer advises him that the judge will very probably be more lenient than the jury; (2) the defendant, in a jurisdiction where the judge alone has sentencing power, who is advised by [the] counsel that the judge is normally more lenient with defendants who plead guilty than with those who go to trial; (3) the defendant who is permitted by [the] prosecutor and [the] judge to plead guilty to a lesser offense included in the offense charged; and (4) the defendant who pleads guilty to certain counts with the understanding that other charges will be dropped. In each of these situations, as in Brady's case, the defendant might never plead guilty absent the possibility or certainty that the plea will result in a lesser penalty than the sentence that could be imposed

after a trial and a verdict of guilty. We decline to hold, however, that a guilty plea is compelled and invalid under the Fifth Amendment whenever motivated by the defendant's desire to accept the certainty or probability of a lesser penalty rather than face a wider range of possibilities extending from acquittal to conviction and a higher penalty authorized by law for the crime charged (pp. 750-751).

The court's conclusion rests on the premise that plea agreements expand the defendant's available options rather than constrict them. Without the prosecution's offer of a life sentence in return for a guilty plea, Brady had two choices: He could go to trial, putting the state to its proof, hoping that he would be acquitted or convicted of a noncapital offense, or he could plead guilty to the capital offense, gambling that the judge would sentence him to life. The plea agreement expanded his choices by precluding the death penalty in return for surrendering his right to go to trial.

This way of looking at plea agreements implicates the normative basis of enforcing all contracts. According to Scott and Stuntz (1992), "[t]he normative claim that supports enforcing bargains is that voluntary exchange offers people more choices than they would otherwise enjoy and, other things being equal, more choice is better than less." This is especially true for individuals whose choices are limited to begin with (Scott & Stuntz, 1992):

[T]he norm of expanded choice is solely concerned with the marginal effects of the contract on an individual's choices. A person with few and unpalatable choices may live in a coercive environment. An offer that exploits those circumstances is nevertheless value-enhancing, and enforcement is appropriate. More choices are better, even—perhaps especially—if one has few to begin with (p. 1920).

Using a plea agreement to illustrate the idea of expanded "choice" may strike some people as counterintuitive—after all, the defendant has very little bargaining power when the individual succumbs to the prosecution's "offer" of a more lenient punishment than otherwise would have been sought and imposed. It seems like the prosecution has all the cards. How can we use the language of contract in such an overwhelmingly coercive environment? The answer is that the defendant does have a choice: we can go to trial (putting the state to the time, trouble, and cost of trying to prove the defendant's guilt) and refuse to assist the state in investigating and prosecuting other people. These prerogatives are of genuine value in the criminal justice system as it is now designed, and provide meaningful consideration for the state's concessions on charges and sentence. As long as we assume that the defendant has been fairly charged (and that the risks of going to trial have not been unfairly magnified to induce guilty pleas), then the plea agreement is voluntary (and has not been coerced).

Philosopher Wertheimer (1987) has stated, "the ability to obligate oneself by creating a binding contract is an important aspect of our freedom." "Voluntariness—and, in particular, the absence of coercion," he stated, is "a necessary condition of obligations grounded in agreement" (Wertheimer, 1987). How is one to determine which contractual decisions are voluntary and which are the product

of coercion? The standard view of coercive proposals is that threats coerce but offers do not. The crux of the distinction between threats and offers is that A makes a *threat* when B will be *worse off* than in some relevant baseline position if B does not accept A's proposal, but that A makes an *offer* when B will be *no worse off* than in some relevant baseline position if B does not accept A's proposal. On this view, the key to understanding what counts as a coercive proposal is to properly fix B's *baseline* (Wertheimer, 1987).

Assuming that the defendant has been fairly charged by the prosecutor, a tendered plea agreement is an offer (which expands the defendant's choices), not a threat. In the context of a prosecutorial offer of probation conditioned on taking naltrexone (in lieu of recommending a more severe sentence authorized by law for the defendant's offense), the defendant who accepts the offer has made a voluntary choice and has not been coerced. To be sure, the choice has been "leveraged" by the possibility of imprisonment—and the defendant is more likely to comply with the order every month rather than invite revocation—but all of these choices are voluntary in a legal and moral sense.

3.2. Early release on parole

Now consider an offender who is eligible for parole in a system in which the parole board has the discretion to grant or deny parole based on its judgment about the likelihood of recidivism and the prospects for successful rehabilitation. Assume that the parole board concludes that the prisoner's offenses have all been addiction-related and that the best plan for successful rehabilitation is preventing relapse when the prisoner returns to the community. It offers the prisoner a parole agreement involving administration of naltrexone and participation in counseling. This situation is analogous to a plea bargaining situation. We are assuming that, under applicable parole statutes, the prisoner has no right to release, with or without conditions. However, the parole agency has the discretionary authority to grant early release and offers that option to the prisoner, conditioned on his agreement to take naltrexone. Judged by the legal baseline (being in prison with no right to release), the parole agency has made an offer that the prisoner is free to accept or reject. By contrast, in the situation imagined in the discussion of no-agreement arrangement earlier in this article, the prisoner was entitled to release under the applicable statutes, and the parole agency was essentially saying that the prisoner has to give up his right to refuse treatment to obtain the liberty to which he is otherwise entitled.

Winick (1997) argues that the promise of release for agreeing to pharmacotherapy should not "necessarily render voluntariness legally impossible." Relying on *Brady v. United States*, Winick observes that "[i]f avoidance of the possibility of a death sentence is not so inherently coercive as to invalidate a guilty plea, then it is difficult to see how the possibility or promise of early release could be con-

sidered so inherently coercive as to invalidate a patient's or [an] offender's choice of therapy."⁸

This distinction is nicely reflected in two federal circuit court decisions concerning parolees who had been required to take antipsychotic medications. In *Felce v. Fiedler* (1992), which was reviewed earlier, Mr. Felce was entitled to release, having served his sentence minus good time, and the court held that his "agreement" to take prolixin had therefore been coerced by the agency. In *Closs v. Weber* (2001), by contrast, Randy Closs was granted a conditional parole after serving 14 years of his sentence.

The parole agreement, which he signed, stated that, "[i]n consideration" of being granted parole, he would comply with instructions regarding his parole supervision and with other "special limitations and conditions." Mr. Closs had a long-term diagnosis of schizophrenia, and as part of the "special limitations and conditions" of his parole, he agreed to "[b]egin and maintain psychological or psychiatric treatment at a facility or with a psychologist or psychiatrist approved by the [Board of Pardons and Parole]."

In compliance with the parole agreement, Mr. Closs voluntarily entered a board-approved mental health facility for psychiatric treatment. At the facility, his attending psychiatrist prescribed a psychotropic drug for him... Mr. Closs initially refused to take the prescribed medication. After his parole agent reportedly explained to him that "cooperation with his treatment was imperative and that any future refusal to do so would . . . result in a [parole] violation," he took the drug for about 2 days. On the next day, Mr. Closs refused a scheduled increase in his medication, and for the next 2 days, he refused to take the medication at all. The facility then discharged him to his parole agent.

At his parole violation hearing, Mr. Closs testified that the parole agreement did not require him to take medication, and that he quit taking the medicine because it caused him side effects, including dry mouth, stiff muscles, and drowsiness. The board concluded that he had violated his parole conditions by failing to comply with "all instructions affecting [his] supervision." As a result, the board revoked Mr. Closs's parole.

The South Dakota state courts rejected Closs's claim that conditioning his parole on taking unwanted medication violated due process (*Closs v. Weber*, 2001). The Eighth Circuit upheld the state court ruling, reasoning that Closs, "rather than being forcibly medicated, [had] agreed to treatment that included prescribed medication," and that "there was no evidence that Mr. Closs was forced to agree to the parole terms or that he objected to the treatment

⁸ Winick cites a case from Maryland in which informed consent was found where the choice offered to prisoners was to either stay in a prison, the conditions of which were likely unconstitutional, or to participate in a medical experiment that would allow them to stay in a much more livable medical unit (see *Bailey v. Lally*, 1979). However, I believe that this case was incorrectly decided: If prison conditions were unconstitutional, then participation in the experiment was "coerced."

condition when it was imposed" (Closs v. Weber, 2001). Moreover, Closs had no protected liberty interest in receiving parole under South Dakota laws because the parole decision is entirely discretionary, and he was "not required to accept a conditional parole" (Closs v. Weber, 2001). "Thus, in return for receiving the discretionary benefit of parole, Mr. Closs agreed, inter alia, to maintain board-approved treatment for his mental illness." The Eighth Circuit distinguished Felce v. Fiedler (1992) on the ground that Felce had been entitled to mandatory parole.

In my opinion, then, a leveraged agreement with the parole condition envisioned by O'Brien and Cornish (this issue) would be a voluntary one, constitutionally speaking, and would not implicate the due-process clause. The state, therefore, does not have to prove that any criterion other than medical appropriateness has been met or that the agreement has been reviewed or approved by any third party.

4. Summary

In conclusion, I think that the legal prospects for mandated treatment of probationers and parolees with naltrexone are excellent. It is clear that everyone, including a criminal offender, has a strong constitutionally protected interest in refusing unwanted medical treatment, including naltrexone. However, this right can be waived as part of a plea agreement for conditional probation or for early release on parole as long as the treatment is medically appropriate in the offender's case and as long as the offender has been fully informed about what is expected of him. I see no reason why the courts would regard the offenders as categorically unable to enter such agreements or would otherwise decline to uphold them. Indeed, I think that organizations advocating on behalf of prisoners should argue that the failure to make naltrexone available to offenders with histories of opiate addiction who seek such treatment amounts to a form of discrimination against them.

The harder question is whether the courts or parole agencies have the constitutional authority to order offenders with histories of addition and addiction-related offenses to take naltrexone as a condition of probation or parole even if they have not agreed to do so. Although the answer is not altogether clear, I believe that mandated naltrexone treatment would be upheld by the courts if the trial judge or some other impartial decision maker found, after a suitable hearing, that the use of naltrexone is medically appropriate, without significant risk, and likely to prevent relapse and thereby prevent crime and promote rehabilitation, and that no less intrusive, reasonably effective alternative is available.⁹

⁹ Compare with *United States v. Williams* (2004): "before a mandatory medication condition can be imposed at sentencing, the district court must make on-the-record, medically grounded findings that court-ordered medication is necessary . . . and [make] an explicit finding on the record that the condition 'involves no greater deprivation of liberty than is reasonably necessary.'"

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Commentary

Naltrexone as a “mandate” or as a choice
Comments on “Judicially mandated naltrexone use by criminal offenders:
A legal analysis”

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I want to make two disclosures as a way of setting the context for my remarks. First, I have been a judge for over 24 years in criminal court rooms—the last 9 years in the Philadelphia Treatment Court, which is a drug court. Second, we do use naltrexone with some of the clients in our drug court program. With that said, I want to describe the situation within the Philadelphia criminal justice system and what I think is an important distinction between a mandated sentence involving naltrexone and a leveraged choice made by a defendant, parolee, or probationer to accept naltrexone.

Philadelphia County, on any given year, has 50,000–60,000 people arrested for misdemeanors and felonies, and another 12,000–15,000 for summary offenses. Of those 50,000–60,000, at least 25,000–30,000 are solely drug arrests (i.e., possession, intent to sell, or sale). By their own admission at the time of arraignment, 70–75% of defendants admit to a drug problem, alcohol problem, or both. That does not include people with additional mental health issues. The Philadelphia County Prison, on any given day, has approximately 9,000 inmates. As you can see, the capacity to incarcerate individuals and the appropriateness of incarceration in cases where drug abuse or dependence is the major reason for the charged offense combine to create a serious management issue for the court system in Philadelphia. That is why the Philadelphia Treatment Court was started.

With regard to the ethics of using leverage or coercion, as discussed by Professor Bonnie, it is important to consider the issue of coercion less from a Webster's-dictionary perspective than from day-to-day processes of plea agreements, nontrial dispositions, negotiations, and

diversions, which comprise the functional procedures of the system. It is simply not possible to run the system if every case went to trial. Thus, in that context, what actually happens everyday is that the different parties involved in an arrest, a trial, or a sentencing decision all make offers. There are, of course, moral, ethical, and legal/constitutional issues involved in all these offers, but, as a judge, perhaps the most salient of all is the practical issue: What do you do with all these people?

The joint decision-making issues that confront me as a judge and the various members of the system both guide me on what is best for society and what is best for a defendant. If you can have a situation where both parties' interests are served in the same decision, then you are way ahead of the game. Therefore, to the extent that naltrexone is effective in reducing the threat of relapse and return to crime, to the extent that it is not harmful to the client, and to the extent that it can relieve practical burdens on the system, we have to try it and clients should have the option to use it.

Now, in my opinion, it is the client's choice in the situation that is the critical determinant of its legal standing as a legitimate tool in sentencing. Specifically, it requires that clients are competent, that they have counsel to represent them adequately, and that they are properly informed about all aspects of their case and the options available to them. In this context, I see the offer of the Treatment Court or the offer of naltrexone as an informed decision—neither as coercion nor as a mandatory sentence. Nor do I see this as being considered “psychological coercion” because, in this context, no options have been taken away from these individuals. If there were no Treatment Courts, they would have fewer or no options. Within the Treatment Court, if there were no naltrexone, they would have one less option. Beyond the availability of

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more, not less, options for a defendant, there is the history of the options available to them. In the case of the Philadelphia Treatment Court, approximately 1200 people have successfully completed our 1-year program. Only 300 clients did not complete our program, suggesting that this is a viable and achievable option for the great majority of defendants. Thus, again, I see the offer of Treatment Court or the offer of naltrexone as a choice, neither as coercion nor as a condition of a mandatory sentence. As long as the defendants have a choice and are informed and are fully aware of the consequences, I do not see an argument for lack of fairness.

It seems to me that it would be possible to cross the line on this issue if a judge simply sentenced a defendant to receive naltrexone or if a parole board made parole—which would otherwise be available without naltrexone—contingent upon taking naltrexone. I am perhaps particularly sensitive to this distinction, considering that I am working within the Commonwealth of Pennsylvania and under the auspices of the Pennsylvania Supreme Court, which might be asked to rule on such a question. The question has not come up, but it is interesting to note that the Pennsylvania

Constitution affords greater privacy rights than does the United States Constitution (Article 1, Section 8, Pennsylvania Constitution). This means that the court is likely to be very attuned to privacy rights and due-process rights, perhaps even beyond what might be suggested from the United States Constitution. From this perspective, I draw the distinction between the use of naltrexone in conditions where it is an additional option for a competent defendant to choose, or the use of naltrexone as a condition of mandatory sentence that removes a choice or right that would otherwise be available to the defendant. Thus, I believe that the example given by Professor Bonnie of a sentence of 2 years probation contingent upon taking naltrexone might be considered a mandate, and, as such, would face fairness tests by higher courts. Beyond the initial question of fairness and constitutionality, there is the practical question: What is to be done with such a defendant or probationer if the individual does not take naltrexone as ordered? Is it constitutional, ethical, or even practical, in the face of the issues already discussed, to charge such a defendant with parole violation and put that individual in jail even if there is no evidence of drug use? Absolutely, not.

Special article

Depot naltrexone in lieu of incarceration: A behavioral analysis of coerced treatment for addicted offenders

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Abstract

This article is part of a series of articles examining a proposal to offer depot naltrexone to certain nonviolent opiate-addicted criminal offenders in exchange for release from incarceration or diversion from prosecution. This "negative-reinforcement" behavioral paradigm could have a better chance of success than what has heretofore been attempted with drug-abusing offenders. Traditional correctional efforts have been largely unsuccessful due to the complexities of implementation and the side effects of punishment. Although positive reinforcement can be more efficacious, it has often been strenuously resisted on the ground that it is inequitable to reward antisocial individuals for doing what is minimally expected of most citizens. Negative reinforcement steers between these hurdles by avoiding the iatrogenic effects of punishment, while also being palatable to stakeholders. More research is needed to identify the effects, costs, and side effects of negative-reinforcement arrangements for drug offenders. The current proposal provides an excellent platform for conducting this research because the target intervention (depot naltrexone) is demonstrably efficacious, nonpsychoactive, and has few, if any, side effects. Therefore, use of this medication would be unlikely to invoke the same types of legal and ethical objections that have traditionally been levied against the use of psychoactive medications with vulnerable populations of institutionalized offenders. Specific recommendations are offered for questions that must be addressed in future research studies. © 2006 Elsevier Inc. All rights reserved.

Keywords: Depot naltrexone; Incarceration; Coerced treatment; Crime; Criminal justice; Prison

1. Introduction

In this special issue, Professor Charles O'Brien poses the question: Under what circumstances might it be ethical,

legal, and effective to offer nonviolent opiate-addicted criminal offenders the opportunity to receive depot injections of naltrexone in exchange for early release from incarceration or diversion from criminal prosecution? Other articles in this issue address the ethical and legal questions raised by the proposal. This article reviews behavioral science evidence in examining the potential effectiveness of such an arrangement.

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It has become virtually a truism in the addiction research literature that "coercion works." Dozens of studies have concluded that clients who are legally mandated or legally pressured into substance abuse treatment perform as well as, or better than, ostensibly voluntary clients (e.g., Brecht & Anglin, 1993; Collins & Allison, 1983; Farabee, Prendergast, & Anglin, 1998; Goldsmith & Latessa, 2001; Hiller, Knight, Broome, & Simpson, 1998; Lang & Belenko, 2000; Marlowe, 2001; Miller & Flaherty, 2000; Platt, Buhlinger, Kaplan, Brown, & Taube, 1988; Polcin & Weisner, 1999;

Rotgers, 1992; Satel, 1999; Young, 2002). Moreover, studies reveal that substance abusers typically perform better during treatment when they experience continuing coercive pressures to attend sessions and to demonstrate sobriety (e.g., Brown, Buhringer, Kaplan, & Platt, 1987; Donovan & Rosengren, 1999; Lawental, McLellan, Grissom, Brill, & O'Brien, 1996; Miller & Flaherty, 2000; Platt et al., 1988; Polcin & Weisner, 1999; Rotgers, 1992; Stitzer & McCaul, 1987; Varney et al., 1995). Although these coercive pressures frequently stem from the criminal justice system, they may also originate from other sources, such as family members, friends, employers, or health care workers (e.g., Marlowe, Glass, et al., 2001; Marlowe et al., 1996; Marlowe, Merikle, Kirby, Festinger, & McLellan, 2001; Tucker, Vuchinich, & Pukish, 1995; Wild, 1999).

Unfortunately, the lessons drawn from this research literature are unsatisfying for a number of reasons. For one thing, the studies lacked appreciable experimental control and simply compared outcomes between individuals who were, or were not, experiencing coercive pressures at treatment entry. It is quite possible that these groups differed significantly at baseline on demographic, drug-use, or criminogenic factors, which could have confounded the influence of coercive pressures. More important, the literature suffers from imprecise definitions of the construct of "coercion." The majority of studies either equated coercion with the presence of a dichotomous (yes or no) legal mandate to receive treatment or devised simple scales that rank-ordered the degree of legal pressures being exerted on participants (e.g., Hiller et al., 1998; Young, 2002). None of the studies considered *how* coercive interactions were structured or arranged. For example, some participants might have entered treatment as a means of avoiding incarceration, whereas others might have done so as a condition of confinement. Similarly, some participants might have entered treatment to obtain welfare benefits or other government subsidies, whereas others might have done so to avoid losing such subsidies. Combining these cases together under the common rubric of coerced treatment is likely to have obscured important information about which types of coercive arrangements are most likely to improve client outcomes with the fewest side effects.

This article reviews the basic principles of operant conditioning or contingency management as these relate to coerced entry into substance abuse treatment, and examines what is presently known about the effects, costs, side effects, and effective parameters of various behavioral arrangements. It is concluded that "positive reinforcement" (rewarding desirable behavior) appears to be the most effective and cost-efficient method for improving clients' conduct and also produces the fewest negative side effects. For policy reasons, however, positive reinforcement is rarely implemented with substance abusers or criminal offenders because it is often considered unfair to reward antisocial individuals for doing what is minimally expected of most citizens. In contrast, "punishment" (applying negative

	SANCTION	REWARD
GIVE	Punishment	Positive Reinforcement
TAKE	Negative Reinforcement	Response Cost

Fig. 1. Behavioral techniques of operant conditioning or contingency management.

sanctions to undesirable behavior) has the most negative side effects and is the hardest behavioral strategy to apply effectively. Despite these difficulties, punishment is most commonly used with drug abusers and criminal offenders in this country.

The behavioral paradigm presently under consideration is one of "negative reinforcement," which is defined as taking away a sanction in exchange for desired behavior. Specifically, it is proposed that imprisonment be curtailed contingent upon offenders receiving depot naltrexone. This has the decided advantage of avoiding many of the common side effects of punishment, while at the same time reducing incarceration costs and being palatable to policymakers and the public. Unfortunately, the relative paucity of controlled research on negative reinforcement makes it difficult to predict the effects of such a promising strategy with certainty. Studies are needed to examine the effects of negative-reinforcement arrangements in criminal justice settings and to determine how such arrangements can be modified to make them most effective with the fewest iatrogenic effects.

2. Behavioral analysis of coercion

Fig. 1 depicts the basic techniques of operant conditioning. Logically speaking, there are four ways to influence the behavior of another person through the application of behavioral contingencies. It is possible to: (1) give a reward (which is called positive reinforcement); (2) give a sanction (which is called punishment); (3) take away a reward or something valued by the individual (which is called response cost); or (4) take away a sanction (which is called negative reinforcement).

In this country, punishment and response cost are the most commonly used strategies for modifying the behavior of drug abusers or criminal offenders. Giving an individual a sanction of incarceration for using drugs is a classic example of punishment. Similarly, fining an individual (i.e., taking away the individual's money) for using drugs or revoking a driver's license for driving while intoxicated is a classic example of response cost. Note that punishment and response cost share the common goal of reducing undesirable

behavior, as opposed to increasing desirable behavior. However, with response cost, the sanction involves losing something of value (e.g., money or driving privileges) that was previously in the offender's possession. Conceptually, the term *coercion* is typically reserved for these two behavior-modification techniques, which rely on actual or threatened aversive consequences to squelch undesirable conduct.

In contrast, positive reinforcement and negative reinforcement share the common goal of increasing desirable behavior. Negative reinforcement involves relief from previously unpleasant circumstances, whereas positive reinforcement is characterized by the giving of a new prospective reward. Providing drug offenders with payment vouchers for attending counseling sessions or for receiving naltrexone injections is a classic example of positive reinforcement. Releasing drug offenders from prison in exchange for attending counseling sessions or for receiving naltrexone is a classic example of negative reinforcement. In the latter example, the sanction of imprisonment is removed contingent upon the offender engaging in the desired behavior of receiving treatment.

It is a matter of debate whether positive reinforcement or negative reinforcement can be fairly characterized as "coercive." If an individual *chooses* to engage in a particular behavior in exchange for a desired inducement, it is not immediately apparent how such an arrangement could be said to be coercive (e.g., Group for the Advancement of Psychiatry, 1994; Satel, 1999). Some commentators have argued, however, that inducements can be coercive if they are "too good to resist" (Dickert & Grady, 1999; Fry & Dwyer, 2001; Koocher, 1991; Macklin, 1981; McGee, 1997). This argument has been raised most commonly in the context of research as opposed to clinical practice. For example, there is an across-the-board prohibition against offering prisoners early parole as an incentive for participating in research (45 CFR, Section 46.305, Subpart C) because this (negative reinforcement) arrangement is viewed as being too enticing to decline. Similarly, the ethics codes of organizations such as the American Psychological Association (2002) and the National Institute on Alcohol Abuse and Alcoholism (1989) prohibit the use of positive incentives that are so large as to be potentially coercive.

Negative reinforcement, in particular, has been singled out by some commentators as potentially coercive because it entails a negative sanction at its core (e.g., Sidman, 1989). For negative reinforcement to be operative, an individual must first be faced with an impending aversive consequence, which the individual can escape or avoid by engaging in a desired behavior. For example, a drug abuser must first be charged with a crime before treatment entry can be negatively reinforced by dropping the charge.

It is important to recognize that these arguments are conceptual in nature and cannot be falsified or verified with data. No experiment indicating whether a particular incentive arrangement is coercive could be imagined because

there is no defined construct to measure. Research can, however, indicate whether various incentive arrangements are effective and cost-efficient, and whether they may have negative side effects. Armed with this knowledge, practitioners and policymakers can make balanced and informed judgments about whether these arrangements are desirable or whether they pose undue risks or costs. The following sections of this article briefly review what is known about the effects, side effects, and effective parameters of each of the operant-conditioning techniques described above.

3. Positive reinforcement

Positive reinforcement involves providing rewards for desired behaviors. Giving payment vouchers to clients for attending counseling sessions or for providing drug-free urine specimens is a commonly studied example of positive reinforcement in drug abuse treatment settings. Dozens of well-controlled studies have revealed moderate to large effects of such procedures on treatment retention and drug use. Recent meta-analyses (Griffith, Rowan-Szal, Roark, & Simpson, 2000; Higgins, Heil, & Lussier, 2004; Lussier, Heil, Mongeon, Badger, & Higgins, 2006; Prendergast, Podus, Finney, Greenwell, & Roll, 2005) reported average effect sizes (ES) on drug use of roughly 0.25–0.50 standard deviation (*SD*) units compared to no-treatment control groups, with some of the ES exceeding 1.00–1.50 *SD* (e.g., Kirby, Marlowe, Festinger, Lamb, & Platt, 1998). All meta-analyses found greater effects for interventions that reinforced a single target behavior (e.g., abstinence from a single drug of abuse), with average ES for those interventions generally ranging from approximately 0.40 to 0.70.

When investigators took reasonable efforts to shift clients from abstinence *initiation* schedules to *maintenance* schedules, effects on drug use were sustained for up to 12–18 months. In some studies, significant effects on cocaine abstinence were maintained for 18 months using a 12-week aftercare phase in which participants received US\$1 lottery tickets for drug-free urine specimens (e.g., Higgins, Wong, Badger, Ogden, & Dantona, 2000). Another study using fixed-value vouchers worth US\$10 reported sustained effects on cocaine use lasting for more than 6 months (Preston, Umbricht, & Epstein, 2002). Even more impressive, one study reported effects lasting up to 3 years when voucher-reinforcement techniques were extended to job training or workplace setting (Silverman et al., 2002).

Most recently, procedures aiming to provide contingent vouchers in a cost-effective manner, using what is known as the "fishbowl technique," have been developed. This intermittent reinforcement schedule provides participants *opportunities* for reinforcement (i.e., draws from a fishbowl) for attending treatment or for providing drug-free urine specimens. On any given draw, the odds favor the participant earning either no reward or a low-magnitude reward of roughly US\$1–5 in value; however, there is

always a small possibility of earning a higher magnitude reward of roughly US\$80–100 in value. Important, participants in fishbowl interventions earn an average of only approximately US\$120 over 3 months, which should be affordable for many programs to implement. This procedure has proven effective in increasing treatment retention and urinalysis-confirmed abstinence among alcoholics in outpatient treatment (Petry, Martin, Cooney, & Kranzler, 2000), cocaine-abusing clients in methadone maintenance treatment (Petry & Martin, 2002), cocaine abusers in drug-free outpatient treatment (Petry et al., 2004), and individuals with HIV or AIDS in group-based treatment (Petry, Martin, & Finocche, 2001).

The parameters for the effective implementation of positive reinforcement are well understood. Quite simply, the more certain and swift are the rewards, the greater are the effects on behavior (e.g., Burdon, Roll, Prendergast, & Rawson, 2001; Martin & Pear, 1999). To initiate a new behavior, it is optimal to reward every instance of the desired behavior or every successive approximation of that behavior. This is known as a “continuous fixed ratio” (or FR1) schedule. It is also most effective to reward the behavior as soon as possible after it has occurred. Once a behavior has been reliably acquired, it can often be maintained using intermittent schedules with lower magnitudes of reinforcement. As noted previously, some studies have maintained drug abstinence using US\$1 lottery tickets.

There is some question as to whether it is more effective to gradually escalate the magnitude of positive reinforcement over time (e.g., Higgins et al., 1991) or whether it is better to begin with higher magnitude rewards at the outset and to increase performance demands over time using what is called “thinning” (e.g., Kirby et al., 1998). Because these two approaches have not been directly compared to each other, the most that can be concluded from the literature is that either approach is likely to work quite well.

The side effects of positive reinforcement are minimal within effective parameters. That is, no substantial side effects have been reported when using magnitudes or schedules of rewards that are known to be efficacious with substance-abusing adults. Although some evidence suggests that artificial external rewards can undermine intrinsic motivation (e.g., Deci, Koestner, & Ryan, 1999), this relates to detrimental effects for individuals who were *already intrinsically motivated*. Intrinsic motivation is often conspicuously absent among substance abusers and drug offenders. If participants were not intrinsically motivated to begin with, then it is difficult to envision how their motivation could be impaired by rewards. Although it is conceivable that artificial rewards could impact the future development of intrinsic motivation, there is no empirical evidence to support such an unwanted influence.

There is also some suggestion in the literature that clients may become complacent or entitled if they come to expect “something for nothing.” That is, if clients are continuously rewarded for mediocre or substandard performance, this will

not only fail to improve their performance but also lead them to feel resentful or despondent if expectations for acceptable performance are later increased (e.g., Martin & Pear, 1999). If it subsequently becomes harder to earn rewards, clients may perceive this as having rewards taken away. This is the very definition of response cost, which can be experienced by some clients as a form of punishment. Although this is a legitimate concern, these unwanted effects can be readily avoided by increasing the performance demands for clients over time. If expectations for appropriate behavior are continuously heightened, there should be little concern that conduct will become stagnant.

Finally, as was noted earlier, some commentators have argued that positive rewards might be coercive if they are too high in magnitude and, thus, too enticing to resist. This concern has been expressed most commonly in the context of inducements to participate in research. Only one experimental study has investigated whether various magnitudes of incentives influence research participant perceptions of coercion. That study found that cash payments as high as US\$70 did *not* increase perceptions of coercion or new instances of drug use as compared to low-magnitude payments of gift certificates worth only US\$10 (Festinger et al., 2005). This lone finding needs to be replicated, and additional studies are needed to investigate the effects of higher magnitude payment levels on perceptions of coercion.

Despite its demonstrated effectiveness, cost-efficiency, and safety, positive reinforcement is rarely used in practice with substance abusers or criminal offenders. Most of the objections to positive reinforcement that are commonly raised by practitioners and policymakers are not defensible from empirical evidence. For instance, in large-scale surveys, clinicians commonly objected to voucher-based interventions as being too costly, difficult to implement, and apt to undermine clients’ intrinsic initiative (e.g., Kirt Amass, & McLellan, 1999). As just discussed, the concerns are not borne out by data.

The most enduring objection to voucher interventions is one of equity. Because few citizens are provided with tangible incentives for abstaining from drugs and crime, it seems unfair to reward some individuals for doing what is minimally expected of most other members of society, particularly when those being rewarded are among the least desirable elements of society, such as drug-addicted patients and criminal offenders. Because this objection is based upon a widely held sentiment and is not related to the effects of the intervention, it is not empirically testable and cannot be empirically disputed or confirmed.

4. Punishment

As defined earlier, punishment involves providing negative sanctions to reduce undesirable behavior. In this country, punishment of drug abusers is administered m

commonly via criminal or civil penalties. The research evidence that traditional criminal justice penalties have had virtually no sustainable influence on drug use or crime is unambiguous (e.g., Marlowe, 2002, 2003). Within 3 years of release from prison, approximately two thirds of offenders, including drug offenders, are rearrested for a new crime; approximately one half are convicted of a new crime; and approximately one half are reincarcerated either for a new crime or for a parole violation (Langan & Levin, 2002). Moreover, approximately 70–85% of drug-abusing offenders return to regular drug use within 1 year of release from prison, and more than 95% return to drug use within 3 years (e.g., Hanlon, Nurco, Bateman, & O'Grady, 1998; Maddux & Desmond, 1981; Martin, Butzin, Saum, & Inciardi, 1999; Nurco, Hanlon, & Kinlock, 1991; Vaillant, 1973). In meta-analyses, the average ES for incarceration and "intermediate sanctions," such as boot camps, ankle monitoring, and house arrest, were not significantly different from zero (Gendreau, Goggin, Cullen, & Andrews, 2000).

These disappointing effects are not surprising if one considers the parameters for the effective implementation of punishment. As a practical matter, it is exceedingly difficult to administer punishment in a manner that is likely to sustain its effects for an appreciable period. Although punishment can be effective at suppressing undesired behavior in the short term, the behavior often returns rapidly to baseline once the punishment has been discontinued (e.g., Azrin & Holz, 1966). Unless an offender begins to engage in new adaptive behaviors that compete naturally with drug use and crime (e.g., employment or family outings), the offender may be expected to return to drug use or crime soon after release from correctional supervision.

Similar to positive reinforcement, punishment is most effective when negative sanctions are administered with certainty and swiftness (e.g., Harrell & Roman, 2001; Marlowe, Festinger, Foltz, Lee, & Patapis, 2005; Marlowe & Kirby, 1999). In our legal system, this is very difficult to accomplish. In reality, drug offenders are rarely detected by authorities for their infractions, and when they are detected, it typically takes months or years for a sanction to be imposed, assuming one is imposed at all.

Important, the issue of magnitude is substantially more complicated with regard to punishment than it is with regard to positive reinforcement. Generally speaking, positive rewards are more effective at higher magnitudes (e.g., Martin & Pear, 1999). Sanctions, on the other hand, essentially have an "inverted U-shaped function" in terms of their effects on behavior (e.g., Marlowe & Kirby, 1999). That is, they tend to be least effective at the lowest and highest magnitudes, and they tend to be most effective at midrange magnitudes. Sanctions that are too low in magnitude can precipitate what is called "habituation," in which the individual becomes accustomed to being sanctioned. The problem with habituation is not simply that low-magnitude sanctions will be ineffective; of greater

concern, they can make it less likely for higher magnitude sanctions to work in the future because they can raise the client's tolerance for sanctioning. At the other extreme, high-magnitude sanctions can also be problematic because they can lead to "ceiling effects" in which further escalation of punishment is impracticable. For example, once a drug user has been incarcerated or expelled from a criminal diversion program, the authorities have essentially exhausted their armamentarium of sanctions—and the client *knows* that they have exhausted their options. At this point, future efforts at punishment could be futile. This would then require a major shift in strategy; for instance, it might be necessary to shift to positive-reinforcement or negative-reinforcement techniques, or perhaps to lower one's emphasis on rehabilitation and settle, instead, for temporary incapacitation.

Unlike positive reinforcement, the negative side effects of punishment are substantial within commonly administered parameters (e.g., Sidman, 1989). That is, a wide range of side effects has been reported at magnitudes of punishment that are commonly used to suppress criminal behavior in this country. For one thing, punishment often invokes avoidance or escape responses, in which the individual may engage in substantial efforts to avoid being sanctioned. For instance, clients may abscond from programs if they anticipate punishment to be forthcoming. Alternatively, they may attempt to conceal their infractions by, for example, lying, providing tampered urine specimens, or submitting fraudulent treatment attendance records. As a result, treatment staff members may expend an inordinate amount of time and effort attempting to gain an accurate appraisal of their clients' status, as opposed to rendering therapeutic aid.

Punishment can also have the tendency to invoke negative emotional states that may exacerbate maladaptive behaviors. For instance, individuals may react in an angry or aggressive manner to being sanctioned, which can cause them to retaliate against the source of the sanction or to sabotage their own treatment gains. At the other extreme, individuals may become depressed or despondent in response to repeated sanctions, especially if they perceive themselves as being unable to satisfy the expectations for avoiding further sanctions. This process, referred to as "learned helplessness" (Seligman, 1975), is associated with worsening of performance and may interfere with future rehabilitative efforts because the individual may give up trying to get better.

Despite the complexities of administering punishment effectively and its substantial side effect profile, it is the most commonly used behavioral strategy for controlling drug use and crime in this country. In part, this is because rehabilitation is not the only goal of our criminal justice system. Punishment may serve other legitimate aims, such as deterring new drug use by youthful citizens, incapacitating dangerous individuals, or declaring society's core values. To the extent, however, that we wish also to reduce

drug use and crime, it would seem that punishment must be augmented with other behavioral or treatment strategies.

5. Response cost

Comparatively little research has been conducted on the effects of response cost because it is often conceptualized as simply a variant of punishment (e.g., Martin & Pear, 1999). For example, most people would view the imposition of monetary fine, revocation of driver's license, or expulsion from subsidized housing as forms of punishment, although these are, technically speaking, response cost and not punishment. As such, response cost has rarely been systematically studied on its own right.

Similar to punishment, it appears that response cost is most effective when rewards or privileges are withdrawn in a certain and swift manner following each incidence of undesired conduct. Moreover, it appears that magnitude may also bear an inverted U-shaped relationship to outcomes, with poorer effects at the lower and higher extremes and with optimal effects at midtier ranges. For example, anecdotally, it appears that low-magnitude fines may simply be viewed as the "cost of doing business" by some wrongdoers. If the benefits of criminal or tortious conduct outweigh potential costs, offenders may engage in a form of rational "cost/benefit analysis" in electing to risk a fine (e.g., Ruback & Bergstrom, 2006). This is especially true if the likelihood of being detected for an infraction, such as drug use or crime, is relatively low.

At the other extreme, response cost may backfire if the magnitude is too high. Excessive fines, for instance, can lead an individual to become despondent and give up (a form of learned helplessness), and may also interfere with the ability to engage in adaptive behaviors in the future (e.g., Ruback & Bergstrom, 2006). If fines are too high, for example, they may interfere with the ability to pay rent or transportation costs, which could hinder employment or caretaking of children. Similarly, if an individual loses one's driver's license or eligibility for public housing, this is likely to interfere with the ability to carry out prosocial behaviors. Finally, because many substance abusers are poor and have few resources to satisfy debts, it is common for criminal fines to build up, reaching the point of becoming insurmountable and preventing future success. In fact, a common reason for failure on probation or parole is the inability to satisfy court costs and fees (e.g., Langan, 1992).

For these reasons, it is often recommended that programs offer an opportunity for "accelerated redemption," in which the individual can earn back lost rewards by engaging in appropriate behaviors (e.g., Marlowe & Kirby, 1999). For example, in some driving-under-the-influence programs, offenders can re-earn restricted driving privileges after they have completed a portion of their treatment and have provided evidence of sustained sobriety (e.g., Marlowe, in

press). This has the effect of shifting the individual to positive-reinforcement or negative-reinforcement schedule in which rewards are regained for performing desired behaviors. Similarly, in some drug courts, offenders can earn progressive reductions in their court fines as consequence of providing a predetermined number of drug-free urine specimens or of completing a prescribed treatment regimen. This, too, is a form of accelerated redemption, which the individual can reduce the response costs that were originally accumulated.

6. Negative reinforcement

The primary impetus for this article was to examine the likely effects of offering depot naltrexone to opiate-addicted offenders in exchange for early parole or diversion from criminal prosecution. As was noted earlier, this is prototypical example of negative reinforcement, in which imprisonment or a criminal record is removed contingent upon acceptance of medication. This has the potential advantage of avoiding the common difficulties and side effects of punishment, reducing costs of incarceration, and being acceptable to policymakers and the public. Unfortunately, we know the least about the effects of negative reinforcement arrangements as compared to other behavioral interventions. Much of the existing research on negative reinforcement has been conducted in animal laboratory (e.g., Hineline, 1976; Sidman, 1966), and relatively few studies have been conducted on its application with human participants. It is possible, however, to study the effects, side effects, and parameters of negative reinforcement in the same manner as was reviewed above for positive reinforcement, punishment, and response cost. Among the important questions to be addressed are the following.

6.1. Can negative reinforcement be as effective as positive reinforcement for increasing desirable behaviors?

Some scholars have argued that negative reinforcement is less effective or that its effects are more fleeting than those of positive reinforcement (e.g., Sidman, 1989). The rationale for this is that negative reinforcement merely returns the individual to the status quo before the original sanction (e.g., imprisonment) was imposed, whereas positive reinforcement puts the individual "ahead of the game" relative to where the individual started. From animal studies, it appears that negative reinforcement may, in fact, be less efficient than positive reinforcement for initiating new behaviors; however, the effects appear to be comparable for maintaining behaviors that have already been reliably acquired (Critchfield & Magoon, 2001; Hineline, 1976; Ruddle, Bradshaw, Szabadi, 1981; Ruddle, Bradshaw, Szabadi, & Fost, 1982). This could suggest that positive reinforcement should be used to initially engage offenders in treatment, and negative reinforcement could subsequently be used

maintain adherence to treatment over time. For example, offenders might earn small rewards or privileges for learning about the effects of naltrexone and for trying it on a limited short-term basis. Subsequently, they might receive early parole after demonstrating extended compliance with the regimen. Research is needed to confirm whether such a strategy would be effective and acceptable to clients.

6.2. Do the effects of negative reinforcement decline precipitously once the threat of negative sanction has been removed?

As was reported earlier, voucher-based positive reinforcement studies have extended treatment effects for up to 12–18 months by switching participants from an initiation schedule to a maintenance schedule. It is substantially more difficult to accomplish this with negative reinforcement because the reward tends to be “all-or-nothing” in nature. Once the sanction has been removed, there may be little or no behavioral leverage remaining over the participant. For example, once an inmate has been released from prison, there may no longer be a credible threat of reincarceration if the inmate ceases to comply with a naltrexone regimen. The average waiting period for a violation-of-parole hearing is typically several months, and the odds of reincarceration may be slim due to prison overcrowding; as a result, there may be little reason for an offender to comply with treatment requirements for more than just a few months. It would, therefore, be essential to have mechanisms in place to rapidly detect clients’ failure to follow through with treatment and to ensure a rapid return to incarceration in response to infractions, where indicated. Alternatively, it might be possible to enhance compliance with a naltrexone regimen by adding other types of behavioral interventions, such as positive reinforcement or motivational enhancement counseling.

6.3. What are the most common side effects of negative reinforcement?

We know relatively little about the common side effects of negative reinforcement. It is unclear, for example, whether this arrangement might precipitate escape or avoidance behaviors, undermine clients’ intrinsic motivation, or invoke negative affects such as hostility or learned helplessness. Research is needed to address these gaps in the literature.

6.4. Can negative reinforcement be too good to resist?

Some scholars have argued that negative reinforcement can be coercive if it is too enticing to resist. For example, as noted earlier, it is impermissible to offer prisoners early parole as an incentive for participating in a research study. Although this may be impermissible for research, it is common practice to make release on parole contingent upon

compliance with reasonable treatment or supervisory obligations. Because naltrexone is apt to be of direct therapeutic benefit to opiate-addicted offenders, it is less ethically objectionable than participation in a research study, which may offer no direct benefit to participants.

It remains an open question whether mandatory treatment with depot naltrexone is a reasonable condition to impose for parole. At present, there are no data to indicate whether inmates would perceive such an arrangement to be coercive, or whether they would prefer to have the option of entering into such an arrangement if they wished to. The answer to that question, combined with efficacy data on the outcome of a naltrexone protocol, would provide essential information to the courts for addressing this important issue.

6.5. Is negative reinforcement acceptable to policymakers, practitioners, or the public?

As noted previously, one of the most enduring objections to positive reinforcement is that it feels inequitable to reward offenders for doing what is minimally expected of most citizens. Research is needed to determine whether negative reinforcement is perceived as being more acceptable and fair to policymakers, clinicians, and members of the public at large. If, as anecdotal evidence strongly suggests, few would object to the practice of granting early parole to offenders in exchange for compliance with a naltrexone blockade, then such an intervention would stand a better chance of being implemented successfully in practice than other validated interventions, such as voucher programs, which may have larger ES but are perceived as objectionable on policy grounds.

7. Conclusion

In this special issue, Professor O’Brien asked, among other questions, whether it is likely to be effective to offer naltrexone injections to nonviolent opiate-addicted offenders in exchange for early release from incarceration or diversion from criminal prosecution. After reviewing the operant-conditioning literature, it would appear that such an effort has the best chance of success with drug-abusing criminal offenders in comparison to what has heretofore been attempted. Traditional efforts at punishment have been undeniably unsuccessful due to the common side effects of punishment and the vagaries of implementing it effectively. In addition, positive reinforcement has been strenuously resisted by policymakers and practitioners because it feels unfair and may send conflicting messages to our youth that good behavior comes at a price. Negative reinforcement offers a practical way to steer between these barriers by avoiding the iatrogenic effects of punishment and by being palatable to the citizenry.

For these reasons, there is more than ample justification for launching a comprehensive program of research aimed at

identifying the effects, costs, side effects, and parameters of an effective implementation of negative-reinforcement arrangements among drug abusers and criminal offenders. The current proposal offered by Professor O'Brien provides an excellent platform for conducting this research because the target intervention of depot naltrexone is demonstrably efficacious, nonpsychoactive, and has few negative side effects. Therefore, it would be unlikely to invoke the same types of legal and ethical objections that have traditionally been raised against the use of psychoactive medications with vulnerable populations of institutionalized offenders. The nearly unassailable clinical wisdom of using this medication with opiate-addicted individuals makes it the ideal candidate for studying coerced treatment for addicted offenders.

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Commentary

Naltrexone as negative reinforcement
Comments on “A behavioral analysis of coerced
treatment for addicted offenders”

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Dr. Marlowe’s overview of the fundamental principles of behavior provides a framework that is critical for us to understand if we are serious about advancing the field of mandated treatment for addicted offenders. In the context of that article, I specifically want to discuss the conclusion that “more research is needed.” I do not see this as a routine statement that so often ends most research articles. Many of the basic principles of behavior have been established since the first half of the 20th century, and we have certainly learned much about the effects of positive reinforcement, as demonstrated by the contingency management studies summarized in the Marlowe article. However, the application of some of these basic behavioral principles in clinical and criminal justice practices is decades behind. We have a wealth of knowledge at our disposal, but we have not done a very good job of applying these basic principles to the field. It is an unfortunately rare occurrence when the often-parallel lines of basic research and treatment come together.

One reason for the lag in properly incorporating negative reinforcement into addiction treatment protocols is that the empirical basis for negative reinforcement is not yet well established in these contexts. Although there are many credible studies that show the impact of positive reinforcement on drug use, data regarding the impact of negative reinforcement remain scarce. My own literature search using the PsychInfo Database from 1968 to 2004 found only 30 journal articles that contained the keywords “negative reinforcement” and “addiction.” Furthermore, not one of those studies actually conducted an experimental compar-

ison of negative reinforcement to some other reinforcement schedule. Thus, there is a substantial gap in the literature, and I commend the Marlowe article for making research in this regard a priority.

An important point raised in the Marlowe article is the issue of “satiety” when the valence of early-stage rewards is too high. Put differently, when rewards are fully provided for, only a small amount of the total work or behavior change is expected. For example, if a parolee gets early release from prison by agreeing to receive a 3-month depot injection of naltrexone, why would he persist with the desired behavior (continued use of the naltrexone) once that period has elapsed? Beyond the practical considerations for administrators and parole boards making such offers, the issue of satiety suggests the need for more staged reinforcements such as work furlough. For example, Brahen, Henderson, Capone, and Kordal (1984) performed an uncontrolled study of continued work release for offenders, contingent upon continued use of naltrexone. The investigators found naltrexone to be highly effective, but this study did not include a control group. In this case, I would modify Dr. Marlowe’s conclusion by adding that “more *rigorous* research is needed” if we are to advance our understanding of negative reinforcement and its application to naltrexone treatment for opiate-abusing offenders.

My final observation has to do with our longstanding emphasis on the robust finding that coerced clients do as well, or better, in drug abuse treatment than so-called voluntary clients. In many or most of these studies, we know almost nothing about the treatment the clients received. In fact, treatment can mean many things, including naltrexone administration, boot camps, and art therapy. The powerful tool of coercion, therefore, must be reserved for

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interventions that show strong efficacy. If society is going to embark upon placing legal pressure on drug-related clients to enter substance abuse treatment, we need to have confidence that the treatment they receive is a good use of resources—both of their time and our tax dollars. Naltrexone is an example of an evidence-based treatment that has shown real potency and few side effects. Indeed, its greatest flaw is that it works so well that many opiate abusers are ambivalent about taking it. These characteristics combine to

suggest that it is exactly the type of treatment intervention that should be considered in criminal justice settings.

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