What We're Not Talking about When We Talk about Addiction

by HANNA PICKARD

For a decade, I worked as a part-time assistant team therapist in a National Health Service therapeutic community for people with personality disorders and complex needs, many of whom struggled with various forms of addiction. Therapeutic communities are distinctive care environments: unlike more conventional health care contexts in both the United Kingdom and the United States, they are informal and nonhierarchical and require genuine and sustained personal (albeit professional) relationships between clinicians and patients as well as between patients themselves. Although medication is part of treatment when appropriate, it is relationships that are considered the crucial mediators of cognitive, emotional, and behavioral change in patients and thus integral to therapeutic success. The experience of finding myself working as a philosopher in a very distinctive clinical context and of having to learn from scratch how to relate effectively to the members of my group in order to do my job right lies at the core of my understanding of addiction. However, I am all too aware that I am beginning this essay by describing who I am and the genesis of my research, not just as orientation, but because what I want to say is controversial. Indeed, in my experience, it is often met with something like outrage in a U.S. context, as if it demonstrated a total failure to understand addiction and to care about people who struggle with it.

I believe addiction is a highly heterogenous condition that is not adequately explained by the currently dominant model, which views it as a chronic, relapsing neurobiological disease characterized by compulsive use despite negative consequences. The fundamental reason for my dissent from this model is that addiction is ill characterized as involving compulsive use, but this assessment has potential implications for the claim that addiction is, in all cases, a brain disease. On the whole, drug consumption in addiction remains goal directed: people take drugs, even in addiction, because drugs have tremendous *value*. The importance of this cannot be overstated. To help someone overcome addiction, you need to understand why they persist in using drugs despite negative consequences. If they are not compelled, then the explanation must advert to the value of drugs for them as an individual. In consequence, to help them, you must together acknowledge and somehow address this value—so that the balance between the apparent benefits and costs of consumption shifts for the individual, in both the immediate and longer terms.

Why is this view met with outrage? I believe it disguises an underlying fear. The fear is that, unless we insist on a neurobiological disease model of compulsion, we risk a return to a moral model of addiction. The moral model has two parts. The first part claims that drug use is a choice, even for those who are addicted. The second part is the moral condemnation of this choice: addicts are people of bad character who embrace a life of hedonism. But we are not forced to choose between these models. There is a clear alternative: we can acknowledge choice while maintaining care and fighting moralism about drugs. Indeed, no one can watch someone struggle with addiction and think that the explanation is that they have embraced a life of hedonism—a Dionysian reveler who sees no reason to change. Whatever pleasure drugs may harbor, living with addiction is living with suffering.

The outrage may also protect against an underlying pain. At this point in our history, most of us know people who struggle with addiction, and many of us know people who have died from it. The suffering this brings is all too real, and it often includes the recognition that drugs have value for people with addiction even at the expense of other things they also genuinely value, perhaps love. If compulsion were an apt characterization, that would make all of this less painful. But knowing and caring for people who struggle with addiction makes it hard not to see that, what-

Hanna Pickard, "What We're Not Talking about When We Talk about Addiction," *Hastings Center Report* 50, no. 4 (2020): 37-46. DOI: 10.1002/hast.1172

ever truth there is in the idea of compulsion, it is not the whole story.

So we cleave to the myth of compulsion caused by brain disease as a kind of psychological defense mechanism—to try to avoid our fear of moral condemnation and pain alike. But the reality is that we feel the pain anyhow. And the true source of the propensity for moral condemnation lies not with the people who struggle with addiction *but with us*—with our willingness to jump at the chance to condemn and to blame and our unwillingness to collectively acknowledge our own part in creating a society where the conditions for addiction flourish.[1]

Moralism about Drugs

The dominant model of addiction as a neurobiological disease of compulsion emerged over the course of the twentieth century.[2] Its emergence was based not simply on the neuroscience of addiction: our increasing knowledge of brain changes and mechanisms associated with chronic drug use. It was also devised and promoted to counter the moral model's stigmatization of people who struggle with addiction and to improve the prospects for funding for research and access to treatment.[3]

Compulsion is the antithesis of choice. The view of addiction as a neurobiological disease of compulsion rejects the first part of the moral model. It thereby also rejects the possibility of condemning people with addiction for their choices to use drugs once addicted, for according to this view, they have none.[4] But an element of the second part of the moral model of addiction is nonetheless typically retained by the view of addiction as a brain disease: the moral condemnation, not of addicted individuals, but of drugs and of pleasure got from drugs.

Advocates of the brain disease model often emphasize that, in addiction, drug use persists even though there is no more pleasure to be had: people with addiction no longer "like" their drug of choice.[5] This emphasis is striking, since very few human studies examining loss of pleasure have been conducted and the few that exist do not appear to support it. Laboratory experiments designed to mimic cocaine binges in subjects who have a history of use show only a modest decrease in reported euphoria over the period of consumption;[6] there is no notable decrease in subjects with no history of use.[7] A clinical retrospective study of forty inpatients for treatment for cocaine dependence found that 100 percent of subjects reported persisting euphoria, with only 27.5 percent reporting any decrease whatsoever.[8] A community retrospective study of one hundred treatment-seeking long-term cocaine users found, on average, a decrease in euphoria ratings since cocaine initiation but that euphoria nevertheless persisted.[9] Pleasure reduced is not pleasure eradicated. To be clear, I do not claim that there are *no* individuals for whom pleasure from drugs is entirely eradicated: there may be. The point is rather that the existing scientific evidence does not support the claim that, in general, addiction eradicates drug euphoria, which raises the question why advocates of the brain disease model are so eager to emphasize that it does.[10]

One part of the answer may be that, if people with addiction get pleasure *from* use, then it is natural to infer that they use *for pleasure*. If so, then there is reason to question the claim that use is compelled, for it would appear goal driven (see below). But another part of the answer may be that an element of the moral model remains: there is an unarticulated assumption that, even if people do not use *for pleasure*, the mere fact of gaining pleasure through use—even use that is compelled—would license moral condemnation. Arguably, this is the remnants of a Puritanical moralism, which lies deep in the history of U.S. attitudes toward drugs.[11] If so, then, to avoid an invitation to moral condemnation, it becomes important to emphasize that people with addiction get no pleasure from drugs.

Fighting the stigma surrounding addiction and the moral condemnation of people who struggle with it is of paramount importance; but it is not likely to be lastingly achieved through claims that are at best unjustified and quite possibly false. Relatedly, it is unclear that the brain disease model has, in fact, significantly affected popular attitudes toward drug use and addiction. In the United States, scientific support for the brain disease model coincided with the War on Drugs in the 1980s and 1990s. This policy was politically advantageous precisely because it appealed to a popular moralism about drugs and drug users that intersected with certain gender, class, and race stereotypes.[12] This dynamic is arguably still present today: only recently, as the opioid epidemic has affected white communities, have politicians and policymakers become more willing to frame addiction as a public health, rather than a criminal justice, issue.[13] Meanwhile, an increase in public acceptance of biogenetic labels for mental disorder in the United States was not associated with a corresponding decrease in stigma between 1996 and 2006;[14] and decades after the introduction of biogenetic labels and widening public acceptance of them, rates of stigma toward people with mental disorders, including those with alcohol use disorder and opioid use disorder, remain extremely high.[15] Vignette studies complement this finding, suggesting that, although biogenetic labels for mental disorders increase public support for services and treatment, they do not decrease stigma and, indeed, may increase perceptions of dangerousness, unpredictability, and difference—leading to social distance and community rejection by others and worsening pessimism and hopelessness in sufferers themselves.[16] On reflection, this finding is perhaps unsurprising. Many diseases (such as leprosy and HIV/AIDS) are highly stigmatizing; stigmatization may be associated with a disease label rather than countered by it.

Where does this leave us? The alternative to refusing to acknowledge that people with addiction may get pleasure from drugs in the hope of reducing moral condemnation is to fight moralism about drugs directly: to point out that there is nothing intrinsically morally wrong in using drugs[17]—for pleasure or for other reasons—and to insist that anyone who

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claims otherwise must produce, not just their opinion, but a genuine argument. For what, precisely, is supposed to be morally wrong about using drugs for pleasure or other ends? If this challenge does not immediately give you pause, I ask you to consider that alcohol is a drug whose consumption most of us sanction and many of us enjoy and use as a means to a variety of ends, yet there is no good neurobiological or public health distinction between it and classes of drugs that are both illegal and morally condemned,[18] and that, contrary to popular belief, the majority of people who have tried drugs of all classes do not become addicted.[19] This appears to include heroin, which can be successfully used recreationally, a phenomenon known as "chipping."[20] Of course, drug consumption carries serious risks (including addiction), and in some circumstances, these risks may include harm not only to self but also to others. In such cases, consumption may be morally wrong because of the risk of harm it poses to others. But if so, this is contingent on probable consequences given the circumstances, not essential to consumption in itself. Drugs and drug consumption are not intrinsically bad—quite the contrary, drugs have multiple, valuable functions.

Multiple Functions of Drugs

Although it can sometimes take time to learn to enjoy and appreciate drugs,[21] they are a reliable source of pleasure for many users, nonaddicted and addicted alike. But drugs serve other well-known and well-documented functions too.[22] These include relief from pain, fatigue, stress, boredom, negative emotions, and psychological suffering; improved physical energy, cognitive ability, social connectedness, and sexual experiences; and mind-altering and self-altering experiences, including spiritual experiences. As I describe briefly below, for some users, drug use may also be part of their self-identity and social community.[23] It is also the case that different drugs typically serve different functions: opioids relieve pain and suffering; amphetamines increase energy and cognitive ability; MDMA, or ecstasy, heightens social connectedness; psychedelics produce experiences that people describe as some of the most meaningful of their lives.[24] Indeed, even rodents select different drugs in different environments, preferring heroin in home-cage and cocaine in non-home-cage contexts,[25] presumably because of the interaction between drug-specific effects on the animals' mental state and environment-specific demands. But nuances aside, the key point is that drugs have tremendous value to people because of what they do for us: they are a means to many valuable ends.

Once stated, this point may seem obvious. Yet its importance to understanding addiction is often overlooked. Apart from the most extraordinary of circumstances, all addiction originates in nonaddicted drug consumption, which is goal directed. Initial and subsequent nonaddicted human drug choices are typically guided by explicit anticipation of their effects on mental state, whether these are known through testimony or prior first-person experience. In other words, we take drugs by choice: their expected value is why we use them. As I already noted, I do not believe there is good scientific evidence for the general claim that, once the transition to addiction has occurred, drugs no longer offer any pleasure whatsoever. But even if this were true, most, if not all, of the other functions of drugs listed above are not mediated by pleasure and continue to be secured through consumption deep into addiction. Most importantly, given the strong association between chronic addiction, comorbid mental disorders, and socioeconomic disadvantage and isolation,[26] drugs continue to provide relief from pain, fatigue, stress, boredom, negative emotions, and psychological suffering (even if addiction creates its own suffering). For some addicted individuals, they may also offer forms of positive self-identity and social community that the individuals would otherwise lack. In other words, drugs have value not only *apart* from addiction; they can continue to have value even *in* addiction.

The Puzzle of Addiction

The fact that drugs have value and that drug value persists in addiction is critical to understanding the nature of addiction and why it is so puzzling. From a clinical perspective, substance use disorder is diagnosed, according to the most recent, fifth edition of the *Diagnostic and Statistical Manual of Mental Disorders* (*DSM-5*), by eleven polythetic criteria, and it can be mild (meeting two to three criteria), moderate (four to five criteria), or severe (six to eleven criteria), allowing for significant variation in symptomatology between people who meet the criteria for diagnosis. In addition to the pharmacological criteria of tolerance and withdrawal, the core substance use disorder construct involves (1) cravings and failures to limit use as intended as (2) drugs come to occupy increasing time and attention at the expense of other pursuits and despite (3) the incurring of severe risks and negative consequences.[27] These consequences typically include drug-related mental and physical health problems, as well as loss of important relationships, social standing, employment, housing, and other significant goods. In countries that criminalize drug possession and stigmatize drug users, there is, in addition, the

risk of criminal sanction and social ostracization. Although craving and difficulties in self-control, alongside escalating use, are, of course, important aspects of the construct, continued consumption in the face of drug-related risks and costs such as these is central to defining addiction[28] and understanding both why it is a disorder and what is puzzling about it. Nonaddicted drug consumption poses no puzzle: people choose to use drugs because drugs have value. But once this is appreciated, then drug consumption should be seen as going wrong or being in some sense disordered and wanting explanation only when the balance between drug costs and drug benefits seems to have tipped such that costs appear to outweigh benefits and yet consumption persists. Put crudely, why do people with addiction persist in using when drugs no longer appear worth it?[29]

The Myth of Compulsion

The view of addiction as a neurobiological disease of compulsion offers a parsimonious and powerful solution to this puzzle. To use a common metaphor, the explanation is that addiction hijacks the brain so that the desire for drugs is irresistible and there is no longer any possibility of voluntary and value-based choice. As William James evocatively puts it, "The craving for a drink in real dipsomaniacs, or for opium or chloral in those subjugated, is of a strength of which normal persons can form no conception. 'Were a keg of rum in one corner of a room and were a cannon constantly discharging balls between me and it, I could not refrain from passing before that cannon in order to get the rum'; 'If a bottle of brandy stood at one hand and the pit of hell yawned at the other, and I were convinced that I should be pushed in as sure as I took one glass, I could not refrain': such statements abound in dipsomaniacs' mouths."[30] Understanding compulsion as irresistible desire allows us to explain the puzzle straightforwardly: if individuals with addiction could stop using, they would, but they can't, which is why they don't. People with addiction are stripped of any ability to do otherwise.[31]

Notwithstanding the theoretical elegance of this solution, it is not empirically credible. The reason is simple: there are ever-increasing and converging lines of evidence from animal models and human addiction studies establishing that the majority of animals and humans alike respond to context-specific contingencies and choose nondrug alternatives across multiple-choice settings.

Research in animals has long demonstrated that, although rodents will escalate drug self-administration in deprived settings where no alternative rewards are available, the vast majority will choose food or social rewards over drugs in forced-choice laboratory studies.[32] Recent work suggests that social reward, in particular, is an especially potent alternative for rodents, with 100 percent of those studied opting for social over drug rewards when both are immediately available, irrespective of sex, drug class, training conditions, size of dose, length of abstinence since last dose, or "addiction score" based on a *DSM*-style model adapted to rodents; only delay of delivery of social reward or introducing (probabilistic) delivery of punishment upon choice for social reward shifted rodents away from social reward and toward drug self-administration.[33]

Human studies demonstrate similar flexibility in drug behavior. Even though addiction has some habit-like features,[34] there is limited evidence in support of a generalized habit theory of addiction:[35] consumption is not automatic but remains a controlled process.[36] In many circumstances, the majority of individuals demonstrate the ability to respond to "contingencies" or "incentives" (as psychologists would put the point) or "act for reasons" (as philosophers would say), demonstrating that drug choice in addiction is voluntary and value based.

Consider the following findings. In forced-choice laboratory studies offering the immediate opportunity to use crack cocaine or receive monetary reward, people with substance use disorder frequently choose money over drugs.[37] In addition, contingency management treatment is highly effective,[38] offering positive rewards contingent on drug-free urine samples in the form of money, prizes, and most recently and successfully, employment.[39] Rates of use are cost sensitive,[40] and correctional services can succeed in establishing abstinence by imposing costs for failure.[41] Lastly, large-scale epidemiological data suggest that the majority of people meeting criteria for substance use disorder (including those with physical dependence) recover without clinical intervention by their late twenties or early thirties[42]—and of course, anecdotal[43] and clinical[44] stories abound of people going "cold turkey."

These multiple lines of evidence converge to establish that many people with addiction choose nondrug alternatives in the presence of drug options across multiple choice settings. Together, they underscore that drug consumption, even in addiction, typically involves choice and so is not well characterized as compulsive.

Five Caveats

In light of the evidence demonstrating flexibility in behavior and responsiveness to incentives in addiction, the puzzle therefore remains: if people with addiction have the capacity to abstain, then, given how much is at stake, why don't they? Before I explore answers to this question, I need to state five important caveats for the sake of clarity and comprehensiveness.

First, the evidence cited bears on what must be true of a general theory of addiction. In general, people with addiction can respond to incentives, which means that a sweeping appeal to compulsion cannot explain the puzzle of persistent use despite negative consequences. But the evidence does not license any sure conclusion about what is true of a particular person on a particular occasion. We all sometimes face specific circumstances in which, for one reason or another, we are unable to exercise a capacity we nonetheless have.

Addiction flourishes in conditions of poverty, isolation, humiliation, pain, and hopelessness. In such circumstances, drugs may be the only thing that brings any relief from suffering and despair.

Second, the brain disease model of addiction cannot soften the meaning of the concept of compulsion from the impossibility of not using drugs to the difficulty of not using them—on pain of loss of the model's explanatory power. There is no question that it is extremely difficult for people with addiction not to use drugs. But once it is conceded that, in many circumstances, it is possible, then, given the negative consequences of consumption, simply appealing to the difficulty of abstaining does not suffice to explain why they persist.

Third, the fact that people with addiction respond to incentives does not entail that drug-associated, cue-induced craving is no part of addiction. Unquestionably, it is. In animal models, drug-associated cues, similarly to drug priming, reinstate drug-seeking behavior after extinction and forced abstinence.[45] Although an association between craving and consumption in human addiction studies has long been contested and remains far from well established,[46] there is nevertheless evidence that, in laboratory settings, stress- and drug-associated cues predict first-person reports of craving, which is associated with subsequent relapse in cocaine ex-users,[47] and that, outside of the laboratory, in daily life, craving is associated with consumption in smokers[48] and cocaine users.[49] Cue-induced craving not only characterizes periods of active use but also endures for months, possibly years, postcessation; and the cognitive neuroscience of addiction has made significant progress determining relevant mechanisms.[50] There is no question that craving is central to the lived experience of many who struggle to control consumption and is an important part of any theory of addiction. But craving does not compel use.

Fourth, the fact that people with addiction respond to incentives does not entail that limitations of self-control play no part in addiction. Resisting craving requires effort, which entails both costs (that can be rationally traded off against benefits)[51] and the likelihood of failure due to simple mechanistic fallibility.[52] In addition, people with addiction display a range of decision-making anomalies, including some that bear on the exercise of self-control, such as reflective impulsivity, and risk and ambiguity tolerance.[53] Self-control can involve a battle: none of our wills is made of steel. Again, this is an important part of any theory of addiction. But in general, the evidence establishes that people with addiction respond to incentives, thereby exhibiting a general capacity for controlled consumption—no matter how hard-won.

Fifth, the fact that addiction is not a disease of compulsion does not establish that it is not a disease *at all*. It remains possible that some of the neurocognitive processes underlying craving or drug choices in addiction are indeed pathological.

The concept of disease has a home within a family of concepts that include, for example, injury, disability, deficit, disorder, and illness. Ordinary use tracks rough-and-ready distinctions between these concepts, which may or may not stand up to scrutiny under specialist investigation by philosophy of medicine and the linguistic and theoretical practices emerging from developing medical science: ordinary usage may differ from expert usage. When Alan Leshner famously argued that addiction is a brain disease—and it matters—he oscillated between calling it a "disease," a "disorder," and an "illness."[54] Which if any of these it is depends on two things: what we determine each concept ultimately to mean and whether, upon investigation, addiction accords with its meaning. For the record, my own view is that we ought to be agnostic for now about the question whether addiction is a disease because we simply do not yet know enough to answer it. This is in part because I do not believe that we yet have a clear, specialized account of the meaning of the concept. But it is also because I believe that, whatever disease is, it is not mere statistical difference: the idea of pathology requires a state or mechanism to be dysfunctional, not just atypical.[55] Yet much (although not all) of the evidence adduced to support the brain disease model establishes only atypicality, not dysfunction.

However, and crucially, from a medical treatment or policy perspective, it should not matter whether addiction is a disease. That a condition counts as a bona fide disease is neither necessary nor sufficient for it to fall within the remit of medicine, let alone social policy or public health. Medicine—alongside many other kinds of socioeconomic and public health interventions—aims to alleviate suffering and promote well-being. It therefore appropriately targets not only disease but also injury, disability, deficit, disorder, and illness, as well as psychological, social, and economic determinants of the latter, and entirely natural, normal biological processes, such as pregnancy, where individuals nonetheless benefit from both medical and nonmedical support and intervention. Whether or not addiction is a disease, it is a condition that clearly lies within this broad remit.

With these caveats in hand, let us return to the question, if people with addiction have the capacity—albeit hard-won—

to abstain, then, considering how much is at stake, why don't they?

Two Broad Approaches to Solving the Puzzle

Given that drug choices in addiction are voluntary and value based, the answer to the question just posed is simple in the abstract. We need to understand how people with addiction weigh drug costs and benefits in their decision-making such that, on balance, consumption is expected to have more value than abstinence. Broadly speaking, there are two kinds of solution, capable of working in tandem.

The first kind of solution appeals to anomalies in addicted decision-making that serve either to boost the expected benefits of consumption or to hide the expected costs, *from the perspective of people with addiction themselves*. For example, the disposition to discount the future relative to the present is a common feature of human psychology, but addicted individuals have steep discount rates compared to the norm;[56] meanwhile, the benefits of drug consumption are typically immediate, while both the costs of consumption and any benefits that might accrue from abstinence are typically delayed.[57] Similarly, people with addiction are notoriously prone to denial, which, in addiction, functions to block the costs of consumption from view altogether, preventing them from factoring into decision-making.[58] Additionally, "memory sampling" of early and highly rewarding drug experiences may bias present choices toward "chasing the first high" while side-lining more recent but less rewarding drug experiences that would encourage abstinence.[59] Such decision-making biases are common features of human psychology; possibly, they are sufficiently dysfunctional in at least some cases of addiction to count as pathological and render these cases appropriately labeled as a disease of cognition. But whether these biases count as pathological or not, they can still explain the puzzle of persistent use in the face of negative consequences by revealing how decision-making in addiction can be skewed in favor of consumption and away from abstinence.

The second kind of solution reveals benefits to drug consumption that are visible to addicted individuals and weigh in their decision-making but may be hidden *from the perspective of outside observers*. The striking finding that the majority of people meeting criteria for substance use disorder (including those with dependence) spontaneously recover by their late twenties or early thirties raises an important question: who doesn't? The answer is that the minority of people who do not spontaneously recover from addiction typically come from underprivileged backgrounds of severe adversity and limited socioeconomic opportunity[60] and suffer from a range of mental disorders in addition to substance use disorder.[61] Addiction flourishes in conditions of poverty, isolation, humiliation, pain, and hopelessness of the sort many of us who are more privileged will never know. In such circumstances, drugs may be the only thing that brings any relief from suffering and despair. Until those of us on the outside of addiction face up to the life circumstances associated with it and the lack of real alternatives for many people with addiction, we will fail to see the value of drugs.

In addition, these circumstances may be compounded by a negative self-concept that is part and parcel of a self-destructive mindset. Substance use disorders are associated with personality disorders and complex mental health needs,[62] including those that involve deliberate self-harm. This can take the form of self-directed violence, such as cutting and burning, but also sexual and other forms of risk-taking behavior, overdosing, and arguably, drug misuse quite generally. For people with this mindset, it is not only that the negative consequences of drug use may not weigh with them because they do not care about themselves; the negative consequences of use may, in fact, count as benefits, for they serve to express a self-destructive aim and outlook. This is an important and, I believe, consistently overlooked feature of the psychology of some people who struggle with addiction.

Lastly, for some of the most long-term and vulnerable drug users, many of whom are homeless and live on the margins of society, their self-identity and social community may be defined by their addiction. Quitting drugs may mean quitting all that they currently have and know: abandoning what place in the world they have managed to carve out for themselves, their sense of self, and the people with whom they have developed relationships of mutual care and trust over many years. For some people, an "addict identity" may itself be a source of value—life may be quite literally unimaginable without it. When this is so, then there is a further, straightforward explanation of the puzzle of addiction. People who self-identify as "addicts" may persist in using despite negative consequences because that is exactly what "addicts" *are supposed to do*).[63]

There are two important conclusions to draw from this broad discussion of how to solve the puzzle of addiction. The first is that there is no universal solution. Different explanations of why use persists despite negative consequences will be true of different addicted individuals (and even, in some cases, of the same individual at different times in their life). Some of the explanations I have suggested can work in tandem. For example, a person who is prone to temporal discounting may also value drugs because of their unique capacity to relieve suffering given the life circumstances associated with addiction. Yet some are incompatible. For example, a person in denial cannot also consciously embrace the negative consequences of addiction as a form of deliberate self-harm. This heterogeneity is to be expected once addiction is recognized as a puzzle of choice: people make choices that are superficially similar for all sorts of different underlying reasons. In consequence, addiction is a unified construct at a superficial level only: it is defined (in part) by persistent use in the face of negative consequences. At an underlying etiological level, the construct fractures: the nature and explanation of addiction is significantly heterogeneous between individuals.

The second conclusion is that the heterogeneity of addiction must be reflected in how we help individuals who are addicted. To understand why a person is persisting in using drugs despite negative consequences, we need to understand

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what drugs *do* for them and why they are using despite the apparent costs. How you help a person in denial is different from how you help a person who self-identifies as an addict, which, in turn, is different again from how you help a person who is struggling to deal with cravings and limitations of self-control. As a result, to help someone, you need first to build a relationship with them to discover which factors are driving their drug use—something they themselves may not know without serious and sustained self-reflection—and then work together to find ways to address them. Because these factors are highly heterogenous among individuals, so too are the measures that must be taken to support recovery. This, indeed, is the hallmark of good medical practice: it is individually tailored and involves attending to the person as a whole, as well as the wider context in which they live.

The Importance of "a Stake in Conventional Life"

Drug overdose is now the leading cause of unintentional death in the United States, with millions addicted to illicit and prescribed drugs.[64] Many of the actions that we, as a society, could take to help at least some of these people and stop some of these deaths are, in broad outline, already known. They include, for example, free and unconditional access to both medication-assisted and psychological treatment for substance use disorder as well as both medication and psychological treatment for comorbid mental disorders for those with a dual diagnosis; universal availability of harm-reduction interventions; adequate public education not only explaining drug risks but also providing information about safe use; social, educational, and employment opportunities to lift people out of the life circumstances associated with addiction; decriminalization of drug possession; regulation of drug markets; regulation of pharmaceutical companies and their influence on physicians; and education and oversight of physicians with respect to responsible prescribing and weaning practices for all drugs with psychoactive effects and addictive potential. There are, of course, both national and local initiatives under way aimed at implementing some of these actions; equally, there are a range of important questions about prioritization, cost, and the nuts-and-bolts details of effective implementation that need to be addressed. Nonetheless, the gap between what we could do to help and what we are actually doing is chasmal. The pressing question is therefore not simply *what* we should be doing to address drug addiction and drug overdose. The pressing question is, why are we not doing it?

No doubt the answer is extremely complicated and may ultimately prove to be driven in large part by economic forces. But I want to conclude with two speculations. One is that part of the problem is that, notwithstanding the dominance of the brain disease model, we have not repudiated moralism about drugs. Deep down, many may still believe that, whether addiction is a disease or not, drugs are bad and people who use drugs, *addicted or not*, are not worthy of care. As I suggested above, we need to fight moralism directly. But another part of the answer may be that the dominant model of addiction as a neurobiological disease of compulsion focuses attention far too singularly on research in addiction neuroscience and pharmacotherapy.

However important unconditional access to medication-assisted treatment is, the translational results of addiction neuroscience are at present minimal.[65] The most effective pharmacotherapies for opioid use disorder—namely, methadone and buprenorphine treatment—were discovered in the 1960s and 1970s,[66] prior to the development of addiction neuroscience and the dominance of the brain disease model. The most effective treatment for cocaine use disorder is contingency-management treatment,[67] which is based on behavioral conditioning principles. The point is not that there have been no advances in pharmacotherapies due to addiction neuroscience nor that advances will not be made in the future; indeed, a rising interest in social neuroscience cannot but be a source of hope in this regard.[68] But it is far from clear that the intensity of the focus on addiction neuroscience and pharmacotherapy, as promoted by the brain disease model, is proportionate either to its place or to its promise in addressing addiction. People also need what has been called "a stake in conventional life":[69] education, employment, housing, health, family, friends, community, belonging, respect, dignity, purpose, hope, self-worth, a sense of life's promise and possibility—the things that give life meaning and weigh heavily in the balance as a counter to the value of drugs. But all too often, these ordinary yet crucial needs are not what we talk about when we talk about addiction.[70]

1. H. Pickard, "Responsibility without Blame for Addiction," *Neuroethics* 10, no. 1 (2017): 169-80.
2. D. T. Courtwright, "The NIDA Brain Disease Paradigm: History, Resistance and Spinoffs," *BioSocieties* 5, no. 1 (2010): 137-47.

3. A. Leshner, "Addiction Is a Brain Disease, and It Matters," *Science* 278, no. 5335 (1997): 45-47; N. D. Volkow, G. F. Koob, and A. T. McLellan, "Neurobiologic Advances from the Brain Disease Model of Addiction," *New England Journal of Medicine* 374, no. 4 (2016) 363-71.

4. But note that morally condemning people with addiction for their choices to use drugs *prior* to becoming addicted remains an open possibility according to the view of addiction as a neurobiological disease of compulsion.

5. M. J. F. Robinson, T. E. Robinson, and K. C. Berridge, "The Current Status of the Incentive Sensitization Theory of Addiction," in *The Philosophy and Science of Addiction*, ed. H. Pickard and S. H. Ahmed (New York: Routledge, 2018), 351-61; Volkow, Koob, and McLellan, "Neurobiologic Advances from the Brain Disease Model of Addiction"; R. Holton and K. Berridge, "Addiction between Compulsion and Choice," in *Addiction and Self-Control*, ed. N. Levy (Oxford: Oxford University Press, 2013), 239-68. Although proponents of the incentive salience theory of addiction sometimes claim (or imply) that pleasure is lost in addiction (see Robinson, Robinson, and Berridge, "The Current Status of the Incentive"; T. E. Robinson and K. C. Berridge, "The Neural Basis of Drug Craving: An Incentive-Sensitization Theory of Addiction," *Brain Research: Brain Research Reviews* 18, no. 3 (1993) 247-91; Holton and Berridge, "Addiction between Compulsion and Choice"), this is not a requirement of the theory: a dissociation between "wanting" and "liking" is perfectly consistent with the claim that *some* "liking" yet persists.

6. S. C. Reed et al., "Cardiovascular and Subjective Effects of Repeated Smoked Cocaine Administration in Experienced Cocaine Users," *Drug and Alcohol Dependence* 102, no. 1-3 (2009): 102-7; A. S. Ward et al., "Binge Cocaine Self-Administration by Humans: Smoked Cocaine," *Behavioral Pharmacology* 8 (1997): 736-44; R. W. Foltin and M. W. Fischman, "Smoked and Intravenous Cocaine in Humans: Acute Tolerance, Cardiovascular and Subjective Effects," *Journal of Pharmacology and Experimental Therapeutics* 257, no. 1 (1991): 247-61.

7. S. R. Wachtel and H. de Wit, "Subjective and Behavioral Effects of Repeated D-Amphetamine in Humans," *Behavioural Pharmacology* 10, no. 3 (1999): 271-81.

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9. A. C. Small et al., "Tolerance and Sensitization to the Effects of Cocaine Use in Humans: A Retrospective Study of Long-Term Cocaine Users in Philadelphia," *Substance Use & Misuse* 44, no. 13 (2009): 1888-98.

10. Note too that the vast majority of studies investigate cocaine use only. There is some evidence of a similar pattern of persisting but diminishing euphoria with respect to heroin (N. E. Zinberg, *Drug, Set, and Setting: The Basis for Controlled Intoxicant Use* [New Haven, CT: Yale University Press, 1984]; S. Peele, *Love and Addiction* [New York: Signet, 1975]), but it is nevertheless an open question how much a finding from one class of drugs can generalize to others. Of course, quite generally, as tolerance for a class of drugs increases over time, higher doses are required for similar effects; meanwhile, the lore of "chasing the first high" suggests that the intensity of early drug experiences may be relatively unique (A. M. Bornstein and H. Pickard, "'Chasing the First High': Memory Sampling in Drug Choice," *Neurospsychopharmacology* 45 [2020]: 907-15). Anecdotally, my own experience of talking and working with people who are addicted to drugs is that, in general, they enjoy their drug of choice.

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12. Courtwright, "The NIDA Brain Disease Paradigm."

13. C. L. Hart, "Don't Be Fooled by the Euphemistic Language Attesting to a Gentler War on Drugs," in *The Philosophy and Science of Addiction*, ed. H. Pickard and S. H. Ahmed (New York: Routledge, 2018), 511-17.

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21. H. S. Becker, *Outsiders: Studies in the Sociology of Deviance* (New York: Free Press, 1963); Zinberg, *Drug, Set, and Setting*.

22. Müller and Schumann, "Drugs as Instruments."

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Health and Human Services, National Institute on Drug Abuse, 2009, https://www.drugabuse.gov/download/675/principles-drug-addiction-treatment-research-based-guide-third-edition.pdf?v=87ecd1341039d24b0fd616c5589c2095.

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31. Nora Volkow, the director of the National Institute of Drug Abuse, is clear about the explanatory importance of the appeal to compulsion for the neurobiological disease model of addiction: "To explain the devastating changes in behavior of a person who is addicted, such that even the most severe threat of punishment is insufficient to keep them from taking drugs—where they are willing to give up *everything they care for* in order to take a drug—it is not enough to say that addiction is a chronic brain disease. What we mean by that is something very specific and profound: that because of drug use, a person's brain is no longer able to produce something needed for our functioning and that healthy people take for granted, *free will*" ("Addiction is a Disease of Free Will," her blog post based on her inaugural lecture as director, delivered June 12, 2015, and available at National Institute of Drug Abuse, https://www.drugabuse.gov/about-nida/noras-blog/2015/06/addiction-disease-free-will).

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