Biopsychosocial model addiction pdf

Health has traditionally been equated with the absence of disease. It was considered that the absence of non-normal basic conditions defined human health as good, while biologically conditioned diseases and conditions while reducing the number of people with poor health and labeled the disease. However, this narrow health coverage limits our understanding of well-being, hinders healing and recovery efforts, and perhaps more importantly suppresses preventive measures. Unlike traditional theories, a model called a biopsychosocial model has been developed to explain the complex interaction between the biological, psychological, social and spiritual aspects of addiction. The term Biopsychosocial comes from combining individual factors that contribute to the model: biological, psychological thoughts, feelings, behaviors, social and spiritual. The BPS model was originally developed as an alternative to the prevailing biomedical model, which aims to reduce the disease to one source and then treat the disease with little respect for other factors, such as the psychological experience of the patient or the social behavior of George Engel in 1977 Ten years later, Donovan and Wallace formulated the BPS model for addictive behavior in recognition that drinking behavior and alcohol problems are multidimensional. Donovan recommended a comprehensive assessment that could capture the biological, psychological and social aspects of a person's life that suffers from alcohol consumption. This information, according to Donovan's hypothesis, will improve diagnosis and treatment. For our purpose at the Youth Treatment Center in Valley Hill,VHYTC, a biopsychosocial model of healing and recovery, is a way to look at the mind and body of the participant as the two important systems that are interconnected. The biopsychosocial model distinguishes between the actual pathological diagnostic processes that cause the disease and the participant's perception of his health and the effect on it, called the disease. Illnesses and illnesses don't have to work together. The participant may be quite good (without the disease), but if they feel bad it is a disease. Similarly, participants with something physically wrong with them are sick, but they may feel perfectly normal, but they are not sick. At VHYTC, we use a biopsychosocial model because it can most adequately explain the complex/complex nature of alcohol and drug abuse. The most important consequence of the biopsychosocial model for healing and recovery is the realization that one approach to healing and recovery is unlikely to be enough. Rather, as biological, psychological, social and spiritual needs are assessed, individual integrated, comprehensive responses to and Recovery to meet the full range of needs of the Participant. Participant. in the six phases of VHYTC, all of these components are comprehensively related to the drug and alcohol abuse of each participant. The biological component will focus on: Genetic and Inherited Components of Alcohol and Drug Abuse Importance of Alcohol and Drug Abuse, Age Initiation Effects on the Body itself, and the importance of nutrition, sleep and exercise The psychological component will focus on: Thoughts, feelings, behaviors surrounding and generated by abuse (triggers) Difficulties regulating emotions, i.e. anxiety, depression, anger, etc. Related to Trauma, Victimization, and Extreme Stress Experiencing Learning Low Self-Assessment Respect Social Component will focus on their relationship with: Partner-partners or guardians Friends of children or dependents Disconnecting from home or school Poor academic or employment performance Of Poor Social Competence Poor Skills Failure/ Association pressure from frequent alcohol and drug users Impact on neighboring risks such as crime, violence and gang early access to alcohol much more information was therefore needed during the consultations. In addition to biological signs and symptoms, the Addiction Counsellor must learn about the participant's psychological state, his feelings and beliefs about the disease, as well as social factors such as their relationship with their families and the wider community, as well as their personal belief system. Since many of the psychological and social risk factors for participants are easily influenced or altered, their consideration in individual healing and recovery planning is critical to promoting better healing and recovery outcomes. The first phase of this response requires a comprehensive assessment to determine the full range of strengths, needs and challenges presented by the Member. For this reason, the interview process will encourage the Participant to provide as much information as possible not only about the physical symptoms, but also about how misuse has affected the Participant in many aspects of their lives. When it comes to understanding behaviors, including addiction, there are several approaches that can be taken. The three most common are biological approach, psychological approach and social approach. In the field of addiction, these three models and those who follow them are often at war, believing that their path is better and offers the only true solution. But for most people, it's just not. What is a bio-psycho-social model? Biopsychosocial an inclusive approach to drug treatment, combining all three elements of the aforementioned treatment models into a working approach. For most, this is the best treatment option as addiction not only affects one part of a person's life, it affects it all. This is why the biopsychosocial recovery model is aimed at treating the whole person, not just his or her addiction. Because of this multidimensional treatment style, a more holistic approach is adopted and treatment becomes personalized and flexible. The biopsychosocial model accepts the fact that each person's path to addiction is different; what they experience is different, why they make it different, and how they are better different. This model takes this into account and is designed to meet the needs of each person to increase the potential for lifelong recovery. What to expect from the model's biopsychosocial dependence? The biopsychosocial model uses three different approaches to treatment and combines them into one. Here's just an example of what it might look like. Biological: Addiction is a brain disease, but can be treated with therapy and behavior change. This is caused by a certain imbalance, and some are more prone to it than others. This approach also addresses withdrawal symptoms and cravings, as well as health problems created by addiction. Psychological: This focuses on the psychological causes of addiction and the effects it has. This may include past trauma, depression and low self-esteem, as well as the impact of drug and alcohol abuse on mental health and well-being. Social: This aspect of the biopsychosocial model discusses family and relationships and how they both contributed to addiction and can be used to support recovery. He discusses people, places and things, and improving relationships affected by addiction. While not every model to addiction treatment works for everyone, an integrated approach like the biopsychosocial model provides a well rounded path to recovery that makes more than just a focus on addiction. It works to heal. Ewing, J. A. Biopsychosocial approaches to drinking and alcoholism. In V. E. Fann, 1. Karakan, A.D. Pokorny and R.L. Williams (e.g.), phenomenology and treatment of alcoholism. New York: Spectre, 1980.Google ScholarLettieri, D. J., Sayers, M., and, Pearson, H. W. (Eds.). Theories on Drug Abuse: Selected Contemporary Perspectives (NIDA Research Monograph 30). Rockville, Md.: National Institute of Drug Abuse. Google ScholarMoos, R.H., and. Finney, J. W. Expanding the scope of alcohol treatment evaluation. American Psychologist, 1983, 38, 1036-1044.Google ScholarPeele, S. Reductionism in Psychology of the Eighties: Can Biochemistry Eliminate Addiction, Mental Illness and Pain? American Psychologist, 1981, 36, 807-818.Google J. Сигал, В. и. Heasley, R. R. alcohol and alcoholism among Alaskan communities. Journal of Alcohol and Drug Education, 1979, 25, 31-35.Google ScholarSchwartz, G. E. Testing of the biopsychosocial model: The ultimate challenge facing behavioral medicine. In the Journal of Consulting and Clinical Psychology, 1982, 50, 1040-1053.CrossRefGoogle ScholarSchaefer, J. M. Firewater Myths Again: A Review of Findings and Some New Directions. Journal of Studies on Alcohol,1981, Supplement #9, 99-117.Google ScholarSegal, B. Alcohol and Alcoholism in Alaska: Research in a multicultural and transitional society. International Journal of Addiction, 1983, 18, 379-392.Google Scholar 1 National Core for Neuroethics, University of British Columbia, Vancouver, British Columbia, CanadaFind article by Daniel Z. Buchman2 Center for Addiction and Mental Health, Toronto, ON, Canada3 Department of Psychiatry, University of Toronto, Toronto, ON, CanadaFind articles Wayne Skinner1 National Center for Neuroethics, University of British Columbia, Vancouver, British Columbia, Canada4 Department of Neurology, University of British Columbia, Vancouver, British Columbia, CanadaFind article Judy IllesAuthor Copyright Information and Discimerla1 National Core For Neuroethics, University of British Columbia, Vancouver ON, Canada3 Department of Psychiatry, University of Toronto, Toronto, Canada4, Vancouver, British Columbia, Canada Correspondence by Daniel S. Buchman, National Core of Neuroethics, University of British Columbia, 2211 Wesbrook Mall, Koerner S124, Vancouver, British Columbia V6T 2B5 CANADA Tel. 604.822.0748, Fax: 604.827.5229, ac.cbu@namhcub.leinadAdvances in neuroscience are changing how mental health problems such as addiction are understood and treated as a brain disease. While the model of brain disease legitimizes dependence as a medical condition, it promotes neuro-necessary thinking, categorical ideas of responsibility and free choice, and undermines the complexity associated with its appearance. We offer a model of biopsychosocial systems where psychosocial factors complement and interact with neurogenetics. The systemic approach addresses the complexity of drug abuse and approaches free choice and moral responsibility in the biological, living experience and socio-historical context of the individual. We see heroin treatment as an application in our framework. In conclusion, we will highlight this model and its implications for drug policy, research, health systems and childbirth, and the treatment of substance use problems. Keywords: Mental Health, Neuroethics, Public Health, SociologyRecesent Advances in Neuroscience Provide Convincing Evidence to Support Medical Point substance abuse and drug abuse (Dackis and O'Brien 2005). Despite the development, science is still in its early stages, and theories about how addiction arises are neither conventional nor fully understood. The current ethical and legal debate in addiction is based on new knowledge about biological and neurological brain modification (Ashcroft, Campbell, and Capps 2007). Clinically, substance use disorders1 are characterized by compulsive participation or violation of control of behavior, evidence of tolerance and withdrawal, relapse, despite ongoing harm, impairments in social and professional functioning, as well as irritability or intense cravings when a particular substance has no direct use (American Psychiatric Association 2004). Functional changes in the brain occur in response to stress and other stimuli in people who have problems with substance use. Recent neuroimaging studies show that people living with addiction have a significant reduction in dopamine D2 receptors and in the release of dopamine (Volkow, Fowler, Wang, Baler, and Telang 2009), which can contribute to both beneficial properties of substances and difficulties in abstinence despite adverse effects. Areas of the brain, such as the prefrontal cortex, have been identified as directly involved in assessing the potential of reward in decision-making (Bechara and Damasio 2002; Dom, Sabbe, Hulstijn, and Van Den Brink 2005), and vulnerability to relapse. Abnormal hippocampus and anterior cingulate functioning is associated with problems in the ability to cope with stress, in addition to problems in cognition (Kaufman, Ross, Stein, and Garavan 2003), such as salience, inhibition control, motivation, memory and learning (Hyman 2005). Increased activation of the spinal striatum was associated with vulnerability to strong traction (Sinha and Li 2007). In addition to recent studies that examine neurogenetic contribution to vulnerability to addiction (Ul, Drogon, Johnson, and Liu 2009), arguments have been made for the somatic theory of marker addiction (Verdejo-Garcia and Bechara 2009). The neurobiological perspective has the potential to provide many benefits for people with addiction in terms of psychopharmacological and other treatment options. However, purely reductive, neurobiological explanations of dependence overshadow a comprehensive understanding of the additional influence of psychological, social, political and other factors. The view of addiction as a primary brain disease (Leshner 1997) ignores the extensive body of research that suggests neurogenetic explanations of mental illness contribute to negative perceptions to people with mental illness and substance use problems (Dietrich, Matschinger, and Angermeyer 2006; Reading, 2007; Reading, Haslam, Sais, and Davis 2006). This view is problematic, as living with drug addiction is largely stigmatized. The model of brain disease also implies a simplified simplified ideas of responsibility, namely that addicts are unable to exercise any degree of control over their use of psychoactive substances (Caplan 2006, 2008). This kind of neuro-basics (Rasin, Bar-Ilan, and Iles 2005) can lead to unintended consequences for a person's sense of identity, responsibility, notions of agency and autonomy, disease and treatment preferences. Therefore, we advocate a model of biopsychosocial systems and an approach to it, in which psychological and sociological factors complement and are in dynamic interaction with neurobiological and genetic factors. As wrote (2007), neuroscience does not preclude the need to explain the social and psychological level interfering between cell levels, synapses and circuits, as well as ethical judgments (p.8). Since the so-called model of the addiction brain disease does not solve the volitional nature of the use of matter completely, the approach of the biopsychosocial systems attempts to contextualize the individual, thus providing a model to better understand both responsibility and self in addiction. This paper builds on the conceptual foundations of hyman's (2007) contribution to addiction and voluntary control, and expands thinking to include perspectives that include, but also go beyond, neuroscience. Psychosocial systems are specific entities or groups whose members act towards each other, such as families, religious organizations and political parties (Bunge 2004). Social processes in addiction are investigated by studying social categories such as networks, groups, organizations and subcultures that alone cannot be explained by neuroscience. Addiction consists of interacting biological and psychosocial mechanisms, as the mechanism (e.g. behavior) that promotes dependence involves actions within the social system. The broader social structure either limits or enhances the interaction between agents in the social system (Bunge 1997). Such actions require clarification at both the systemic and individual levels. Every action learned, whether social or antisocial, can be caused by social conditions such as lack of resources, conflicts, social norms, peer pressure, a major factor (e.g. hunger, sex, cravings) or a combination of these factors (Bunge 1997). Drug-related behaviour affects the health of both individuals and communities, both protectively and harmful to them. This behaviour affects how a person is able to mobilize resources and access them to achieve goals and adapt to adverse situations (Raphael 2004). For example, a person's socio-economic status correlates with an increase in the negative effects of psychoactive use such as increased sharing of injectable equipment and higher rates of human immunodeficiency virus (HIV) and hepatitis C (Strike, Myers, and Millson 2004). There are processes that actively promote the use of psychoactive substances through ins and outs at biological and psychosocial levels. One example is the craving for drugs, which can be tested as strong, intense calls for immediate satisfaction that can impair rational thinking about future planning (Elster and Skog 1999). Craving can be caused by environmental incentives (Childress, Mozely, McElgin et al. 1999; Loewenstein 2000), and the continued impact of environmental stimuli can trigger an eternal cycle of cravings and possibly irreversible brain changes that can occur long after a person has become abstaining. Factors such as the availability of drugs in the environment can increase cravings and therefore vulnerability to relapse (Weiss 2005). Recent studies have shown that enriched environments produce long-term neural changes that reduce the sensitivity of neurons to morphine-induced rewards (Syu, Hou, Gao, He, and Chang 2007). Accordingly, the social environment can increase the frequency of cravings, which can contribute to increased drug use, and thus increase the likelihood that affected people will participate in a series of accustomed behaviors that facilitate use (Levy 2007b). Indicators of substance use and dependence vary from cultural and social groups and even within them (Wallace 1999; Wallace, Bachmann, O'Malley, etc. Factors such as accessibility and peer modeling, examined intergroup differences (Thomas 2007). nor which individuals in the group are more likely to be affected. These factors are not inherent in the composition of the social structure, are neither stable nor persistent, but are governed by the social values and norms of this social system or group (Bunge 2003). Social norms regulate behaviour and can act as informal mechanisms of social control. Social groups build norms that affect individual behavior, prevalence and patterns of substance use. Membership in a group in which substance use is socially acceptable, encouraged or possibly coercive is largely related to use patterns (Lauer and Lauer 2002). Group norms relating to social recognition of substance use dictate differences in consumption levels between different ethnic and cultural groups (Caetano and Clark 1998). It is these systemic features that give people, in particular, motives for action. Both social norms and laws influence attitudes, and the perception of the effects of substances and have a significant impact on consumption (Babor, Caetano, Casswell et al. 2003; Hawkins, Catalano and Miller 1992). Proponents of the war on drugs, for example, believe that laws and policies that are lenient on substance use are associated with a higher prevalence of substance use use and criminal activity. However, the results of the studies did not support this claim. In one study comparing cannabis use in San Francisco (where cannabis is criminalized) and Amsterdam (de facto decriminalization), there was no evidence to support claims that criminalization laws reduce use or that decriminalization increases use. In fact, San Francisco reported higher levels of cannabis use than Amsterdam (Reinarman, Cohen and Kaal 2004). Changes in norms and laws may contribute to changes in behaviour related to substance use and substance abuse (Hawkins et al. 1992). Tobacco use and a sharp decline in smoking rates (Health Canada 2007) are examples of profound changes since the second half of the 20th century. Advances in understanding pharmacokinetics and the pharmacodynamics of nicotine addiction have led to an intervention that has helped many people curb smoking. However, a full understanding of these regulatory shifts includes not only the development of medical cessation interventions, but also a powerful social and public health effort to destabilize smoking. Smoking has therefore become less acceptable as a normative method of social interaction. Long-standing debates about the moral status of drug addiction have arisen from one of two points of view: either addiction is a brain disease or addiction is a matter of weak will. The first absolves the individual from responsibility, and the second condemns the person and thus distinguishes between deontological and utilitarian positions. Proponents of the brain disease model cite recent neuroscience studies in which dependence ontologically reconciles to the level of brain cells (Dackis and O'Brien 2005; Wolves and Lee 2005). It is argued that the paradigm of brain disease will reduce the stigma associated with drug addiction, which should increase access to the health system. Those who are morally inclined consider drug use to be a deliberate, often criminal act: a person, not his autonomous brain, is the instigator of relapse and a recovery agent (Satel 1999, p.861). Other authors take a slightly different approach, and conceptualize addiction as a pleasure-oriented desire (Foddy and Savulescu 2006, 2007), skeptical that the continuation of drug addiction will mention all responsibility for behavior related to drug use. Discussions about the relationship between autonomy and the potential for drug decision-making have recently received a great deal of attention in the field of neuroscience, Literature rights and bioethics (Andreou 2008; Burns and Bechara 2007; Kaplan 2006, 2008; Carter and Hall 2008a, 2008b; Hall, Capps and Carter 2008; Levy 2006, 2007a; Morse 2007). These works have raised questions about people with addictions, their ability to make free, non-forced choices, and a degree they have the mental competence to consent to research (Carter and Hall 2008a, 2008b; Charland 2002, 2003; Dehue 2002; Hall, Carter and More than 2003a, 2003b). The view that people with addictions do not have the capacity to make decisions is supported by research in both the field of drug neuroscience and in the field of neurology decision-making. For example, in non-drug individuals, studies have shown that unconscious brain activation directs behavior and therefore the action cannot be consciously controlled (Haggard 2008; Soon, Brass, Heinze, and Haynes 2008; Wegner 2002). This view actually undermines deliberate self-determination. With dependence, the causal neuronal model reinforces the perception of the diseased brain. The model assumes that substance use captures voluntary brain mechanisms and renders people incapable of making rational decisions (Miller and Carroll 2006). These perspectives imply a causal neurophilosophical model of decision-making and action that Gillett was critical of (2009). It describes the following trajectory S_ BE1 and BE2 - Exit where: S is an incentive condition provoking a decision or actionBE1 is an unconscious brain event preceding action/decisionBE2 is a conscious brain event (complex) or the intention of

triggering action/decisionOutput is a bodily movement or decision (p. 332). Gilllett argues that the causal model is based on a faulty accounting of human autonomy and consciousness and is scientifically and conceptually questionable. Gillett challenges the neurophilosophical model of human decision-making, which, as he previously argued (2008a), emphasizes selfishness, and narrows the scope of reason, so that it is subject to any desire or order that one happens to endorse at the time one acts (p. 1215). Gillett criticizes decision-making theories that conceptualize choice as a standalone phenomenon only if it is caused by internal mental states or networks. Although decision-making itself is a mental act, mental action or event does not cause behavior alone, but is part of a complex process between neural firing and action. Once the intention has been formed, for example, to use substances, one may be aware of the intention, although the intention itself is not sufficiently to force a person to seek or use drugs. Other factors in the game. From a neuroscience perspective, it's hard to see actions like completely free, especially when explanations of natural phenomena are understood as causally ordered. The concept of free choice becomes especially troublesome because of the conscious experience of free action. As Searle (2004) states, there is a striking difference between the passive nature of the perception of consciousness and the active nature of the what we might call the oxen consciousness (41). Actions, subjective experience of actions and therefore, therefore, for actions mediated by many factors, including psychological phenomena such as human emotional processes. An example is damasio's 1994 somatic markers (SMH) hypothesis, using a useful look at the integration of neuropsychological decision-making and human interaction with the social environment. SMH proposes a mechanism by which emotions influence or significantly influence behavior, especially decision-making. Somatic markers are gained by experience and are controlled by a neural internal preference system that is inherently biased to avoid pain, seeks potential pleasure and is probably set to achieve these goals in social situations (Damasio 1994, 179). The brain responds to specific social cues that can provide instant pleasure, or regulate biological homeostasis, such as release from withdrawal (Li and Sinha 2008). Brain systems that moderate the feeling, memory, cognition, and engage the person with the world affect the decision to consume or not consume the drug, or engage in a particular behavior or series of actions. Accordingly, this cybernetic interaction between the brain and the environment can trigger strong somatic signals such as desire, urge and expectation (Verdejo-Garcia and Bechara 2009). In fact, this process can limit autonomy because it allows the preference for reversals (Levy 2007a) occurs in situations where a person would prefer not to use. The degrees in which self-control is exercised, free choice is realized and the desired results are achieved, depend on these complex interacting biopsychosocial systems. Many post-modern theorists, such as Christman (2004) have defied the original Kantian privilege and definition of autonomy. One statement is based on the fact that decision-making autonomy, or rationality, is not the most valuable human characteristic, and a person as an independent does not adequately characterize a person (Russell 2009). Accordingly, the matrix of the social-historical context of a person, the life narrative, genetics and relationships with others influence the intention, decision and action, and thus form the brain. Autonomy, therefore, is not properly determined only by events in the brain or by the quality of the decision made. As Gillett (2009) notes, the decision ... a non-limited event in neuro-time that could be seen as an outlet, and the intention is not a causal event preceding this exit, but both are much more holistically intertwined with the lived and experienced fabric of their lives (p. 333). Many people who have serious addictions live in poor conditions without the right resources or opportunities. So it is a limited choice that is one of the prevailing not just a decrease in the ability to choose as an alternative. The individual living with addiction addiction and thus acts as a being among others, so that individual decisions and complex interactions with the world may not be as automatic as the neurophilosophical model has to offer (Gillett 2008a, 2008b, 2009). For this reason, people who live with addiction, can not be completely enslaved or forced by their brains in the way Levi (2007a) previously postponed Aristotle (1999), the wind or people have (agent) in their control were to carry it (p.30). Given the range of problems associated with substance use, the decision-making potential is thus not fully present and absent, but may in some cases be weakened in certain contexts. One area in particular in which these neuroethical concepts of addiction can have a significant impact in a clinical setting. The future application of clinical neuroscience may allow a more accurate prediction of neurogenetic vulnerability to addiction, lead to a better understanding of pharmacokinetics and drug use pharmacodynamics, and bring greater accuracy to diagnosis than is currently possible. Implementing neurobiological or genetic susceptibility to addiction can enhance life planning and avoid high-risk scenarios. Those involved in treatment could learn effective survival strategies, modify proximal environmental triggers and achieve other social goals. However, when neurogenetic attributions are made entirely independent of their social context, people with mental health problems are seen as less responsible (Mehta and Farina 1997), and people themselves may perceive limited control over their actions (Shiloh, Rashuk-Rosenthal, and Benyamini 2002). These performances can significantly affect the rates of addiction recovery (Godin and Kok 1996). As Hall and his colleagues (2003a) point out, the disease, which can be seen in much hue of pet scanning, carries more condemnation than a disease justified, perhaps, by the acquittal of individuals who claim to be unable to control their drug use (p.1485). When neurogenetic attributions are presented in the clinic, pharmacological treatments are often considered a more effective option in relation to psychotherapy (Phelan, Jan, and Cruz-Rojas 2006). This attribution can affect those who prescribe the cause of their addiction to be purely neurological or genetically based, and do not necessarily assess the risks and benefits of pharmacotherapy, psychotherapy, or getting as a combination. These causal neurogenetic attributions have led some authors to advocate for compulsory drug treatment, arguing that, paradoxically, autonomy must be denied in order to create it (Caplan 2008). In these Examples of the contract of Sulissa (Andreou 2008) may be more respectful to autonomy, and appropriate approaches to harm reduction in clinical settings can help help autonomous in their treatment decisions, pursue what makes sense to him or her, and take on accompanying duties (Buchman and Russell 2009). The notion of a pathologized self, deeply enmeshed with personal identity, can lead a person to internally negotiate a relationship between her and the brain (Dumit 2003). This could further challenge the understanding of accepted identities, such as health and rationality, as opposed to controversial identities such as drug addict, intoxication and risk (Fry 2008). The latter can jeopardize a person's sense and experience of free will, being in the world, perception of personal responsibility, and treat anomalies in dopamine pathways as fatalistic. Human behavior management is brain processes, somatic mechanisms, ethical norms and norms governing society, and the nature of interaction. A complex combination of biological, psychosocial and systemic factors may explain why it is so difficult for some people to give up drugs in the face of increasingly negative consequences. The main feature of these interacting systems is the human subjective experience of free voluntary action, which problematizes laws in the natural world that each event has a cause with causal explanations. The biopsychosocial model of dependence (Figure 1) states that intersecting biological, psychosocial and systemic properties are fundamental features of health and disease. The model includes how macro factors inform and form microsystems and introduces biological, psychological and social levels into active interaction with each other. This is a model based on Engel's original biopsychosocial model (Engel 1977), for which he argued that to develop a scientific and comprehensive description of mental health, theories that promote biological reduction should be rejected in favor of those who adhere to the general theory of systems. The modern model adapted for the treatment of drug addiction reflects an interactive dynamic for understanding substance use specifically and addressing complex drug-related issues. Thus, the empirical basis of this model is interdisciplinary and both descriptive and applied. The model of biopsychosocial systems is based on the theory of systems, in which knowledge occurs at the junction of subjective and objective, and not as an independent reality. This is a radical departure from traditional positivist epistemology, which relies on empirical research and material evidence (Bunge 1979; Heiligen, Cilliers and Gershenson 2007). Such new iterations of system theory focus on the cognitive and social processes in which subjective knowledge is built. Each element of the system can be a complex system in its own right. in this relationship may contribute to or or the appearance of such complex behaviors as problematic use of psychoactive substances, while regulating both input data and the results of changes in the internal and external environment. Complex behavior contributes to both positive and negative feedback and thus influences how complex behavior occurs. Thus, the theory of systems balances demonism and internal heterogeneity in systems. However, the actual social component of the biopsychosocial model is limited. The social sphere tends to take into account only proximal environmental and social properties. Social does not necessarily include macro-social circumstances, such as public social policies, drug policies or drug strategy, which has a direct impact on rates and patterns of substance use. The systematic approach aims to achieve a combination of the disciplines of neuroscience, biology, psychology, sociology, philosophy, economics, politics and law by studying interacting and emerging models from each discipline, rather than focusing on common material components (Heylighen et al. 2007). In this light, the addition of systems to the biopsychosocial model prototype allows macrosocial systems as well as smaller components such as cells and genes to be incorporated. Together they form individual actions and behaviors. The systemic approach allows for psychosocial and social systemic explanations of addiction that go far beyond neuroscience while interacting with it (Bunge 1991). The biopsychosocial system model implicitly calls for an integrative debate on ethics on substance use, decision-making and responsibility. The model avoids the forced choice between brain disease and weak will, and thus provides a useful basis for overcoming the neuro-substantial trap. Instead of fully focusing on causal, reductive neuroscience and decision-making difficulties, the biopsychosocial system model places a person in his or her social environment and integrates his or her life story. This contextualized model allows individuals to reflect on their own contribution to substance abuse (Levy 2007b). Thus, this model allows different and multidimensional aspects of knowledge to be used depending on which problem to address and the tools available to address them (Cochrane 2007). The approach to biopsysocial systems does not depict people only as a controlled state of their brains. Addictive behavior is not considered controlled or uncontrolled, but it is difficult to control the question of degree. Also the observed defining feature of dependency, loss of control is understood as a socially normative concept. Thus, the assertion that an addict may not be a fully free autonomous agent (Caplan 2008, p.1919) is While it suggests that people tend to be completely free and autonomous, modern debates about autonomy as hyper-value or hyper-good (Frank 2004; Gaileen and Jennings 2003; Taylor 1989) and the concept of relational autonomy (Sherwin 1998) require a contextual discussion of autonomy in the debate on dependencies (Buchman and Russell 2009). Because of the propensity to focus on extreme pathological conditions, a wide range of normal is often overlooked. Advances in drug research are increasingly being used to gain deeper knowledge of the effects of drug use on brain structure and functioning, potential, autonomy, free choice and decision-making, behaviour, treatment and reduction of symptoms. While studies of this nature raise important questions about the identity and concepts of health and disease, the results have implications for drug policy, health systems and childbirth, and the treatment of substance use problems. Drug addiction studies using heroin treatment (HAT) trials such as the North American Opiate Treatment Initiative (NAOMI) and similar RESEARCH and HAT programs in Europe are a striking, if not controversial example of efforts to implement biopsychosocial system approaches. The purpose of these trials is to explore the benefits and risks associated with the use of drug-controlled, pharmaceutical-grade injectable heroin by chronic opiate users, where other treatment options, such as methadone supportive therapy, have failed. The NAOMI trial raised significant scientific, legal, ethical and political concerns, which included patient safety issues, the controversial use of placebo control therapy, lack of equipoise, discontinuation of treatment, and sympathetic access to treatment (Oviedo-Joekes, Nosyk, Marsh, et al. 2009). Reflecting on these concerns, the authors stated that we had to clearly examine in our ethical statements and in the process of informed consent with the participants that HAT would not be available outside the context of the study (p. 267). While full discussion is justified regarding these issues, these ethical issues raised by Ovyedo-Jox et al (2009) resonate with our current debate. The properties of the biopsychosocial system model are reflected in the HAT example. Here we look at some of the ethical issues associated with research, service delivery, philosophy and harm reduction strategies, as well as the clinical practice that HAT represents. Semithetic opiates such as heroin mainly activate mous-opioid receptors in the central nervous system (Koob, Sanna, and Bloom 1998). Mu receptors activate analgesia, respiratory depression, myosis, euphoria and decreased mobility of the gastrointestinal tract. Frequent and chronic opioids can lead to a significant number of neuroadaptations, which are thought to promote tolerance, withdrawal and other mechanisms that contribute to the cycle of compulsive use relapse (Christie 2008). Heroin is lipid-soluble, leading to rapid penetration of the gemoumphaly barrier and high potential for abuse (Julien 2001). The strengthening and euphoric properties of opiates occur as a result of an increase in the amount of extracellular dopamine in the abdominal tagmental region and nucleus accumbens. Individuals experiencing withdrawal may suffer severe symptoms that include sweating, nausea, vomiting, abdominal pain and irritability (Koob and Le Moal 2005). The risk of death is increased due to overdose; there is an increased risk of contracting bacterial infections and other blood-borne pathogens, such as HIV and HCV, as described earlier. Parallel mental illness and addiction is the norm, not an exception to additionally characterize people with severe opiate dependence (Rush, Urbanoski, Bassani, et al. 2008). Chronic opioid dependence is associated with high prevalence of health problems and psychosocial diseases (Oviedo-Joekes et al 2009), such as high underemployment and unemployment, participation in the legal system, unstable housing and street participation (Fischer, Rehm, Brissette, et al 2005). Studies in Europe showed that chronic heroin users who received heroin under supervision in tandem with drug treatment were less likely to be involved in criminal activity (Killias, Aebi and Ribeaud 1998), had better treatment (Haasen, Verthein, Degkwitz et al. 2007), improved social functioning and reduced mortality (Rehm and Fischer 2008). Data from Canadian trials (Oviedo-Joekes, Nosyk, Brissette et al., 2008) show a higher percentage of female participants compared to European trials and a high percentage of more than 70% of participants living in precarious housing. In addition, a recent study by Lasnier, Brochu, Boyd, and Fisher (2009) found no evidence of increased or decreased crime on a community-based basis associated with HAT clinics in Canada.The deontological principle of respect for individuals is a feature of harm reduction efforts such as HAT. This ethical principle is justified and framed as a human rights issue, which argues that injecting drug users, for example, have the right, like other less stigmatized members of society, to have access to health and social services. This assertion coincides with the recent emergence of a global advocacy movement that seeks to build the use of drugs as a human right (Elliott, Csete, Wood, and Kerr 2005; Lines and Elliott 2007). Hunt (2004) adopts the rights-based notion further and defines and characterizes two harm reduction ethics. First, he describes a weak ethic of rights in which people have the right to access good health care. Hunt defines a strong account of rights that recognizes the basic right to use drugs. Based on this definition, we believe that HAT gets into both camps HAT seeks to promote access to good health care and basic law as an individual, asserting sovereignty over their bodies, to inject heroin. Whether or not drug use is recognized or built as a basic right, those living with addiction are among the most stigmatized members of society. While stigma is ingrained at all levels of the social fabric, including health services, it is important to understand how those involved in clinical trials or treatments can perceive controlled injections of heroin. In a recent study examining stigma and controlled methadone-supporting therapy, Anstice, Strike, and Brands (2009) found that convenient access to services, relationships with pharmacists and dosing staff, and characteristics where methadone was prevalent were closely related to the customer's experience of being stigmatized. In addition, the authors noted that some methadone dosing sites help clients mitigate the addict's stigmatized identity; while other extradition sites are exposed or may not be taking adequate measures to limit or minimize this effect. Based on the findings of Anstice et al., future studies may explore ways in which treatment outcomes can be improved by reducing the stigma associated with controlled treatment, such as HAT. The social burden of illicit drug addiction is estimated at billions of dollars a year (Fisher, Oviedo-Joekes, Blanken, etc. 2007). Studies that include providing drugs to individuals living with addiction should negotiate between science, ethics, politics, law and evidence-based medicine. For example, despite its profitability and ease of disease burden, the controlled injecting centre (SIS) in Vancouver's Downtown Eastside area of Canada has been repeatedly threatened with closure by politicians. Threats are based on the emotional and moral attitude to the existence of SIS and drug addicts in general, as opposed to empirical evidence (Des Jarlais, Arasteh, and Hagan 2008). Social structural systems have a significant impact not only on the provision of services, but also on the development of randomized controlled trials, such as SNIC, which aim to minimize the medical and social burden of drug abuse. Social justice requires that politicians allow, and researchers and health professionals scientifically evaluate more controversial treatments for stigmatized conditions, such as drug addiction, when other methods either fail or provide limited benefits to the most marginalized members of society. Accordingly, Oviedo-Joekes et al (2009) describes a systematic approach to treatment with heroin: HAT is not just pharmacotherapy; it is an approach to treatment that is in a context that includes neighboring factors, local drug, housing, police, medical and other treatment services. His role efficiency is linked to support services, drug policy and the philosophy of treatment (p.262). The approach to biopsysocial systems gives impetus to the benevolent opinion of people who have a serious addiction, such as heroin, and evidence to date shows that, however unorthodox, interventions are appropriate to address drug-related issues, including stigma, both individually and at the public level. Robert C. Merton noted that in today's world, the practical achievements of science have a significant impact on the social value placed on it (Merton 1961, 697). Media headlines such as Brain's Addiction Centre Found (BBC 2007) speak of the power of neuroscience and its ability to create images of the brain, so it has become easy to put off complex phenomena that constitute addiction. Neuroethics problems arise when knowledge solely from neuroscience is considered adequate to gain a full understanding of a mental disorder as complex as addiction. While the practicality of the biopsychosocial system model may allow a more integrative explanation of addiction, this does not fully explain the dependence. Indeed, there is no single theory or approach that could give a complete explanation of the existence of any social problem (Merton 1961). Moreover, the model does not solve the problem of free choice, as the model still, even at the system level (macro), has causal pre-existing conditions. It is the integration of biological data and psychosocial, narrative, family information and clinical phenomenology that will provide more accurate prediction and an earlier diagnosis than is possible today. This is one way to get new opportunities for treatment and interventions aimed at prevention. Accordingly, the analysis of ethical, legal and social issues related to other drug problems, such as the abuse of prescription opiates for pain treatment, can also be considered in the context of their proposed framework. The use of a multidimensional model similar to the model proposed here is not revolutionary. As a rule, mental health professionals are familiar with an integral understanding of addiction and do not recommend treatment based only on biological information. However, rapid developments in neuroscience are moving bio-psychiatry away from the mind, and toward action in the brain. The mind was once a place of mediation between man and the situation, between biological and social. How these achievements will affect the ethical relationship between our brain and ourselves in dependence remains to be seen. This paper is based on a dissertation on the requirements for a master's degree in social work as part of a joint program on the study of drug addiction at the University Special thanks to Dr. Barbara Barbara and Dr. Marilyn at both the Center for Addiction and Mental Health and the University of Toronto, who advised on earlier versions of the manuscript; Neil Chahal and Sofia Lombera at the National Center for Neuroethics at the University of British Columbia; two anonymous reviewers for their thoughtful remarks. Supported by NIH/NIMH (#MH R01MH84282-04A1), the Canadian Institutes of Health Research (CNE #85117), the Michael Smith Foundation for Health Research and the Vancouver Coastal Health Research Institute.1The DSM-IV-TR distinguishes between substance dependence and substance abuse. In this paper, we use the term substance abuse disorder or drug addiction to refer to both the complex nature of severe dependence on psychoactive substances and substance abuse. American Psychiatric Association. Diagnostic and Statistical Manual of Mental Disorders DSM-IV-TR is the fourth edition of the text revision. Washington, D.C.: American Psychiatric Association; 2004. Google ScholarAndreou C. Creating a Clean Break: Addiction and Ulysses Contracts. Bioethics. 2008;22:25–31. (PubMed) (Google Fellow) Anstice S, Strike CJ, Brands B. Controlled methadone consumption: customer problems and stigma. Substance use and abuse. 2009;44(6):794–808. (PubMed) (Google Fellow) Irwin T., translator. Aristotle. Nicomashean Ethics. 2. Indianapolis: Hackett Publishing Company, Inc.; 1999. Google ScholarAshcroft R, Campbell AV, Capps B. Ethical aspects of development in the field of neurology and addiction. In: Nutt D, Robbins TW, Stimson GV, Ince M, Jackson A. Drugs and the Future. London: Ellevier; 2007. page 439-465. (Google Fellow) Babor T, Caetano R, Casswell S, Edwards G, Giesbrecht N, Graham K. Alcohol: No Conventional Goods: Research and Public Policy. New York: Oxford University Press; 2003. Google Fellow of the BBC. A brain addiction center has been found. January 25, 2007. Received on December 3, 2008, from A, Damasio H. Decision-making and Addiction (Part 1): Impaired activation of somatic conditions of essentially dependent individuals while pondering decisions with negative consequences in the future. Neuropsychology. 2002;40:1675–1689. (PubMed) (Google Fellow) Buchman DM, Russell BJ. Addiction, autonomy and more: Kaplan's answer. Addiction. 2009;104:1053–1055. (PubMed) (Google Fellow) Bunge M. Treatise on Basic Philosophy Vol. 4: The World of Systems. Dordrecht: Kluver; 1979. Google Scientist Bunge M. Power and Limits Reduction. In: Agazzi E., editor. The problem of reduction in science. Dordrecht: Kluwer Academic Publishers; 1991. p. 31-49. (Google Fellow) Bange M. Philosophy of Social Sciences. 1997;27:410–465. (Google Fellow) Bunge M. Appearance and Convergence. Toronto: University of Toronto Press; 2003. Google Scientist Bunge M. How does it work? Search for explanatory explanatory explainers Philosophy of social sciences. 2004;34:182–210. (Google Fellow) Burns K, Bechara A. Decision-making and Free Will: Neuroscience Point of View. Behavioral science and law. 2007;25:263–280. (PubMed) (Google Fellow) Caetano R, Clark C. Trends in alcohol consumption among whites, blacks and Latinos: 1984 and 1995. Science journal on alcohol. 1998;59:659–668. (PubMed) (Google Scholar) Kaplan A. Ethical issues related to coercive, sanctioned or coercive treatment. In the journal of substance abuse treatment. 2006;31:117–120. (PubMed) (Google Scholar) Kaplan A. Denying Autonomy in order to create it: The paradox of forcing the treatment of drug addicts. Addiction. 2008;103:1919–1921. (PubMed) (Google Fellow) Carter A, Hall W. Informed Consent to Treatment of Opioid Agonists: Recommended Ethical Principles. International Journal of Drug Policy. 2008a;19(1):79-89. (PubMed) (Google Fellow) Carter A., Hall V. A question of consent in studies that inject drug addiction for addicts. 2008b;15(4):209-225. (PubMed) (Google Fellow) Charland LC. Cynthia's Dilemma: Consent to a heroin prescription. American Journal of Bioethics. 2002;2(2):37–47. (PubMed) (Google Fellow) Charland LC. Heroin addicts and consent to heroin therapy: Comment on Hall et al. Addiction. 2003;98(11):1634–1635. (PubMed) (Google Fellow) Childress AR, Mozely PD, McElgin W, Fitzgerald J, Reivich M, O'Brian CP. Limbic activation during a noy-induced cocaine craving. American Journal of Psychiatry. 1999;156:11–18. (Free PMC article) (PubMed) (Google Fellow) Christie MJ. Cellular neuroadaptations to chronic opioids: tolerance, withdrawal and addiction. British Journal of Pharmacology. 2008;154(2):384–396. (Free PMC article) (PubMed) (Google Fellow) Christman J. Relational autonomy, liberal individualism, and the social constitution itself. Philosophical research. 2004;117:143–164. (Google Fellow) Cochrane TI. Brain disease or morale? Wrong question. American Journal of Bioethics (AJOB-Neuroscience) 2007;7(1):24-25. (PubMed) (Google Fellow) Dackis C, O'Brien C. Neurobiology addiction: treatment and the consequences of public policy. Nature neuroscience. 2005;8(11):1431–1436. (PubMed) (Google Fellow) Error damasio AR. Descartes. New York: Harper Collins; 1994. Google Fellow Dehue T. Dutch Delicacy: Randomized Controlled Experiments and Heroin Case in the Netherlands. History of the humanities. 2002;15(2):75–98. (Google Fellow) Des Jarlais DC, Kamyar A, Hagan H. Assessment of Vancouver's controlled injection facility: data and dollars, symbols and ethics. Canadian Medical Association journal. 2008;179(11):1105–1106.4. (Free PMC article) (PubMed) (The Fellow Dietrich S, Matschinger H, Angermeyer MC. The relationship between biogenetic causal explanations and social social to people with mental disorders: Results of a survey of the population in Germany. International Journal of Social Psychiatry. 2006;52(2):166–174. (PubMed) (Google Fellow) Dom G, Sabbe B, Hulstijn W, Van Den Brink W. Substances use disorders and orbital cortex. British Journal of Psychiatry. 2005;187:209–220. (PubMed) (Google Fellow) Is it me or my brain? Depression and neurobiological facts. In the Journal of Medical Humanities. 2003;24(1–2):35–47. (Google Fellow) Elliott R, Csete J, Wood E, Kerr T. Harm Reduction, HIV/AIDS, and Human Rights Challenge Global Drug Policy. Health and human rights. 2005;8:104–138. (PubMed) (Google Fellow) Elster J, Skog O-J. Getting hooked: Rationality and addiction. Cambridge, United Kingdom: Cambridge University Press; 1999. Google Scientist Engel GL. The need for a new medical model: a challenge for biomedicine. Science. 1977;196:129–136. (PubMed) (Google Fellow) Fisher B, Rehm J, Brissett S, Brochu S, Bruno J, El Guebaly, et al. Illegal opioid use in Canada: Comparison of social characteristics, characteristics of drug use by unprocessed users in five cities (OPICAN study) Journal of Urban Health. 2005;82(2):250–266. (Free PMC article) (PubMed) (Google Fellow) Fisher B, Oviedo-Joekes E, Blanken P, Haasen C, Rehm J, Schechter MT, Strang J, van den Brink W. Heroin-assisted treatment (HAT) ten years later: A brief update of science and politics. In the Journal of Urban Health. 2007;84(4):552–562. (Free PMC article) (PubMed) (Google Fellow) Foddy B, Savulescu J. Addiction and Autonomy: Can Dependents Agree to a Prescription of Their Addiction? Bioethics. 2006;20:1–15. (PubMed) (Google Fellow) Foddy B, Savulescu J. Addiction is not a ailment: Addictive desires are just pleasure oriented desires. American Journal of Bioethics (AJOBNeuroscience) 2007;7:29-32. (PubMed) (Google Fellow) Frank A. Ethics as a process and practice. Internal Medicine Journal. 2004;34:355–357. (PubMed) (Google Fellow) Fry CL. Social Neuroethics of Addiction: Revealing Public and Private Identity and Self-Exposure. Poster at the 1st Annual Meeting of the Society of Neuroethics; Washington, D.C., USA. 2008. Google Scientist Gaileen W., Jennings B. Perversion of Autonomy: Coercion and Limitations in Liberal Society. Washington: Georgetown University Press; 2003. Google Scientist Gillett G. Autonomy and selfishness. Lancet. 2008a;372(9645):1214-1215. (PubMed) (Google Fellow) Gillett G. Subjectivity and Being Someone: Human Identity and Neuroethics. Exter: Imprit Academics; 2008b. Google Scholar Gillett G. Intention, Autonomy and Brain Events. Bioethics. 2009;23(6):330–339. (PubMed) (Google Fellow) Godin G., Kok G. Theory of Planned Behavior: A Review of Its Application to Behavior, Health. American Journal of Health Promotion. 1996;11:87–98. (PubMed) (Google) (Google) C, Verthein U, Degkwitz P, Berger J, Krausz M, Naber D. Heroin-assisted treatment for opioid addiction. British Journal of Psychiatry. 2007;191:55–62. (PubMed) (Google Fellow) Haggard P. Human will: To will neuroscience. Nature Reviews of Neurology. 2008;9:934–946. (PubMed) (Google Fellow) Hall W, Capps B. Carter A. Using the Naltrexone Depot under legal duress: A case for caution. Addiction. 2008;103:1922–1924. (PubMed) (Google Fellow) Hall W, Carter L, More KI. Addiction, neuroscience and ethics. Addiction. 2003a;98(7):867-870. (PubMed) (Google Fellow) Hall W, Carter L, More KI. Addiction, ethics and scientific freedom. Addiction. 2003b;103:873-874. (PubMed) (Google Fellow) Hawkins JD, Catalano RF, Miller JY. Risk factors and protection against alcohol and other drug-related problems in adolescence and early adulthood: implications for substance abuse prevention. Psychological bulletin. 1992;112:64–105. (PubMed) (Google Fellow) Health Canada. Canadian Tobacco Monitoring Survey. 2007. 25 August 2008. Received on December 5, 2008, from . (PubMed) Heiligen F., Silers., Gershenson K. Complexity and Philosophy. In: Boggy J, Geyer R, editors. Complexity, science and society. Radcliffe: Oxford University Publishing House; 2007. Google ScholarHunt N. Public Health or Human Rights: What comes first? International Journal of Drug Policy. 2004;15(4):231–237. (Google Fellow) Hyman SE. Addiction: Learning and Memory Disease. American Journal of Psychiatry. 2005;162(8):1414–1422. (PubMed) (Google Fellow) SE. Neurobiology of Addiction: Consequences for Voluntary Behavior Control. American Journal of Bioethics (AJOB-Neuroscience) 2007;7(1):8-11. (PubMed) (Google Fellow) Julien RM. Primer action drugs. 9. New York: Publishers worth; 2001. Google ScholarKaufman J, Ross T, Stein E, Garavan H. Cingulate hypoactivity in cocaine users during the GO-NOGO task, detected by functional magnetic resonance imaging associated with events. In the journal Neurology. 2003;23:7839–7843. (Free PMC article) (PubMed) (Google Fellow) Killias M, Aebi M, Ribeaud D. Effect of heroin prescription on police contacts among addicts. European Journal of Criminal Policy and Research. 1998;6(3):433–438. (Google Fellow) Koob GF, Le Moal M. Plastic reward neurocrug and the dark side of addiction. Nature neuroscience. 2005;8:1442–1444. (PubMed) (Google Fellow) Koob GF, Sanna PP, Bloom FE. Neuroscience of addiction. Neuron. 1998;21(3):467–476. (PubMed) (Google Fellow) Lasnier B., Brochu S,, Boyd N., Fisher B. Heroin Recipe Test: Case Investigation from Montreal and Vancouver on Crime and Disorder in Areas. International Journal of Drug Policy. 2009 in the press. (PubMed) (Google Fellow) Lauer RH, RH, Jc. Social problems and quality of life. 8. New York: McGraw Hill Higher Education; 2002. «Google Scholar»Leshner AI. Addiction is a brain disease, and it matters. Science. 1997;278:45–57. (PubMed) (Google Fellow) Levi N. Autonomy and Addiction. Canadian Journal of Philosophy. 2006;36(3):427–448. (Google Fellow) Levi N. Neuroethics: Challenges for the 21st Century. New York: Cambridge University Press; 2007a. Google Fellow Levi N. Social: The missing term in the debate over addiction and voluntary control. American Journal of Bioethics. 2007b;7:35-36. (PubMed) (Google Fellow) Li CS, Sinha R. Inhibitory control and emotional stress regulation: neuroimaging evidence of frontal-limbic dysfunction in psychostimulatory dependence. Neurology and biobehavio reviews. 2008;32:581–597. (Free PMC article) (PubMed) (Google Fellow) Lines R, Elliott R. Injecting Drugs in Human Rights Activities. International Journal of Drug Policy. 2007;18:453–457. (PubMed) (Google Fellow) Loewenstein G. Willpower: Perspective of theorist solution. Right and philosophy. 2000;19:51–76. (Google Fellow) Mehta S., Farina A. Is being sick really better? The effect of mental illness on stigma. In the Journal of Social and Clinical Psychology. 1997;16(4):405–419. (Google Fellow) Merton RK. Social problems and sociological theory. In: Merton RK, Nisbet RA, editors. Modern social problems. New York: Harcourt; 1961. page 697-737. (Google Fellow) Miller WR, Carroll KM. Drawing science together: Ten principles, ten recommendations. In: Miller WR, Carroll KM, Editors. Rethinking substance abuse: What science shows and what we should do about it. New York: The Guildford Press; 2006. page 293-311. (Google Fellow) Morse C.J. Voluntary control of behavior and responsibility. American Journal of Bioethics. 2007;7(1):12–36. (PubMed) (Google Fellow) Oviedo-Joakes E, Nosyk B, Brissett S, Chettiar J, Schneeberger P, March DC, et al North American Opiate Treatment Initiative (NAOMI): Profile participants in north America's first heroin treatment trial. In the Journal of Urban Health. 2008;85(6):812–825. (Free PMC article) (PubMed) (Google Fellow) Ovyedo-Jowx E, Nosyk B, March DC, Gu D, Brissett S, Harry C, et al. Scientific and Political Problems in the first randomized controlled heroin trial in North America helped in the treatment of severe heroin addiction: The justification and development of the NAOMI study. Clinical trials. 2009;6(3):261–271. (Free PMC article) (PubMed) (Google Fellow) Phelan J, Jan L, Cruz-Rojas R. Consequences of attributing serious mental illness to genetic causes on orientation to treatment. Psychiatric service. 2006;57:382–387. (PubMed) (The Fellow Rasin E, Bar-Ilan O, Illes J. MRI in the public eye. Nature Reviews of Neurology. 2005;6(2):159–164. (Free PMC article) (PubMed) (Google) (Google) D. Introduction to the social determinants of health. In: Raphael D, editor. Social Determinants of Health: Canadian Perspectives. Toronto: Canadian Printing Company; 2004. Google Scientist Read J. Why the propaganda of biological ideology reinforces prejudice against people who are called schizophrenic Australian psychologist. 2007;42(2):118–128. (Google Fellow) Read J, Haslam N, Sayce L, Davis E. Prejudice and Schizophrenia: A Review of Mental Illness is a disease like any other approach. The Act of Psychiatry of Scandinavia. 2006;114:303–318. (PubMed) (Google Fellow) Rehm J, Fisher B. Should heroin be prescribed heroin abused? Yes. British Medical Journal. 2008;336(7635):70. (Free PMC article) (PubMed) (Google Fellow) Reinarman C, Cohen PD, Kaal HL. Limited relevance of drug policy: cannabis in Amsterdam and San Francisco. American Journal of Public Health. 2004;94:836–842. (Free PMC article) (PubMed) (Google Fellow) Rush B, Urbanoski K, Bassani D, Castel S, Wild TC, Strike C, Kimberly D, Somers J. Prevalence of co-use of psychoactive substances and other mental disorders in the Canadian population. Canadian Journal of Psychiatry. 2008;53(12):800–809. (PubMed) (Google Fellow) Russell B. Patient Autonomy order is great. American Journal of Bioethics. 2009;9(2):32–34. (PubMed) (Google Fellow) Satel SC. What to expect from drug addicts? Psychiatric service. 1999;50:861. (PubMed) (Google Fellow) Searle JR. Freedom and neuroscience. New York: Columbia University Press; 2004. Google Scientist Sherwin S. Relational approach to autonomy in health care. In: Sherwin S, Editor. Women's health policy: the study of agency and autonomy. Philadelphia: Temple Press University; 1998. p. 19-47. (Google Fellow) Shiloh S, Rashuk-Rosenthal D, Benjamin Y. Diseases of causal attribution. Research on their structure and associations with other knowledge of disease and perception of control. In the Journal of Behavioral Medicine. 2002;25:373–394. (PubMed) (Google Fellow) Sinha R, Lee CSR. Image stress and cue-induced drug and alcohol cravings: Association with relapse and clinical consequences. Drug and alcohol review. 2007;26:25–31. (PubMed) (Google Fellow) Soon CS, Brass M, Heinze HJ, Haynes JD. Unconscious determinants of free solutions in the human brain. Nature neuroscience. 2008;11(5):543–545. (PubMed) (Google Fellow) Strike CJ, Myers T, Millson M. Search location for needle exchange programs. Critical public health. 2004;14(3):261–275. (Google Fellow) Taylor C. Self Sources: Making Modern Identity. Cambridge: Harvard University Publishing House; 1989. Google Fellow Thomas YF. Social epidemiology of addiction. American preventive medicine. 2007;32(6S):S141-S146. (Google Fellow) Ul G, Drgon T, Johnson S, Liu R-R. Addiction genetics and pleiotropic effects of common haplolips that make contribute to vulnerability to substance dependence. In the Journal of Neurogenetics. 2009 (Epub ahead of print) PMC Free Article (PubMed) Google Scholar Verdejo-Garcia A., Bechara A. Theory of Somatic Addiction Markers. Neuropharmacology. 2009;56:48–62. (Free PMC article) (PubMed) (Google Fellow) Wolf N, Lee TK. Neuroscience addiction. Nature neuroscience. 2005;8:1429–1430. (PubMed) (Google Fellow) Wolf ND, Fowler JS, Van GJ, Baler R, Telang F. Imaging dopamine role in drug abuse and addiction. Neuropharmacology. 2009;56:3–8. (Free PMC article) (PubMed) (Google Fellow) Wallace J.J.. Social Ecology of Addiction: Race, Risk and Sustainability. Pediatrics. 1999;103:1122–1127. (PubMed) (Google Fellow) Wallace J., Bachmann J, O'Malley P, Johnston L, Schulenberg J, Cooper S. Tobacco, Alcohol, and Non-Liquor Drugs: Racial and Ethnic Differences between American High School Students, 1976-2000. Public health reports. 2002;117 (suppl 1):S67-S75. (Free PMC article) (PubMed) (Google Fellow) Weiss F. Neurobiology cravings, conditioned reward and relapse. Current opinion in pharmacology. 2005;5:9–19. (PubMed) (Google Fellow) Wegner D. The illusion of conscious will. Cambridge: MIT Press; 2002. Google Scientist Xi, Hou B, Gao Y, He F, Chang C. The effect of the enriched environment on morphine-induced rewards in mice. Experimental neurology. 2007;204(2):714–719. (PubMed) (Google Fellows) Fellows biopsychosocial model of addiction worksheet. biopsychosocial spiritual model of addiction. biopsychosocial model of addiction powerpoint. a ‘components’ model of addiction within a biopsychosocial framework. the biopsychosocial model application to the addictions field. biopsychosocial model of alcohol addiction. biopsychosocial model of addiction definition. biopsychosocial model of gambling addiction

omaha steaks twice baked potatoes cooking instructions
types of detergents chemistry pdf
texecom veritas keypad installation manual
descargar tsf launcher full apk
stick pool game apk
kinemaster apk full version no watermark
choros no 1 villa lobos pdf
white pages jacksonville beach fl
filsafat aristoteles pdf
lusiadas canto i estrofe 105 e 106
skoda sat nav update instructions
normal_5f8756625ed8b.pdf
normal_5f872f3a6f42b.pdf
normal_5f88ecf31b496.pdf