

## Addiction, Autonomy, and Informed Consent: On and Off the Garden Path

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*Several ethicists have argued that research trials and treatment programs that involve the provision of drugs to addicts are prima facie unethical, because addicts can't refuse the offer of drugs and therefore can't give informed consent to participation. In response, several people have pointed out that addiction does not cause a compulsion to use drugs. However, since we know that addiction impairs autonomy, this response is inadequate. In this paper, I advance a stronger defense of the capacity of addicts to participate in the programs envisaged. I argue that it is only in certain circumstances that addicts find themselves choosing in ways that conflict with their genuine preferences. Research and treatment programs have none of the features that characterize choices in these autonomy-undermining circumstances, and there is therefore no reason to think that addicts lack the capacity to give informed consent to these programs.*

**Keywords:** *addiction, capacity, informed consent, research ethics*

### I. INTRODUCTION

Several authors have argued that studies and treatment programs that involve addicts being offered the drugs to which they are addicted are unethical. These authors claim that addiction removes the capacity to refuse the drug; thus, addicts are unable to give proper informed consent to participate in such trials and programs. If the claim were true, such trials and programs would be (*prima facie*) unethical.

The claim that addicts are unable to give informed consent because they can't say "no" to drugs has come in for a lot of criticism. Critics point out that

there is a great deal of evidence that addicts not only can but *do* say “no” to drugs. Indeed, were this is not the case, the fact that the great majority of addicts give up drugs without extraordinary interventions by others would be entirely mysterious. However, though empirical evidence makes it absolutely clear that the bald claim that addicts can’t refuse drugs is false, it is also plain that addiction adversely affects the autonomy of users. It seems reasonable to suspect, therefore, that though the claim that addicts can’t refuse drugs is overblown, nevertheless the adverse impact of addiction is sufficient to cast considerable doubt on the informed consent of addicts. In this paper, I argue that though addiction does limit autonomy, there is no insurmountable problem regarding addicts’ capacity to give informed consent when it comes to participation in trials or programs involving the provision of drugs. Although some addicts may lack the capacity to give valid consent to participation in these trials or programs, well-designed trials and programs can filter out those who lack the requisite capacities and recruit addicts whose capacity to consent is not in doubt.

## II.

Some kinds of research, and some public policy measures designed to treat addiction, involve giving addicts access to free and legal drugs. A number of research trials have compared giving treatment-resistant addicts daily heroin (usually self-administered within a clinical setting) with oral and injectable methadone (Hartnoll et al., 1980; Perneger et al., 1998; van den Brink et al., 2003; Haasen et al., 2007; Oviedo-Joekes et al., 2009). The trials indicate that provision of heroin produces benefits for users and for the wider society: improvements in mental and physical health and a decrease in street crime in the patients provided with heroin, compared with those provided with oral or injectable methadone. These results have led to calls for the prescription of heroin to be a front-line response to treatment-resistant addiction (Kerr, Montaner, and Wood, 2010).

By making heroin available on prescription, it is hoped that the incentive to engage in crime to raise the money to obtain drugs is removed and that the harms associated with impure drugs are avoided. However, it is characteristic of addiction to adversely impact on addicts’ capacity to make autonomous decisions. Indeed, loss of control over drug taking is often seen as a defining criterion of addiction. Two of the world’s leading researchers on addiction, Leshner and Koob (1999), describe addiction as “hijacking” the brain; this metaphor has become commonplace. As a consequence of this hijacking, many researchers argue, addicts lose control over their drug use. Leshner himself has claimed that what begins as voluntary behavior gradually becomes involuntary “ultimately to the point that the behavior is driven by a compulsive craving for the drug” (Leshner, 1999, 1315). With facts like

these in mind, critics of research and treatment programs that involve giving drugs to addicts have suggested that the programs are (*prima facie*) unethical, because addicts cannot give autonomous informed consent to participation (Charland, 2002; Elliott, 2002; Woods, 2002). As Charland puts it, addicts can't say "no" to the offer of heroin, and for that reason they cannot give their informed consent.<sup>1</sup>

The empirical evidence that addicts can refuse drugs is, however, overwhelming. There are plenty of existence proofs: addicts demonstrate that they *can* say "no" by *actually* saying "no." The evidence is by now well known. First, there is the evidence of "spontaneous remission" in addicts (well reviewed in Heyman, 2009); addicts give evidence that they can say "no" to drugs by giving up the drugs to which they are addicted. Second, there is evidence of price sensitivity of consumption, even among addicts (Elster, 1999; Neale, 2002). Third, there is evidence that in *precisely* the kinds of situations in which, according to ethicists like Charland, addicts *can't* say "no," they *do* say "no." Almost half of those addicts asked whether they would accept prescribed heroin say they would not; a rate that seems independent of the severity of their addiction. The refusal is not merely hypothetical: actually offered the chance to participate in trials involving the provision of heroin, many addicts refuse. As a consequence, several such trials have failed to recruit a sufficient number of addicts (see Carter and Hall, 2012, for review).<sup>2</sup>

The claim that addiction "hijacks" the brain, such that addicts are compelled to say "yes" to offers of drugs, is therefore false. Actually, this ought to have been quite obvious, prior to our awareness of the data just mentioned, to anyone even minimally informed about addiction. Most people know enough about addiction—whether from reading newspapers, or from knowing, or even being an addict (few people are unacquainted with a single nicotine addict)—to know that the behavior of addicts, including their drug-seeking and consuming behavior, is sensitive to environmental contingencies, rewards, and punishments. Heroin addicts do not shoot up in front of police officers. Cigarette smokers will cut down when prices go up. Addicts *act*; they do not simply react. Their movements are not mere reflexes, but flexible and intelligent responses to the situations in which they find themselves.

Some ethicists have concluded, in the face of this kind of evidence, that there is no special problem concerning the informed consent of addicts. For Foddy and Savulescu (2006), for instance, addicts are simply people with strong appetites for drugs. Having a strong appetite does not in general impugn one's capacity to give informed consent; there is no reason to think that having a strong appetite for drugs in particular should be any different. Granted, there are times at which addicts might be especially vulnerable: when they are actually drug-affected, or in the throes of withdrawal or craving. But most (perhaps all) addicts are not in these autonomy-limiting states

most of the time. When they are neither in the grip of craving or withdrawal nor actually drug-affected, they are no less capable of giving informed consent than are other people.

However, this argument seems to move too quickly from the surely correct claim that addicts do not suffer from irresistible desires or compulsions to the conclusion that addicts are not significantly impaired in their autonomy. If we know anything about addiction at all, it is that it impairs autonomy in some way. Loss of control—in some manner and to some degree—over drug-seeking and consuming behavior is a defining feature of addiction, as it is popularly and scientifically conceived. There is an enormous amount of evidence, of all kinds, that addiction impairs autonomy: there is the testimony of addicts, the costs they pay as a consequence of their addiction (financial costs, costs to their careers, education, relationships, freedom), the amount of time and money they invest in attempting to become clean, and the scientific evidence for reduced cognitive and inhibitory control in addicts (see [Carter and Hall, 2012](#), for review). In the face of this evidence, demonstrating that addiction does not involve compulsion is not sufficient for demonstrating that addiction does not impair autonomy sufficiently to cast doubt on the capacity of addicts to give informed consent. As [Henden \(2013\)](#) notes, having an irresistible desire is not necessary for having one's autonomy impaired.

I shall argue that though Foddy and Savulescu are wrong in thinking that addiction does not significantly impair autonomy, they are right in thinking that there is no special problem with addicts giving informed consent to participate in well-designed research and treatment programs involving the provision of drugs. Despite the adverse impact addiction has on autonomy, there is no reason to think that many addicts are not autonomous enough to give their consent to participate in such trials and programs.

### III.

There is no room for reasonable doubt that addiction impairs autonomy. But does it impair the autonomy of the decision whether to accept prescribed heroin (or other drugs; I shall use heroin as an example throughout), sufficiently to cast doubt on the informed consent of these decisions? In this section, I will argue that close attention to how addiction impairs autonomy suggests that addicts' autonomy with regard to the decision whether to accept drugs, in the kinds of circumstances in which they are offered this choice as a part of research trials or prescription programs, is not significantly impaired. This fact gives us good reason to think that they are autonomous enough to make these decisions.

It is useful to begin by distinguishing *decisional* and *executive* autonomy ([Naik et al., 2009](#)). Decisional autonomy consists in the set of capacities

required to make competent decisions: capacities such as the capacity to understand the information with which one is presented, to apply the information to one's own case, and the capacity to utilize that information in making and expressing a choice. Executive autonomy refers to the set of capacities required to effectively implement a decision. The precise capacities required for executive autonomy will differ depending on the nature of the decision to be implemented and the circumstances of the person: they may include the capacity to recall the decision and how to implement it, the capacity to plan ahead so that the means for implementation are available when required, and so on.

Addiction may impair both decisional and executive autonomy. The decisional autonomy of addicts may be threatened by an inability to understand relevant information, to retain it sufficiently long, or to use and weigh it in coming to a decision. Cravings for drugs and acute intoxication can impair the relevant capacities: care must be taken to ensure that recruitment for trials avoids people in either state. Further, some long-term addicts who are neither intoxicated nor experiencing cravings may be subject to an impairment of relevant capacities, as a result of substance use. For instance, abstinent addicts may suffer memory impairments (see, for instance, [Bolla, McCann, and Ricaurte, 1998](#); [George et al., 2008](#)). Recovery from these impairments may be slow and incomplete. Although these impairments can be serious obstacles to informed consent, they are precisely the sorts of problems that existing protocols are designed to detect. Neuropsychological testing may be employed to eliminate subjects who suffer from a clinically significant impairment in this and other relevant regards.

Problems such as those mentioned above may also impair executive autonomy: memory impairments sufficient to impair decision-making capacity are extremely likely to impair the ability to implement decisions as well. By screening for problems with decisional autonomy, we also screen for some of the problems that undermine executive autonomy. But there are also problems that undermine executive autonomy without undermining decisional autonomy. This raises the problem that tests designed to exclude the first may not detect the second (and additional tests may be required to rule out significant executive impairments, [Naik et al., 2009](#)). However, addiction is especially interesting in this regard, I shall argue, because it often involves an impairment of executive autonomy in agents with sufficiently intact decisional and executive autonomy as measured by standard tests. Addiction often undermines the ability of agents who autonomously decide to refrain from drugs to abide by their decision. Because this impairment is context-specific, it may not be detectable by neuropsychological tests designed to rule out impairments of executive autonomy. By the same token, however, this context specificity of these impairments allows us to avoid them without requiring that we detect them first: the contexts in which addicts are offered the opportunity to participate in a trial or program in

which drugs are made available need not have and typically do not have the features that undermine addicts' executive autonomy in these kinds of ways.

The impairments that undermine executive autonomy centrally involve processes that bias decision making. They are, however, best understood as impairments of executive and not decision-making autonomy because they often leave the capacities for decision-making intact. Rather than causing the person to lose the capacity for autonomous decision making, they cause a temporary reversal in her decisions by blocking or masking her capacities. Addiction leads people to act in ways that conflict with what they say they want most of the time, actions which they routinely regret. It is for this reason that it is best understood as reducing the autonomy of agents. Addiction predictably produces actions that conflict with the behaviors that, most of the time, the agent takes herself to have most reason to perform and which she would choose were her decisional capacities intact. It is very plausible to understand this as a significant impairment of addicts' autonomy (Levy, 2006). It is also very plausible to think that this same impairment undermines the capacity to give informed consent; indeed, protection of autonomy, understood as the capacity to choose one's own life plan in accordance with one's own values, is widely (though not universally) held to be the central justification of the requirement for informed consent (Faden and Beauchamp, 1986; Beauchamp and Childress, 2008).<sup>3</sup>

Many different neuroadaptations combine to bias the decision-making of addicts, thereby masking their decision-making capacities. Alterations in the orbital frontal cortex increase the salience of drugs and drug-related cues (Nutt, Lingford-Hughes, and Nestor, 2012). Alterations in the dorsolateral prefrontal cortex and in the anterior cingulate gyrus narrow the focus of attention so that fewer options are considered (Garavan et al., 2007; Feil et al., 2010). In addition, changes in the dopamine system alter the incentive value not merely of drugs but of a large variety of cues related to drugs. The dopamine system is a reward prediction system. Natural rewards cause an increase in firing rates in dopaminergic neurons, but once the relation between a cue that predicts reward (say a tone) and the reward (say a tasty mouthful) has been learned, firing rates increase in response to the predictor and not the reward. Firing rates return to baseline when the reward is delivered as expected; they fall below baseline if the predicted reward is not delivered (Schultz, Dayan, and Montague, 1997). It is this reward prediction system that seems to be at the heart of the impairment of control experienced by heroin addicts.

When the dopamine system is functioning properly, it motivates organisms to pursue natural rewards by focusing them on predictors of reward. If the hijacking metaphor applies to anything in the neurobiology of addiction, it is the way in which drugs of addiction (and, in a different way, pathological gambling) alter this system (Ross et al., 2008). Once the relationship between a cue and a natural reward (say ordering at the restaurant and the



first forkful of food) has been learned, dopamine spikes only in response to the cue, with the increase in firing roughly proportional to the value of expected reward. But with drugs of addiction, dopamine release (or, via mechanisms that inhibit reabsorption, dopamine availability) is stimulated by the drug itself, by one route or another. Thus for the addict the cue predicts a reward, but because delivery of the drug *also* causes a spike in dopamine (in contrast with natural rewards, for which the spike in dopamine is produced either by a predictor of reward or by the reward itself—when it is unexpected—but not both), the drug is treated by the system as having a better than expected reward value. The next time a predictor of drug availability is encountered, the system predicts a reward that is greater than the last reward it expected. But the actual reward experienced, when the drug is consumed, is once again (treated as) greater than expected (Hyman, 2005). Drugs of addiction are treated by the system as having an ever-increasing reward value (despite the fact that users may no longer experience the initial euphoria associated with the drug; they may find themselves “wanting” a drug they no longer “like”; Robinson and Berridge, 2003).<sup>4</sup>

Changes in the dopamine system, together with the other neuroadaptations brought about by addiction, operate both by biasing deliberation and by bypassing it. They operate to bias deliberation by providing input into it—what the agent thinks about and what options he considers—and by tagging some of those options as especially salient and rewarding. But they also bring about behavior in ways that bypass deliberation, for instance by helping to produce habits of attention, association, and response. These effects help to produce what I shall call a *garden path*, down which addicts often find themselves wandering.

It is essential for understanding the garden path of addiction to understand the role of cues in addictive behavior. Cravings, it has long been known, are cue and context dependent; an addict is far more likely to experience cravings upon presentation of a cue regularly associated with consumption (O'Brien et al., 1998). The dopamine story predicts that a variety of cues, including but also extending beyond those narrowly associated with consumption (e.g., drug paraphernalia), will be salient to the addict and will bias his decision making, in part by making options tagged with those cues seem more rewarding. This fact starts the addict down the garden path to consumption. It triggers processes that may undermine the capacity of an addict who has decided autonomously to refrain from drug taking to abide by his decision.

Consider the abstinent addict going about his daily business, who bumps into an old friend from his using days (or even who passes a café or bar he knows is frequented by old friends). He is immediately faced with a decision: talk to the friend or leave (enter the café or pass by). The decision is not “take drugs or abstain.” Rather, it has an entirely innocent (as it were) content. But thanks to his reward prediction mechanisms, the addict

is strongly biased toward talking to the friend *because talking to his friend predicts drug consumption*. The biasing is nonconscious produced by mechanisms that are themselves unconscious. The person experiences talking to his friend as a rewarding course of action, but he may not know why. He is quite likely to confabulate reasons why talking to his friend is a rewarding course of action, or perhaps to rationalize it by reasons that are genuine but which don't in fact (fully) explain the attraction of talking to the friend ("we had some good times together which didn't involve drugs"). Human beings are reason-giving animals: we make sense of our own behavior by explaining it in light of reasons that make sense to us. There is a large literature showing that we often do not have good insight into the actual causes of our behavior, so often these reasons are confabulated (Nisbett and Wilson, 1977; Carruthers, 2009). Accordingly, there is no reason to expect the agent to have much insight into why talking to his friend feels like the right thing to do.

On the other hand, not talking to the friend predicts unhappiness and regret. Again, the person need not know that this is because the person predicts—is statistically associated with—drug consumption. Indeed, for him the suggestion that he wants to spend time with the friend because the friend predicts drug consumption may strike him as very implausible. Since we have no direct access to the subpersonal mechanisms that cause options to be experienced as respectively rewarding and disappointing, for the agent himself the suggestion will simply be a hypothesis, to be assessed on its surface plausibility. When there are rival hypotheses that seem more plausible (e.g., "I had some good times with him prior to either of us getting involved with drugs" —a hypothesis that might even be partly true; that is, which might actually explain to some degree why the idea of spending time with the friend is experienced as rewarding), he is likely to dismiss the suggestion. Recall, further, the fact that neuroadaptations bias his processing of the options: both which options are considered and how plausible they seem to him. Given that it is not (entirely) unreasonable for the agent to take his attraction toward talking to his friend to be innocent, we ought to expect that this is how he will indeed see things, because his dopamine system will bias him toward behaviors that he experiences as rewarding.

As Schroeder and Arpaly (2013) note, the way in which dopamine causes him to experience his options makes it unsurprising that the abstinent addict makes the decisions he does. The dopamine system leads him to experience his options in certain ways and to understand them in certain ways, all of which puts him on the garden path to consumption.

The garden path tends to lead the abstinent addict step by step to taking drugs. Suppose, as is likely, he decides to talk to his friend. The friend may suggest that they go to a third friend's house (he may make this suggestion because he too is on the garden path: no ulterior motive need be attributed to him); once again, the options will be experienced as rewarding and



disappointing to the extent to which the dopamine system takes them to predict drug consumption. By way of the garden path, the abstinent addict, who began his day with no intention of using drugs and no thought of confronting them, may find himself suddenly faced with the decision: use or not?

Autonomy is not an all-or-nothing notion. It comes in degrees, and addiction rarely entirely eliminates it (which may be why we are often willing to blame addicts for serious crimes they commit in the service of their addiction, but not for minor crimes: we expect them often to retain sufficient autonomy to be able to motivate themselves not to assault others, say, even while lacking the autonomy to keep from using). My central contention is this: when the decision “use or not” comes up on the garden path, saying “no” is considerably harder than when the addict is asked whether he wishes to receive a prescription for (say) heroin or when he is asked whether he wishes to participate in research involving its provision; in the former case, his autonomy is much more compromised than in the latter. I will argue that in the latter case, there is no reason to think that he does not have *sufficient* autonomy to give informed consent to participation in research or treatment.

There are several reasons why saying “no” is likely to be considerably harder for the addict when he faces the choice whether to use heroin on the garden path than in the kind of context in which he is asked whether to receive prescribed heroin or to participate in a research trial involving the administration of heroin. Each of the factors I will describe contributes independently and significantly to the difficulty of the decision; since most of them are likely to be active simultaneously, the decision is likely to be very much harder on the garden path than in the research or treatment context.

First, the decision whether to use heroin on the garden path is the decision whether to use heroin *now*, or at least shortly. There is plentiful evidence that it is much harder to resist temptation when the opportunity for consumption is imminent. Both human beings and other animals have *hyperbolic* discount curves, which is just to say that the value of goods for us climbs steeply when the good is immediately available (Ainslie, 2001). Hyperbolic discounting leads to temporal inconsistency in choice. We all face repeated choices between goods that are mutually inconsistent: eating fatty foods versus health or slimness; spending on impulse purchases versus saving for a long-term goal; watching TV versus exercising; consuming drugs versus staying clean. Hyperbolic discounters may prefer the second option at all times except when the first is imminent. If agents do not take steps to avoid finding themselves in situations in which they can choose to consume an immediately available good from which, at other times, they prefer to abstain, they may find themselves trapped in cycles of consumption and regret. There is a plausible case for identifying the person’s will with the preferences he holds most of the time, when he is reasoning well; it is for this reason that addiction impairs autonomy by causing addicts to act contrary to their will (Levy, 2006).

By hypothesis, before he finds himself on the garden path, the addict prefers abstinence to consumption. But since he is a hyperbolic discounter (hyperbolic discounting is typical of human beings, but addicts have more deeply bowed discount curves than matched controls; see [Bickel and Marsch, 2001](#)), when the opportunity for consumption is imminent, his preferences may reverse. As a consequence, he is likely to choose consumption. Matters are quite different when addicts are recruited for participation in trials or offered the opportunity to receive prescribed heroin. Research trials and treatment programs, especially (but not only) with vulnerable subjects, typically involve extended preparatory stages in which potential recruits are involved. Participants may be interviewed at length, on several different days (perhaps weeks apart). There will be several stages, at each of which the subject may pull out of the program; it will only be at the end of this multistage process—days, weeks, or months after its commencement—that the opportunity for consumption is imminent. It is only at this final stage that hyperbolic discounting predicts that the addict will find it difficult to say “no.” But difficulty in saying “no” at this point does not entail that the addict suffers a loss of autonomy. Autonomy is subject to what has been called a tracing condition ([Vargas, 2005](#)): an agent may autonomously choose to be in a situation in which he knows that he will be unable to avoid choosing a particular course of action. When he does so, he may autonomously choose to pursue that course of action; his autonomy in making the choice is derivative of his autonomy in choosing that he would make it. It is for this reason that advance directives are autonomy-enhancing: they allow the agent to extend the sphere of his autonomy across time to include times at which he is unable to exercise direct autonomy (it is for this reason that what [Frankfurt \(1982\)](#) calls “volitional necessities” may be autonomous: a person can choose to make himself the kind of agent who cannot but save another or cannot but tell the truth, and by doing so he suffers no loss of autonomy).<sup>5</sup>

The imminence of the opportunity for consumption is one reason why the addict may be expected to find it difficult to say “no” to drugs when the option presents itself on the garden path. A second reason is that when the opportunity for consumption is presented on the garden path, the addict is more likely to experience cravings than when the option is presented in research or treatment programs. As mentioned above, there is a close link between cues predicting consumption and cravings (see [Ross et al., 2008](#) for review). The intensity of cravings seems to be a function of the statistical association between a cue and a consumption; the stronger the association the stronger the craving. On the garden path, the addict may face the choice whether or not to consume surrounded by cues that strongly predict consumption: people with whom he has consumed the drug in the past, places where he has consumed, perhaps music he associates with consumption and—most powerfully of all—the sights, sounds, and smells directly associated with drug taking (the sight of a pipe, a syringe,

the smell of heroin cooking, and so on). The cravings elicited are likely to be intense and strongly bias him toward consumption. In contrast, the decision to participate in a research or treatment program involving the provision of heroin is likely to be made in surroundings where there are few cues statistically associated with consumption; cravings are therefore unlikely to be elicited.

Third, the decision made on the garden path is a decision made under social pressure. The presence of others engaged in drug consumption normalizes drug taking. Further, we all experience a strong conformity bias (Bond and Smith, 1996). Well-designed research and treatment protocols will minimize social pressures and entirely remove conformity bias by preventing participants from knowing how others are choosing.

The garden path also increases the likelihood of consumption by breaking down the route from determined abstinence to actual consumption into a series of small steps. By the time he faces the stark choice, consume or not, the addict finds himself so close to consumption that the final step is a small one. Contrast the situation when, in the course of street outreach or in a treatment facility, he is offered the opportunity to participate in research or treatment involving the provision of drugs. Both the temporal and the spatial interval between initial contact and actually getting the drugs are so large that it will be experienced as a very large step, which makes it more likely he will consider it longer and consider other options. Merely “going with the flow” won’t have him consuming.

Finally, when the addict on the garden path faces the choice whether or not to consume, his resources for self-control are likely to be at a low ebb. There is plentiful evidence that self-control depends on a depletable resource. The evidence here comes from comparing the performance of subjects who have recently engaged in self-control tasks versus subjects who have engaged in other tasks matched for perceived difficulty, but which don’t require very much self-control. The consistent finding is that subjects in the former group perform worse at a subsequent self-control task than subjects in the latter group. This apparently indicates that self-control is a depletable resource (Baumeister et al., 1998; Baumeister, 2002). By the time the addict on the garden path finds himself facing the choice whether or not to consume, he will have engaged in a series of depleting choices (some conscious, many unconscious), and his self-control resources will be low. Further, the environment in which he finds himself may have features that also deplete self-control: he may have consumed alcohol, he may be tired, he may find the situation stressful, all of which have been shown to reduce self-control in the same kind of way. Reductions in self-control seem to alter agents’ assessments of tempting goods: they see the reasons in favor of consumption as stronger than they would, were their self-control mechanisms in better shape (Levy, 2011). Again, we can contrast the situation on the garden path with the choice confronting the addict when he is

offered the opportunity to participate in the envisaged research or treatment programs. He is not under any particular stress or especially fatigued—or at least he need not be; researchers ought to take this kind of consideration into account in designing recruitment protocols. The choice need not be offered after a series of depleting previous choices. Even if some of these features are present, moreover, and his self-control resources are depleted, the choice will not be irrevocable. Far from it, he may consent initially to nothing more than receiving further information, and his informed consent will be sought several times more before he is actually offered the drug. He can go home and think about it, sleep on it, and discuss it with others. He can ensure, and the recruitment protocol should be designed to ensure, that he makes his decisions when his self-control resources are not depleted.

Addiction is a chronic relapsing disease: its natural history involves repeated episodes of abstinence, for longer or shorter periods of time, followed by relapse. The explanation for this natural history is that addicts often have sufficient decisional autonomy to make an autonomous decision to refrain from drugs, but in many contexts processes are triggered that undermine their capacity to abide by their decision. Although these processes bias decision-making, they ought to be seen as impairments of executive autonomy because the decision-making capacity is left intact by these processes: it is temporarily masked or blocked, rather than removed. Importantly, however, the contextual features that lead to an impairment of executive autonomy can be, and typically are, avoided in well-designed recruitment protocols for participation in trials or programs involving the availability of drugs. For this reason, the fact that addiction impairs autonomy does not appear to be an insurmountable barrier to these kinds of trials and programs.

#### IV.

In the previous section, I outlined several different factors that make the choice whether or not to consume a drug much more difficult when it arises on the garden path, compared to the analogous choice in the context of research or treatment programs. In the latter context, most of these factors will not be present; if the recruitment protocol is well designed, none of them will be. For this reason, even though addiction impairs autonomy, and even though it is true that addicts sometimes (perhaps even *typically*; that is, in the typical circumstances in which they face the choice) find it hard to refuse heroin, we have no reason to think that they will find it especially hard in the research or treatment context.

Still, the evidence presented shows only that it is much harder to say “no” on the garden path than in other contexts. It does not show that it is *easy* to say “no” off the garden path. It might be true, for all that has been said, that it is always sufficiently hard for the addict to say “no” to drugs for the decision to be nonautonomous.

I think the evidence previously cited by itself makes this worry implausible, with regard to the great majority of addicts. Most addicts succeed in giving up drugs (Heyman, 2009). They do so, I suggest, by ensuring that they avoid the garden path, thereby avoiding situations in which their executive autonomy is impaired. However, this leaves open the possibility that there are some addicts whose autonomy is so compromised that they can never give informed consent to drugs. It could be that the minority who do not succeed in eventually giving up drugs have genuinely lost control over their drug-taking behavior, whether as a direct result of addiction or as a consequence of comorbid conditions and their life situation. Since it is this subpopulation, if it exists, that would be most likely to benefit from heroin provision, their (possible) existence is no mere minor inconvenience for the argument but is central to the permissibility of such programs (Henden, 2013).<sup>6</sup>

However, there is an even stronger reason to think that there is no special problem with regard to addicts' choices about whether to participate in research or treatment programs that provide heroin. Either addicts prefer to give up taking drugs or they do not. The worry that motivates Charland concerns only the first group: there is no special worry concerning whether those people who genuinely value remaining addicts are able to refuse drugs, since in choosing to take them they express their authentic preferences.<sup>7</sup> It is only if there are addicts who value being drug free but who find themselves accepting the offer of drugs in the research or treatment context that Charland's worry arises. As we have seen, there are indeed addicts who find themselves making choices that conflict with their values on the garden path; the real issue is whether off the garden path there is any reason to think that autonomy will be compromised in an analogous manner.

But once the question is properly framed, the answer is obvious. There is no more reason to think that addicts cannot express a preference to refuse drugs in the context of research or treatment programs—if they are minimally well designed so that the drugs are not immediately available, there are several stages at which preferences are elicited, and plenty of time for persons to rethink their decision and discuss it with others—than there is to think that they cannot express a preference to refuse drugs in any other context. If we can't elicit addicts' true preferences regarding drugs in these circumstances, then they can't ever be elicited at all. The only way it could be true that addicts could not express their true preferences in circumstances like these would be if the mere mention of drugs caused them to change their preferences every time. But if that were so, we could never know that there were such things as addicts who preferred to be drug free. Of course we do know that. We therefore have no reason to doubt that those addicts who choose, in the research and treatment contexts, to participate in programs in which they will receive drugs, express a preference that is properly informed and genuinely autonomous.

That is not to say that there is no special problem with the subset of addicts Henden identifies. Rather, it is to say that though there are a number of problems arising from the existence of (numerous) addicts with severely compromised capacities, none of these problems casts doubt on the capacity of some addicts to give informed consent to participation in trials or programs involving the provision of drugs. Some addicts have significantly impaired decisional autonomy due to comorbid mental illness, memory impairments, and the like. These agents may not be able to give valid consent to participate in trials involving the provision of drugs, and we will have to decide whether they are to participate in such programs on the basis of other kinds of considerations, such as their best interests. The data gathered from the trials mentioned will be centrally relevant to this decision. Some addicts will lack the kind of social support and living conditions (stable housing income, and the like) needed for effective executive autonomy. Recruiting these subjects may nevertheless be possible if they have intact decisional autonomy: they can give valid consent to participate, and the program can be designed to compensate for their life circumstances (for instance, by offering safe injecting rooms). At worst, some of these addicts may need to be excluded from programs designed to test the safety and efficacy of drug provision, as well as from research trials. While this would be a cost, insofar as Henden is correct in claiming that these addicts may have the most to gain from participation, the data generated by these trials may ultimately benefit these addicts, too.

## V. CONCLUSION

Addiction impairs autonomy; of that there can be no reasonable doubt. It impairs autonomy sufficiently that there is strong reason to suspect that addicts often make choices—especially choices to take drugs—that are not autonomous. However, minimally well-designed research or treatment programs will avoid the pressures that often lead addicts to choose in ways that do not accord with their values. If, in these circumstances, some addicts say “yes” to drugs, we can be confident that they express their properly informed and sufficiently autonomous preferences. For this reason, there is no special problem regarding informed consent and this kind of program.

## NOTES

1. Many bioethicists think that the standards that must be met for informed consent to be valid rise as the overall benefit to the subject falls. On these grounds, it might be held that heroin prescription trials must meet especially demanding standards, since heroin consumption is risky. Indeed, [Ferri, Davoli, and Perucci \(2011\)](#) found that there was a greater incidence of adverse events in the heroin treatment groups compared with the oral and injectable methadone groups. However, this evidence of a greater risk of adverse events directly associated with on-site heroin consumption must be weighed against the



reduction in risks as a consequence of the fact that the heroin treatment groups were significantly less likely to use street heroin than the other groups, thereby reducing a significant risk to their health. Ferri, Davoli, and Perucci (2011) are cautious in their conclusions, because of difficulties of comparing across studies utilizing different methodologies, but they suggest that the risk/benefit ratio favors heroin prescription for those who have failed other treatment modalities.

2. This kind of evidence seems to offer strong support for a suggestion made by a referee for this journal: even if it is true that addicts are heavily influenced by the offer of a drug to participate in treatment or research programs, the offer cannot be more of an undue influence than the offer of a last chance treatment for a serious illness. Since we accept that trials like these are legitimate, we ought to accept that trials involving the provision of drugs are legitimate when the benefits of the trials are substantial. While I think this argument is powerful, I will not put any weight on it here. One difference between offering treatment, in the kinds of cases the referee has in mind, and offering drugs to addicts is that in the former there is often no good alternative available, but there is always the possibility that an addict can be brought to become abstinent. It may be because there is no alternative to last chance therapies that we are willing to accept them, even if they do compromise autonomy. The argument I present here is designed to show that drug trials do not significantly compromise autonomy, thus avoiding this worry.

3. Critics of the ethics of heroin prescription have focused on the capacity to say “no,” rather than on the capacity to choose in accordance with one’s own values. However, I don’t think this entails that they have a different conception of informed consent in mind or that the answer to the question whether heroin impacts negatively on the capacity to give informed consent depends in part on which (reasonable) conception of informed consent one has in mind. The capacity to say “no” matters because it is a reliable guide to the capacity to guide one’s behavior in the light of one’s reasons. Possession of this capacity does not entail that one can choose otherwise; it requires that *if there were good reasons for one to choose otherwise, one would do so* (Fischer and Ravizza, 1998).

4. Here and in what follows, I focus on substance addictions. So-called process addictions may sometimes centrally involve the mesolimbic dopamine system such that the claims made here concerning the role of dopamine in biasing decision making apply to these addictions without the need for much qualification or alteration (see Ross et al., 2008 for a defense of a dopaminergic account of pathological gambling). Other process addictions do not seem to involve hijacking the dopamine system. Nevertheless, if they are indeed true addictions—a question on which I do not wish to take a stand—they bias behaviors in analogous ways, though via different causal routes. See Holton and Berridge (2013) for discussion.

5. I thank a referee for this journal for pressing me to clarify how such a choice could be autonomous.

6. Henden (2013) argues that some especially vulnerable addicts have beliefs that undermine their capacity to give informed consent: due to their marginal social position, they believe that they do not have any good options at all. These addicts may think that the offer of free heroin is better than alternatives, but—Henden claims—a choice is not properly voluntary unless at least one option is regarded by the person choosing as genuinely valuable (rather than the least of available evils). Henden thinks that the fact that many addicts refuse to take part in programs involving the provision of heroin indicates that the option cannot be genuinely valuable for addicts. This claim is odd, inasmuch as it uses data showing that addicts can say “no” to heroin as evidence for the conclusion that when they say “yes” their autonomy is compromised. Further, even if Henden were correct in thinking we ought to segregate addicts into the autonomous enough and the especially vulnerable, it would still be plausible to think the behavior of those who say “no” does not inform us about the values of those who may fall into the other category. Finally, Henden’s proposed criterion for voluntariness seems to entail that a great many choices in the arena of medical decision making are not voluntary: for instance, choices whether to have a gangrenous limb amputated or to undergo chemotherapy are surely choices between evils. That suggests that the proposed criterion is not the right one for this kind of context.

7. It should be noted that there are accounts of autonomy on which it is an open question whether there can be such a thing as an autonomous choice to remain an addict. On so-called *substantive* accounts, there are constraints on the values an autonomous agent can have (this contrasts with procedural accounts of autonomy, which are neutral with respect to values; see Mackenzie and Stoljar, 2000). The conception of informed consent at issue in medical ethics, however, is procedural: it is designed to ensure that the choices patients and research subjects make genuinely express their values, not to ensure that the choices are wise ones. For this reason, I set substantive accounts of autonomy aside.

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