

# The Harms of Constructing Addiction as a Chronic, Relapsing Brain Disease

Anne K. Lie, MD, PhD, Helena Hansen, MD, PhD, David Herzberg, PhD, Alex Mold, PhD, Marie Jauffret-Roustide, PhD, Isa Dussauge, PhD, Samuel K. Roberts, PhD, Jeremy Greene, MD, PhD, and Nancy Campbell, PhD

## ABOUT THE AUTHORS

Anne K. Lie and Isa Dussauge are with the Department of Community Medicine and Global Health, University of Oslo, Norway. Helena Hansen is with the Department of Psychiatry and with Research Theme in Health Equity and Translational Social Science, David Geffen School of Medicine, University of California, Los Angeles. David Herzberg is with the Department of History, University at Buffalo, State University of New York. Alex Mold is with the Centre for History in Public Health, London School of Hygiene and Tropical Medicine, London, United Kingdom. Marie Jauffret-Roustide is with the Center for the Study of Social Movements (CNRS UMR 8044/INSERM U1276/EHESS) in Paris, France and with the Baldy Center for Law and Social Policy, University at Buffalo. Samuel K. Roberts is with the Departments of History and Sociomedical Sciences, Columbia University, New York, NY. Jeremy Greene is with the Department of the History of Medicine and the Center for Medical Humanities and Social Medicine at Johns Hopkins University School of Medicine, Baltimore, MD. Nancy Campbell is with the Department of Science and Technology Studies, Rensselaer Polytechnic Institute, Troy, NY. Helena Hansen and Marie Jauffret-Roustide are also Guest Editors of this supplement issue.

As an international network of historians and social scientists who study approaches to the management of drugs across time and place, we have noticed the effort to redefine addiction as a chronic, relapsing brain disease (CRBD). The CRBD model is promoted as a route to destigmatize addiction and to empower individuals to access treatment that works within that model's terms.<sup>1</sup> CRBD usefully recognizes that brain-based neural adaptations place individual brains in chronic states of readiness to relapse. But brains are housed inside of people. Substance use is biological, social, and political; our concepts and approaches to complex questions surrounding substance use must be, too.<sup>2,3</sup> By

overlooking the sociopolitical dynamics and inequalities bound up with substance use, the CRBD model can paradoxically further marginalize people who use drugs by positing them as neurobiologically incapable of agency or choice. We are concerned that the CRBD model paints drug users as individuals whose exclusion from social, economic, and political participation is justified by their biological flaws and damaged brains.

This view of people who use drugs has resulted in special emphasis on medications developed to limit propensity to relapse and to manage the neurophysiological elements of problem substance use. Although medications can be empowering to people with

problem substance use and can enhance social, economic, and political participation, they do not always or necessarily do so. The social and political contexts within which a biomedical model such as the CRBD model is implemented matter, but the model is not designed to address such contexts or questions of justice. In this editorial, we explore prospects of doing better by comparing US policies with a brief historical survey of Western European countries that have adopted medications for problem substance use while remaining skeptical of or agnostic toward the CRBD model. These examples show that the CRBD model is not the only or best way to fight stigma and provide treatment. Policies in these countries provide support and push back against stigma in a range of ways, the most effective of which incorporate aspects of harm reduction. We can learn from these successes and continuing challenges as we work to achieve effective policies in the United States.

We believe that a historical and socially rooted analysis offers an especially powerful lens to reassess the CRBD model's value and implications.<sup>4,5</sup> Our goal is not to show that the model is wrong but that it is wrongheaded—incomplete in ways that carry risks as well as benefits.

## FRAMING ADDICTION AS A CHRONIC, RELAPSING BRAIN DISEASE

The CRBD model rests on the idea that addiction is a brain disease. This idea first emerged in the United States during the late 1990s, building on a mid-20th century concept that the condition was best treated as chronic and relapsing.<sup>6</sup> Alan Leshner, then

the director of the National Institute on Drug Abuse, asserted that “the addicted brain is distinctly different from the nonaddicted brain.”<sup>7(p46)</sup> The “scientific advancement” of neuroimaging, Leshner and others argued, could be used to dispel “popular and clinical myths about drug abuse and addiction and what to do about them.”<sup>8(p1)</sup>

The supposedly new CRBD model recycles disease concepts that have mixed medical and moral concerns since the 18th century.<sup>9</sup> Disease models have been used to support a range of policy approaches from strict prohibition, to compulsory treatment or “civil commitment,” to medical maintenance, to incarceration. In them, addiction has been both criminalized and medicalized; addicts were labeled as sick individuals yet also punished for bad behavior as deviants.

Treatment programs often contained punitive elements, including coercive detoxification. During the 1960s and 1970s, residential therapeutic communities in the United Kingdom and the United States meted out punishments, such as the shaving of heads, to members who transgressed.<sup>10</sup> Medication-assisted treatment was introduced to reduce crime and increase capacity for regular employment. Treatment was focused not primarily on improving the health and well-being of people who use drugs but on controlling the “contagion” of a “social disease” in “special” populations seen as vulnerable by virtue of social class, race, age, or sex.

Despite the hopes placed on the new CRBD model, this heritage has not been erased by redefining addiction as a chronic disease located in the brain.<sup>11</sup> On the contrary, the brutal social inequalities of US responses to drug-related harms have persisted or even worsened.

The Decade of the Brain of the 1990s shifted thinking about problem substance use to the molecular level—a shift that helped pave the way for preparing the Food and Drug Administration to believe the manufacturer’s claims that the extended-release capsule of OxyContin (Purdue Pharma, Stamford, CT) rendered it minimally addictive. Regulators dismissed the social inventiveness of the capsule’s users, who circumvented this technological fix by cracking open the extended-release capsule to snort or inject the contents. This oversight left White communities especially vulnerable to new hypermarketed opioids, thanks to the class- and race-segregated structure of American pharmaceutical markets.<sup>12</sup> As authorities began responding to the crisis, the CRBD model diverted attention away from the social inequalities that are integral to problem substance use. Market segregation provided relatively privileged White Americans with access to private office-based physicians who prescribed them buprenorphine while often excluding lower-income people of color who lacked medical access and against whom punitive drug law enforcement continued.<sup>13</sup> White Americans are three to four times as likely to receive private office-based buprenorphine as Black Americans.<sup>14</sup> Fewer resources have been devoted to reaching groups with rising overdose rates that are marginalized by race, class, sex, migration status, or sexual orientation,<sup>15</sup> with catastrophic results: Black and Native American overdose rates are now higher than those of White Americans.<sup>16</sup>

Prioritization of pharmacological treatment has also diverted attention away from the repressive drug policies fueling mass incarceration since the 1970s. Today, Black men are six times as likely to be incarcerated as White

men and are more likely to be sentenced on drug-related charges; the United States has the highest percentage of its population in jails and prisons of any country in the world.<sup>17</sup> Meanwhile, harm reduction measures, including syringe exchange, naloxone access, and medically supervised drug consumption rooms, remain illegal in more than half of the US states.<sup>18</sup>

Expanding access to addiction medications without inclusive social policies and harm reduction has not been enough to prevent or stem America’s opioid crisis. Opioid-related mortality has continued to rise exponentially among Americans of all races since the Decade of the Brain.<sup>19</sup>

## ALTERNATE FRAME: HARM REDUCTION AND SOCIAL JUSTICE

There are other ways of framing and responding to substance use. The most promising of these is harm reduction, a 50-year-old social movement mounted against repressive drug policies. Rather than centering on the brain and embracing abstinence as a goal, harm reduction prioritizes the health and social inclusion of people who use drugs. Harm reduction organizations see medications as tools that can help people manage health risks without ignoring their needs for pleasure, self-worth, care, and comfort. People who use drugs navigate drug markets divided into licit “white markets” for pharmaceutical products supplied via medical gatekeepers<sup>12</sup> and prohibition markets supplied by illicit organizations. Prohibition markets can be deadly because they have no consumer protections, so harm reductionists advocate safe consumption rooms and safe supply policies that involve pharmacy-

based dispensing, drug regulation, and decriminalization or legalization based on local political and economic conditions.

Harm reduction centers on social justice by drawing attention to systemic problems people are asked to manage individually—including effects of poverty and inequality; unjust access to housing, medical care, and human rights; and structural violence and trauma. How can such problems be addressed without full participation of people directly affected by them? Consumers resist the coercive and often punitive ways in which medications for addiction have been deployed. Harm reduction links the biological to the social without prioritizing one over the other. This alternate framing has its passionate advocates in the United States, and some gains have been made amid rising opioid overdose deaths. Yet, compared with Europe and the United Kingdom, where public health systems absorbed this approach much earlier, harm reduction advocates in the United States have made relatively little headway against the institutional dominance of the CRBD model. It is worth surveying experiences in Europe and the United Kingdom to expand awareness of the many ways that pharmaceutical supports can be made available through approaches other than the CRBD model.

## UNEVEN PROGRESS: HARM REDUCTION IN EUROPE

Opioid maintenance gained momentum in policy and practice in the United Kingdom not from a brain disease philosophy but rather as part of early harm reduction policy. Efforts to reduce harms associated with drug use in the

United Kingdom can be traced back to the 1920s, when opioid maintenance prescription was permitted under certain circumstances for some users. In the 1960s and 1970s, reducing harms associated with drug use was central to establishment of voluntary organizations providing services for drug users.<sup>20</sup> The appearance of HIV/AIDS pushed harm reduction to the forefront when it became clear that HIV was spread through use of shared injecting equipment. Doctors and policymakers reexamined the place of opioid maintenance prescription as a harm reduction measure, embedding it into clinical care and policy. Syringe exchange and more liberal prescribing attracted users to treatment services and facilitated change away from risky practices.<sup>21</sup> Such measures had little to do with the CRBD model. Rather, they had a social mission of reducing harms to the wider community—more so, in fact, than reducing harm for drug users themselves. Unless driven by grassroots activism, harm reduction can be directed by motivations other than justice and liberation.

By contrast with the United Kingdom, Norway had restrictive drug policies. From the 1970s, problematic drug use was seen as socially generated and to be prevented and treated by social and pedagogical means.<sup>22</sup> Although dominant public discourse until the late 1990s resisted opioid maintenance as giving up on drug users,<sup>23</sup> physicians began in the 1980s to advocate new prescribing- and harm reduction-based programs.<sup>24</sup> Safe injection practices and free syringe distribution were promoted by physicians and social workers in the context of HIV prevention programs run in collaboration with active users who introduced peer education on safe drug use.<sup>25</sup> A small medically assisted rehabilitation pilot for people who use drugs with advanced

AIDS was introduced. Confronted with an alarming increase of overdose rates in the 1990s, the first permanent opioid agonist program was introduced in 1997. The program, from 2001 called “drug assisted rehabilitation,” included social, psychological, and pedagogical support as well as pharmaceuticals. Drug dependence was conceptualized as a truly biopsychosocial condition—a considerable shift in Norway’s social and cultural climate. Initially, the program had strict inclusion criteria to prevent “leakage” to the illegal market. Strict control was often in tension with drug user agency in a context where harm reduction practices were implemented without social justice as a primary goal.

In France, an abstinence-based model dominated from the 1970s until the mid-1990s. There, addiction was understood in psychoanalytic terms, with psychoanalysis and abstinence as the only possible solutions.<sup>26</sup> But by the end of the 1980s, as in the United Kingdom and Norway, the AIDS epidemic motivated a shift toward harm reduction measures just as a neurobiological and cognitive behavioral paradigm replaced the psychoanalytic paradigm. The scientific concept of addiction soon became a political category, allowing professional and political actors to form new alliances.<sup>27</sup> Social acceptance of medications gradually came to France, as did harm reduction advocacy for HIV prevention. This double historical movement built alliances between addiction medicine and harm reduction activism.<sup>28</sup> Today France is the country with the highest medication-assisted treatment coverage in Europe because of the publicly funded system of both addiction treatment and harm reduction facilities. This situation highlights a paradox: the coexistence in

France (and elsewhere) of broadly disseminated pharmaceutical supports with repressive policy toward drug use.<sup>28</sup>

Each of these European countries has progressed toward harm reduction within important limits. In all 3 countries, HIV/AIDS initiated a crisis-driven embrace of harm reduction. Harm reduction initiatives across Europe and the United Kingdom were introduced as part of publicly funded institutions that often coexist with repressive drug policy systems—something shown with unusual starkness in the French example. The UK example indicates how harm reduction measures do not always center on social justice for people who use drugs but are instead introduced to protect the majority population. The Norwegian example points toward how restrictive access to harm reduction services can facilitate paternalism and reduce agency of people who use drugs.

## CONCLUSION: HUMAN RIGHTS AS AN EXPANDED HARM REDUCTION FRAME

Recently, drug user activists in different European settings such as the United Kingdom, Norway, and France have shifted their language from claiming patient participation and patient rights to working for the human rights of people who use drugs.<sup>19,29,30</sup> During the early 2000s, drug users, activists, and advocates organized INPUD (International Network of People who Use Drugs), which promotes the idea that drug policies must be framed in consultation with people with lived experience, under the disability rights slogan, “nothing about us without us.” The human rights frame counters some of the CRBD model’s limitations, including the centering on brain disease

pathology and insistence on judging each individual as either a patient or a criminal.

People who use drugs are themselves developing community-based harm reduction approaches that resist both criminalization and medicalization on the ground that both have been used to control drug users. Harm reduction critiques hierarchical forms of clinical and neuroscientific expertise and instead supports people who use drugs in recognizing their expertise in managing their own practices and bodies, supporting their agency, and widening their options. Abstinence can be considered part of this approach, but only if chosen by people who use drugs themselves.<sup>31</sup> When abstinence is imposed by external forces (medical practitioners, family, law enforcement, or other stakeholders), abstinence itself becomes a risk for overdose death. This socially embedded approach acknowledges medical reasoning and therapeutic guidance while maximizing the agency and social participation of people who use drugs as critical drivers of their health and well-being.

These diverse modalities of drug treatment and addiction policy highlight the myriad ways that biomedical knowledge may be deployed to achieve social and political goals. The CRBD model has become dominant in US public discourse despite its lack of translation into fair and equitable treatment of all. The harms of constructing addiction as a chronic, relapsing brain disease are particularly acute in contexts that rely on incarceration as drug policy. We should recognize, understand, and learn from the world’s wider range of ways to make addiction sciences useful tools in the pursuit of public health through the centering of social justice.

**AJPH**

## CORRESPONDENCE

Correspondence should be sent to Anne K. Lie, MD, PhD, Department of Community Medicine and Global Health, University of Oslo, PB 1130 Blindern, 0317 Oslo, Norway (e-mail: ahlie@medisin.uio.no). Reprints can be ordered at <http://www.ajph.org> by clicking the “Reprints” link.

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## CONTRIBUTORS

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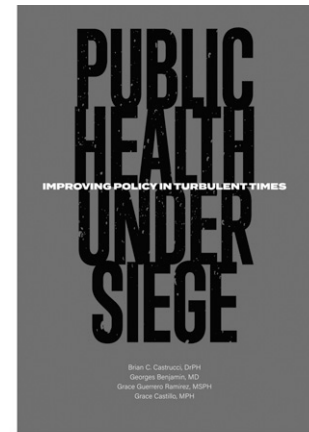
## CONFLICTS OF INTEREST

David Herzberg has served as a paid consultant and expert witness for the plaintiffs in opioid litigation in the United States. The remaining authors have no conflicts of interest to disclose.

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