

Therapy without a prescription: buprenorphine/naloxone diversion and the therapeutic assemblage in Taiwan

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Abstract Buprenorphine/naloxone (B/N) therapy is a prescription pharmacotherapy for opioid dependence. For certain health service providers, when B/N escapes supervision and diverts into the hands of people for whom it is unintended, it can pose serious risks even if it may still have therapeutic benefits. The line between therapy and diversion is thus a problematic one. By qualitatively analysing archival review and in-depth interviews, this study uses the concept of a therapeutic assemblage to understand the relationships among government, knowledge, and professionals that surround the regulation of B/N in Taiwan. The therapeutic assemblage is characterised by the partitioning of administration, the loose regulation of prescription, the exclusion of addiction treatment from National Health Insurance (NHI), and the materiality and technicality of therapies. These elements contribute to the therapeutic assemblage's different territorial modes as reflected in the substance schedules that allow for diversion. This is the first grounded work in Asia that empirically examines and theoretically explains the diversion of B/N from an assemblage perspective. It suggests establishing new associations by incorporating addiction treatment into NHI. Lastly, it addresses the analytic purchase of the assemblage approach in unveiling and problematising unintended outcomes of an intervention.

Keywords: diversion, buprenorphine, therapeutic assemblage, unintended outcome, Taiwan

Introduction

Buprenorphine/naloxone (B/N) therapy was first introduced in Taiwan during the implementation of the harm reduction policy in 2005 (Chen 2011a, 2011b, 2016). The combination of buprenorphine and naloxone in a sublingual tablet represents an option of opioid pharmacotherapy treatment (OPT) for people who use drugs (PWUD), mainly heroin. The other choice of OPT is methadone, which has been in use for the treatment of heroin dependence since the late 1960s (Dole *et al.* 1966) but was also then new in Taiwan. In addition to their therapeutic effects on opioid dependent people, the two treatments were also thought to prevent PWUD from contracting blood-borne infections, such as HIV/AIDS (Yang *et al.* 2008).

B/N therapy for opioid dependence is a relatively novel therapy (Johnson *et al.* 2003). It was patented in the US 3 years earlier (2002) with the brand name of Suboxone. Suboxone was produced by Reckitt-Benckiser Inc. (RB; Slough, UK). It was not favoured initially by the Taiwan Centres for Disease Control (TCDC), which oversaw the harm reduction policy, because of its cost and the limited experience of its use at that time. Liquid methadone became

the treatment of choice, whereas Suboxone was only provided in a few venues (Chen 2009, 2011a, 2011b).

In 2009, the Lotus Pharmaceutical Company (LPC), a local manufacturer that used to produce generic medications, marketed the same B/N combination the name of Desud Plus. The competition between Suboxone and Desud Plus eventually reduced prices and increased the accessibility of both treatments. These effects elicited grave concerns amongst certain (but not all) addiction specialists about drug diversion amongst individuals for whom these medications are not prescribed. They worried that if such a therapy goes rogue – meaning that it escapes supervision and is diverted into the hands of people for whom it is unintended – it can pose serious risks and thus jeopardise its own credibility as a useful treatment. Their concern is not ungrounded because research has shown that the diversion of buprenorphine is a common phenomenon in many countries (Brady *et al.* 2016, Delorme *et al.* 2016, Furst 2013, Johnson and Richert 2015a, 2015b, Johanson *et al.* 2012, Lavonas *et al.* 2014, Richert and Johnson 2013, Vrecko 2015, White *et al.* 2016).

Studies on health care providers' perspective pointing to widespread apprehension about OPT diversion are mostly quantitative with limited theoretical implications. Johanson *et al.* (2012) and Bell (2010) suggested that diversion may be a way that PWUD manage their own withdrawal. In the eyes of most healthcare providers, however, this form of self-help comes with a price. Although buprenorphine has a better safety profile than methadone (Dasgupta *et al.* 2010), Schuman-Olivier *et al.* (2013) found that approximately 40 per cent of US addiction specialists viewed B/N diversion as a dangerous problem. The work of Johnson and Richert (2014) in southern Sweden suggested that OPT staff addressed three problems in particular: increased medical risks, negative impacts on the legitimacy of OPT, and heightened objections from health service providers to addiction treatment.

Although the perceived danger of buprenorphine diversion has been revealed by previous studies, a useful concept to address the factors and processes involved is simply lacking. In this work, I use the notion of assemblage to explore the range of institutional, political and social factors that jointly materialise B/N diversion in forms unique to the Taiwan context. These factors include the administrative partitioning of the OPT programme, the loose regulation of prescription, the exclusion of addiction treatment from the National Health Insurance (NHI) system, and the pharmacology of buprenorphine itself. Through a detailed analysis of archival review and in-depth interviews, this study identifies the emergence of a therapeutic assemblage that is prone to diversion. It also addresses the analytic purchase of this assemblage thinking (Marcus and Saka 2006) in explaining unintended outcomes and suggesting new associations that will likely make a difference to the phenomenon of B/N diversion.

Theoretical framework

This concept of an assemblage stems from the work of Deleuze and Guattari (1987: 88–9), who described it as an aggregate which is made up of heterogeneous elements and variable associations and expressions among these elements. The shape of an assemblage is not given and stable, but contingent and changing. They gave an example of the feudal assemblage: Intermingled bodies (e.g. vassals, overlords, and knights), weapons and tools that connect these bodies, and the statements, expressions and transformations that associate various elements, collectively constitute the assemblage with constantly changing territories. An assemblage therefore refers to a phenomenon that defies fixed boundaries and definitions but aims to accommodate the dynamics of relations that eventually define itself. This concept has been shown to offer a theoretical language for describing the formation of

functional assemblies of different scales (persons, networks, organisations and all the way to cities and nations) that subsume heterogeneous elements and forces, including humans and non-humans (DeLanda 2006, 2016). The ontology of phenomena in an assemblage, and even the assemblage itself, is processual and contingent on the relationality and connectivity of the forces and elements therein and therefore an emergent, rather than innate, feature (Duff 2014). The shifting territories of an assemblage imply its lack of a clearly contoured totality. DeLanda (2006) thus described an assemblage as anti-essentialist and anti-totalistic.

The elaborations of assemblage thinking (Marcus and Saka 2006) have been present in many areas of scholarship and may address different phenomena of the world (Duff 2016). The notion of assemblage has been widely applied in alcohol and other drugs (AOD) research to account for complexities of drug use and addiction (Bøhling 2015, Dilkes-Frayne 2014, Duff 2014, Fitzgerald 1998, Hart 2015, Malins 2004, Moore *et al.* 2017). These studies refuse to reduce the notion of addiction to a human-centred view in biomedical theories, wherein addiction is considered to be a biological pathology or a maladaptive reaction of a human subject under certain social structures (see Duff 2014: 126–7). Instead, the assemblage approach regards addiction as ‘a situational and interactional process’ (Oksanen 2013: 57) that alters the body, the meanings of drugs, and the production of desires (Malins 2017). As Duff (2014: 127) argued, PWUD should be approached as ‘an assemblage of forces that produces both the subject of drug use and the effects of this use’. In other words, the assemblage perspective understands the manners of subject formation through one’s immediate and expressive associations with material elements (e.g. bodies and drugs) and immaterial forces (e.g. desires and pleasures).

The concept of assemblage as a theoretical ‘toolbox’ in AOD research, however, can be useful in numerous ways. The notion of assemblage may refer to themes, such as knowledge systems (Irwin and Michael 2003), urban planning (Farias and Bender 2009), states and even supranational powers that fashion contemporary life (Ong and Collier 2005). The concept can also be applied to address a policy assemblage relating to the (re)making of populations, drugs, and PWUD (see Chen 2009, Greenhalgh 2005, Keane 2003). As Chen (2011a, 2011b, 2016) clarified in his research on Taiwan’s harm reduction policy, the office that makes the policy can also be conceptualised as an assemblage that consists of heterogeneous elements with lines of flight and thus has moving territories. In this approach, the contour and stakeholders of a policy are not given but are emergent in the myriad and oftentimes ephemeral associations that eventually define what harm reduction is, what the policy is all about, or what an effective drug education is (see also Chen 2015).

In this work, the focus is not on the individuals who use drugs where drugs, space and bodies interact (Duff 2014) but on the making of an aggregate of government, knowledge and professionals that surround the regulation of the B/N combination. I call the aggregate a therapeutic assemblage. By adding the term ‘therapeutic’ to the concept of assemblage, I intend to problematise the making of the aggregate that implements OPT as a treatment modality for PWUD by addressing its proneness to diversion, which can be seen as therapy without a prescription. In other words, a therapeutic assemblage that distributes B/N amongst people with prescriptions can also be a diversion assemblage wherein B/N circulates amongst people without prescriptions. However, as will be illustrated in later sections, the line between therapy and diversion can be a problematic one. On the one hand, a diverted therapy is still a therapy, only that it escapes supervision required by law. On the other hand, diversion is undesirable because it causes grave concern about treatment safety, adherence, and legitimacy. All these tensions and complexities are to be teased out through a close examination of the therapeutic assemblage that unfolds in the contemporary history of Taiwan.

Method and materials

This work stems from a qualitative study conducted from 2013 to 2016 that examined the fledgling profession of addiction medicine vis-à-vis the transforming governance of controlled drugs. The study was approved by the Research Ethics Committee (REC) of National Taiwan University (Reference number: 201212HS020). In-depth interviews and archival review are two major data sources analysed in this study. Twenty participants were recruited through snowball sampling. All participants gave their informed consent before each interview. The interviews aimed to elicit their views of Taiwan's drug governance and addiction science, during which problematic B/N use was repeatedly addressed. Then participants were encouraged to freely talk about their experiences with and perspectives on the B/N combination and addiction medicine/science as a burgeoning field in Taiwan. These participants included 15 clinical psychiatrists, three governmental and non-governmental workers, one hospital administrative worker, and one product manager in a pharmaceutical company. All interviews were transcribed verbatim. Interview contents were kept in a safe place in accordance with the recommendations of the REC. Participants were given pseudonyms. Interviews were conducted in Chinese Mandarin. The quotations in this paper were translated by the author.

A comprehensive review of archival and documental sources, most of which were in Chinese, was conducted in addition to interviews. The author searched a number of Chinese-based databases in Taiwan. These databases included Taiwan News Smart Web, Airiti Library, and CONCERT, among many others. Searches were conducted using key words, such as drugs (毒品; *dupin*), controlled substances (管制藥品; *guan zhi yaopin*), opioids (鴉片類藥物; *yapi-anlei yaowu*), sublingual (舌下錠; *shexiading*, a local term for the B/N combination), harm reduction (減害; *jianhai*), and buprenorphine (丁基原啡因; *dingjiyuanfeiyin*). The database search covered major Taiwanese newspapers and academic journals. The reviewed materials also included governmental publications, websites, and statistical reports that can be accessed online. Most materials were published in the past 20 years, but some of them could be dated further back to 40 years ago even before the time of martial law abolition (see below). Collected data from archival reviews joined the interview transcriptions for a series of rigorous coding, mapping, and analysing in accordance with the suggestions of the modified grounded theory by Clarke (2005) and Charmaz (2006). Important thematic dimensions, social worlds, and discursive positions were addressed and analysed to delineate the therapeutic assemblage involving B/N diversion.

Research findings

Historicising the therapeutic assemblage

The real big problem arose around 1989 or 1990, when amphetamine-related issues emerged in Taiwan, and then, probably at the same time or 1 year later, the problem of heroin followed. (Dr. Ivan)

For many interviewed healthcare providers, drug problems epitomise an era. The therapeutic assemblage in Taiwan has to be understood as part of a large regime transition that can be dated back to the abolition of martial law in 1987. Dr. Ivan is a senior specialist with decades of experience in treating addiction. He observed that increased interactions across the Taiwan Strait in the wake of the lifting of martial law were the most crucial factor that led to various

drug problems in the years to come. Taiwan's economic prosperity as one of 'the Four Asian Tigers' implied a society ready to open up to the world – and drugs.

The escalating use of illicit drugs ignited a war on drugs in the mid-1990s. The war on drugs stressed law enforcement and was approximately 20 years later than that in the US (Courtwright 2001). Even though psychiatry embraces the idea of addiction as a disease, the voice of medicine was weaker than that of justice. A retired psychiatry professor Luke recounted, 'It was impossible to talk about treatment for addiction because the Department of Justice said no'! However, a large number of people who were arrested for drug use soon filled prisons, and many of them were recidivists. A policy window (Kingdon 2002) for change thus opened. Physician Gabriel recalled, 'Few people were granted parole, and the prison was packed. [The Ministry of Justice] was compelled to solve this problem, so it pushed these patients (sic) towards the Department of Health, which was then asked to be jointly responsible for these people'. He was referring to the administrative negotiations that led to the Narcotics Hazard Prevention Act in 1998, which had replaced the old Narcotics Eradication Act established in 1955. As the names imply, the old Act aimed for eradication and criminalization of all non-prescription opioid use, which was seen as a law and order problem instead of a health issue. By contrast, the new Act prioritised prevention and medicalisation instead of suppression even though it still defined non-prescription opioid use as a crime. According to the new Act, medical institutions that treat addictions are no longer required to report the PWUD to the police as long as these people are not yet arrested. However, Physician Gabriel did not see a new era set in. He thought that medicine at this moment was simply a supplement to justice in optimising social control over PWUD.

This impression may be true because most research participants were far more impressed by the transformative effects of the second turning point, namely, the harm reduction policy in 2005. This policy is a public health program that implemented several policy initiatives, including a needle-syringe program and an OPT program that distributed methadone and buprenorphine (Chen 2009).

Although its evolution is beyond the scope of this work, the harm reduction policy achieved its goal in a few years and provided opportunities, including the founding of the Taiwanese Society for Addiction Science (TSAS) in 2008 (Chen 2017). Before the establishment of TSAS, addiction medicine was marginalised and often neglected. Dr. Owen from TSAS complained,

Psychiatry has often been less favoured amongst all medical specialties. People think that the specialty does not matter. Addiction medicine is even worse; it is the least liked subspecialty within psychiatry. Why? No one likes to get in touch with offenders, such as drug criminals, who break the rules again and again, getting in and out of prison endlessly.

TSAS marked a new beginning. With support and instruction from the National Research Health Institute, which identified drug abuse as an emerging medical and public health issue, TSAS has been training addiction medicine specialists and other addiction treatment personnel for a vast array of psychoactive substances in Taiwan. These substances include heroin, methamphetamine, ketamine, and in recent years, various new psychotropic substances. In December 2016, 125 physicians passed the first board examination for the addiction medicine specialty. Thus, TSAS represents and buttresses a fledgling profession. Given that methadone and buprenorphine are two pivotal weapons against opioid dependence, any aberrant regulation of the two substances may tarnish the new profession. The whole profession is at stake because of B/N diversion.

Thus, the therapeutic assemblage unfolded in time, with different contours. Deleuze and Guattari (1987: 88) portrayed the assemblage as being constantly in the states of de-/re-

territorialisation, given that associations amongst elements in the assemblage vary. An assemblage is never fixed but metamorphosing in time. It has a history. In this case, two points warrant addressing. Firstly, as Dr. Gabriel astutely observed, the Narcotics Hazard Prevention Act in 1998 did not signify the advent of medicalisation. Instead, it encapsulated a wide array of confluent elements unfolding in history: The lifting of martial law marked the end of an authoritarian state and brought in booming commercial activities across the Taiwan Strait and beyond. With people migrating in and out, national borders became permeable, making drug smuggling easier and drug offences multiplied. In the end, prisons were packed and the new Act was introduced. The therapeutic assemblage took shape in such a tortuous process, only to be gradually capable of cultivating future generations of addiction physicians and treatment personnel after the establishment of TSAS in 2008. Secondly, the Taiwan government and addiction medicine have been entangled in the therapeutic assemblage, and their associations define and limit the function of TSAS. Even though addiction medicine has been striving for public recognition, it is largely reliant on government funding. In addition, researchers and practitioners of addiction medicine, the majority of whom serve in public institutions, are obligated to carry out policy requirements. Therefore, Dr. Owen's suggestion that 'I think the specialty [of addiction medicine], in a sense, is to assist the management of controlled substances' is unsurprising.

Characterising the therapeutic assemblage The therapeutic assemblage in Taiwan is a global assemblage because the implicated characteristics therein have a 'global' quality – meaning that they are more or less abstract, transposable, and relatable to other sites and conditions (Collier and Ong 2005: 4). However, the assembly of these factors is unique and local, distinguishing this case from the therapeutic assemblages in other places.

The first characteristic is administrative partitioning, namely, the segmentation of governmental units that oversee the many aspects of the therapeutic assemblage. In 2009, Suboxone was officially registered as a prescription medication rather than an ad hoc pharmaceutical product allowed solely for policy purposes. The B/N generic, Desud Plus, entered the market approximately at the same time. Around this time, health statistics showed that PWUD were no longer the primary risk group for HIV transmission. Men having sex with men returned to the top of the list (Chen 2016). The TCDC is primarily concerned with the control of HIV/AIDS, not drug use, so it described the harm reduction policy a success and devolved the responsibility of helping PWUD to other government agencies, some of which were newly formed in the central government reorganisation over the next few years. The TCDC was no longer the coordinating agency that 'glued' the various elements of the therapeutic assemblage arising out of harm reduction policy. Instead, several units were included in the therapeutic assemblage around the time of my research (2013–2016). Physicians and their conducts have always been regulated by the Department of Medical Affairs (DMA), and the OPT program was transferred to the Division of Mental and Oral Health (DMOH) under the regrouped Ministry of Health and Welfare. Controlled substances were regulated by the Taiwan Food and Drug Administration (TFDA). In short, the governance through the therapeutic assemblage is administratively partitioned: medications by the TFDA, people by the DMA, and the program by the DMOH. This feature is rooted in domestic politics and renders the resultant assemblage locally distinctive.

On an expanded scale, partitioning perhaps characterises a problematic division of labour within a bureaucracy (Graeber 2016). Segmentation understandably resulted in communication problems across government agencies; at the same time, public attention on the drug issue waned, as evidenced by the shrinking coverage in public media and government documents (Chen 2016).

Secondly, in contrast to the Drug Abuse Treatment Act that capped the number of patients treated by a physician in the US (Campbell and Lovell 2012), buprenorphine can be prescribed by any licensed physician in Taiwan to an unlimited number of PWUD. That is, B/N prescription cannot be monopolised by government-appointed treatment institutions, all of which are hospitals, even though they have more educated staff and better treatment programs than private clinics. Research has demonstrated that physicians will proactively prevent drug diversion if they are aware of its negative impacts through adequate training and education (Yang *et al.* 2013). Profit-driven ‘drug-mill’ clinics that provide medicine regardless of diversion will surely mushroom without adequate training, education, and supervision.

The third characteristic is concerned with the absence of a major element that destabilises the therapeutic potential of the assemblage: the exclusion of addiction treatment from the NHI of Taiwan since its beginning in 1995 (NHI Act, Article 51). Without NHI coverage, addiction treatments depend on either government funding or out-of-pocket payments from PWUD. As will be shown later, methadone is offered by appointed hospitals on governmental funding, and the B/N combination is mostly distributed by clinics and paid for by users.

The lack of insurance coverage is consequential. For one, as the DMOH officer Janice pointed out, ‘[TFDA] does not register the number of people who use the [B/N] pills, but we care most about the number. How can we tell these people to get treatment? We need these demographic data. There is no NHI for the treatment. If there were, it would be great’. A key issue here is that B/N data are absent from the database that registers all prescriptions in NHI services. Sorting out the pattern of use and its relationship with other medical conditions becomes a difficult task given the poor inter-departmental communication in the government.

The exclusion of addiction treatment from the NHI has another unintended effect. The NHI, a universal payer system, actively negotiates drug prices with pharmaceutical companies as part of its budgetary control. However, in the case of B/N, the price is left to the market that falls prey to the complex interactions amongst pharmaceutical companies, hospitals, clinics, physicians, and finally, PWUD.

Dr. Paul observed how this ‘market’ aggravated the drug-mill clinic situation:

It is probably very difficult to supervise these clinics . . . the economic incentives are so strong. Patients (sic) know that, too. They know where to get the pill, one pill for one hundred and twenty [New Taiwan Dollars, or NTDs]. And it is fast. You don’t have to go through so many evaluations in a hospital before obtaining the medicine. There is no way to regulate effectively, I think. Methadone is provided by the government; it can be supervised. This thing [B/N] is totally up to market mechanisms.

A total of 120 NTDs is approximately 4 US dollars. The B/N combination, or *shexiading*, is a considerable financial relief to people who usually spend several thousand of NTDs a day on heroin. Dr. Adam, who worked in a government-appointed hospital that offers OPT, addressed the specific challenges brought about by the underregulation of B/N:

[Buprenorphine] is supposed to be prescribed in an appointed treatment institution, but it is now distributed more through clinics than through institutions. This is against the principle of the treatment guideline. (Author: And diversion can be serious?) Diversion is not necessarily bad, but it does create difficulties in promoting buprenorphine. If you can get the medicine easily from clinics, why bother to come here [the appointed hospital]? What would you choose between 3 minutes’ talk and three seconds’ talk? It’s got to be 3-seconds, right? In that case, more talk is a punishment; less talk is a reward. But without talking, the person will never understand the medicine. Without understanding of the medicine, it is hard for them to adhere.

In his opinion, although B/N diversion by way of private clinics that offer quick services may facilitate its use among PWUD, the phenomenon makes time-consuming 'talk therapies', such as psychoeducation, counselling, or intensive psychotherapy, difficult to plan and implement. It is thus necessary to follow the guideline, or the unchecked circulation of B/N will eventually jeopardise this pharmacotherapy and cast the equally important psychosocial interventions in a negative light even though these treatments are meant to be therapeutic.

Materiality and technicality in an assemblage Materiality and technicality are vital to the therapeutic assemblage that involves B/N and methadone. However, they are not given features that lead to differences in the official categorisation and regulation of the two therapies. Buprenorphine effects plateau at a certain level despite an increase in dosage (Johnson *et al.* 2000, Walsh and Eissenberg 2003). Buprenorphine is considered safer than heroin and morphine because its risk of overdose and death is believed to be low (Lavonas *et al.* 2014, Wesson and Smith 2010). By contrast, methadone effects intensify with dosage. Thus, the physical risks posed by methadone increase accordingly, and sometimes death ensues in cases of methadone overdose.

In other words, how safe these medications are is associated with the likelihood of overdose and associated death. These associations solidify into part of the material ontology of the medications, such as partial or full agonists of opioid receptors that are defined pharmacologically. In turn, materiality associates in different ways with people who use them. According to Dr. Finn, individuals treated with buprenorphine are different from those treated with methadone. Specifically, they are less likely to continue heroin use, because buprenorphine is linked with unpleasant withdrawal symptoms when heroin effects are still active. The ontological difference between buprenorphine and methadone has direct impacts on the people who use them, and sometimes people are classified by whether they can settle on a certain medication. Dr. Hans further explained,

Detoxification treatment suffices for mild cases; people who are unable to get clean easily may receive a take-home office-based treatment [i.e. B/N]. Severe cases may take methadone if [buprenorphine] cannot help. As a matter of fact, every treatment has its own value and meaning in terms of clinical application. There is no telling which one is superior.

In practice, physicians could only guess who would respond well to which regimen and act accordingly. Whether the case is considered mild, moderate or severe is the outcome of the clinical encounter when the treatment succeeds to make connections amongst bodies, substances, and affects (Duff 2014, Farrugia 2015). Medications and individuals who take them are co-constituted.

One thing separates buprenorphine and methadone even further: the technology of combining naloxone with buprenorphine in a sublingual tablet (Mendelson *et al.* 1996, 1997, 1999). Naloxone blocks the analgesic and euphoric effects of opioids. It is minimally absorbed when given sublingually but taken up quickly when given intravenously. Therefore, if one dissolves a sublingual tablet in water and injects it into a vein when heroin effects are present, naloxone in the tablet will immediately antagonise the effects and precipitate extremely unpleasant withdrawal reactions, such as runny nose, joint pain, and other flu-like symptoms (Lavonas *et al.* 2014, Mendelson *et al.* 1999, Soyka 2014). Thus, most individuals who use this combination quickly learn how to apply the medication at the right time and through the right route.

However, the design of this combination may likely have effects on the ways that people apply the treatment, but not on the ways that people apply the prescription. Although some scholars speculated that the formulation technology used to combine buprenorphine and

naloxone may discourage diversion (Mendelson and Jones 2003, Mendelson *et al.* 1997), recent research has indicated otherwise. Bruce *et al.* (2009) reported that introducing co-formulated B/N does not reduce the prevalence of buprenorphine injection in Malaysia. Similarly, in Taiwan, sublingual B/N tablets are easy to carry, share, give away, and sell, given their portability.

Two territorial modes of the therapeutic assemblage The schedules or classifications of psychoactive substances mark the territories of the therapeutic assemblage, because they lay the foundation upon which the use of substances is judged within the legitimate domain or not. The current Narcotics Hazard Prevention Act categorises heroin and morphine as Schedule 1, methadone as Schedule 2, and buprenorphine as Schedule 3 on the basis of ‘their extent of causing habitual usage, abusive usage, and danger to the society’ (Narcotics Hazard Prevention Act, Article 2). Scheduling is determined not only by material properties but also by social expectations. It is subject to debates and changes, and every change causes a massive difference in practice. Schedule 1 and 2 substances are subject to considerably stricter surveillance than Schedule 3 substances. Naloxone is not listed in drug scheduling because it is considered non-addictive.

Buprenorphine’s Schedule 3 status contributes to its increased mobility within and without the therapeutic assemblage. By contrast, methadone’s Schedule 2 status confines it within relatively impervious territories, thereby making it less liable to diversion than buprenorphine. Either buprenorphine is advanced to Schedule 2, or it is destined to be governed as every other Schedule 3 substance. Dr. Adam told me, ‘TFDA knows [about diversion], but it does nothing, because things are complicated. You will need to inventory and count every Schedule 3 medicine, but is this necessary? (Author: They cannot simply focus on buprenorphine.) Right, so this is the problem’.

Methadone and buprenorphine thus represent the two territorial modes of therapeutic assemblages. Their interactions allow for the diversion of the latter because pharmaceutical companies have been attempting to generate associations between substances and users that are favourable for their business. When Suboxone and Desud Plus hit the market in 2009, methadone-based OPT was serving more than 10,000 users nationwide daily. However, the number of regular visitors at methadone OPT sites declined as the harm reduction policy was routinised over the next few years (Chen 2016). The decline was probably related to the waning attention from the government and the public. According to my respondent Doris, LPC and RB promoted their products mostly to private primary care clinics in the beginning because they were available, accessible, and flexible. Paperwork was minimal. In Doris’ words, ‘the company was eager to reach out to more patients with this medicine’. By contrast, government-appointed hospitals were bound by rules. A hospital worker, Tanya, showed me all the documents that have to be filed before any treatment. These documents include substitutive treatment records, withdrawal symptom scales, informed consent forms, drug education sheets, laboratory tests, and psychosocial assessments. Doris estimated, ‘The total number of people who use *shexiading*, either Suboxone or Desud Plus, is just a little more than 1000 all over Taiwan’. However, Doris’ estimation differed tremendously from the statistics of DMOH, whose data from appointed hospitals showed only 114 persons on *shexiading* in that month (DMOH 2015). This discrepancy again confirmed Dr. Adam’s worries.

Doris explained how to further boost the sale of B/N: ‘Approximately 10,000 individuals are taking methadone in seventy-ish hospitals nationwide. All you have to do is convert 10 per cent to 20 per cent of these people [to buprenorphine], and your sale doubles’.

For this end, the LPC published a series of promotion articles from December 2013 to January 2014 in *Next Magazine*, a popular magazine in Taiwan. The articles included pep talk

slogans that praise sobriety and rebirth, as well as figures that stress the advantages of buprenorphine over methadone (Anonymous 2015). They seemed to normalise addiction treatment by advocating a medicalisation model (e.g. 'Addiction is an illness, not a crime!'), but the real target was the increased sale of B/N, regardless of where the therapy went.

Discussion

In this work, I described the imbricated elements and forces that contribute to the therapeutic assemblage: divided and under-connected government agencies, local and transnational pharmaceutical companies, different levels of healthcare institutions, professionalising addiction specialists, and substitutive treatment agents along with the technology of combining medications. This list may lengthen if scrutiny continues. However, one thing is certain: Diversion is simply a part, not a failure, of therapy regulation.

A close look at the ways that this assemblage works may further clarify this concept. The exclusion of addiction treatment from NHI provides the pharmaceutical companies additional room for pricing the therapy. The division of labour amongst the central government regarding drug governance breeds administrative confusion and complexity. Given that the capacity of existing medical facilities is limited and social stigmatisation looms large because of the lingering spectre of criminalisation, PWUD are destined to seek help clandestinely. These factors combine and foster an opportunity for clinics to prescribe B/N easily, as evidenced by occasional newspaper reports on unlawful prescription of buprenorphine (Chiu 2015, Sun 2014).

Not all addiction specialists share the same level of apprehension concerning buprenorphine diversion, but none of them think diversion is completely acceptable. Dr. Hans commented, 'Diversion is okay from the angle of public health. The common case is that people who take B/N share with friends who use heroin, so the medicine circulates only amongst people who use heroin. Such diversion is contained'. He argued that the only thing that needs close watching is diversion amongst heroin non-users, which can be hazardous. For Dr. Finn, diversion has another drawback. He explained, '[Drug users] would think, "I will start this medicine when I need to." Then this medicine actually helps maintain his behavioral pattern of using heroin . . . Heroin is still a part of life'. Furthermore, he was afraid that people would misconstrue addiction medicine as merely substituting one drug for another instead of instilling a new way of life in the suffering person. Then, addiction medicine will be stigmatised.

Dr. Sam was pragmatic and thought that diversion is a necessary evil. He agreed that buprenorphine should be used under close supervision. However, given the limited manpower, infrastructure, and treatment modalities of current addiction medicine, he was worried that addiction medicine would simply be overwhelmed if all individuals who use drugs visited appointed hospitals, instead of private clinics, for buprenorphine. He commented, 'For the past 2 or 3 years, we physicians have advocated that addiction is a chronic disease. Now people really take up this idea and revise the law accordingly, and we are like stuck in the middle'. To him, diversion is a vital form of self-help amongst PWUD; it is also a leakage that prevents the current addiction treatment system from collapsing. This is an unintended and undesirable phenomenon, but it is probably the best answer to the situation, at least for now.

Even addiction specialists do not hold shared views on diversion. They interact with other elements (government agencies, pharmaceutical companies, insurance regulations, hospitals and clinics, and most importantly, people who desire B/N), which are no less multifarious within the therapeutic assemblage. Together they contribute to the shifting territories of the assemblage, where diversion turns out to be an emergent outcome.

Conclusion

This work contributes to existing AOD literature in several ways. Firstly, it is the first grounded work in Asia that applies the concept of a therapeutic assemblage to empirically examine and theoretically explain B/N diversion. The governmental apparatuses and socio-historical conditions in Taiwan have specifically informed the assemblage that provides OPT to people with or without prescriptions. Notably, the assemblage bears marked ambivalence and tension. Increased medical intervention appeared to be encouraged by the legal revision in 1998, but it was also discouraged by the exclusion of addiction treatment, such as B/N pharmacotherapy, from the NHI. This ambivalence towards addiction treatment is aptly reflected in the diversion potential of B/N perceived by the health service providers in this research. Some of them see diversion as a form of therapy simply without a prescription, while others view the absence of a prescription as a source of risk. The assemblage approach works well to accommodate and analyse the ambivalence and tension.

Secondly, the study suggests significant policy implications to current B/N diversion issues in Taiwan. The assemblage approach leaves the ontology of medicine, B/N in this case, fluid and emergent. In Deleuzian terms, what a thing is depends on how it is associated with other elements in the assemblage, and these associations amongst elements in turn deterritorialise and reterritorialise the assemblage. In terms of health policy, by changing the ways that B/N links to other elements in the assemblage, there may be different outcomes. For example, participants in this research repeatedly mentioned the importance of including B/N in the NHI. This new association not only ensures stable funding but also possesses many advantages: NHI databases will register every use of B/N and thus facilitate the optimisation of this therapy in the future. PWUD become equally eligible for health services regardless of their stigmatised status. Incentive for diversion is expected to dwindle. This move is not just theoretically tenable, but also practically helpful in re-positioning diversion and improving the care for PWUD.

Thirdly, the assemblage approach of this study sheds light on the sociology of health and illness. Although assemblage as an analytic concept has expanded into areas outside AOD research and into the conceptualization of health and illness (Duff 2014, Fox 2011), the analytic purchase of the concept to unveil the seemingly unintended outcomes of an interventional strategy has received little attention with notably rare exceptions, such as Zogon (2011), Moore (2011), and Vrecko (2010). I hope this study shows that the concept of assemblage accommodates ambiguity and uncertainty in meaning better than previous analytic frameworks that, as Duff (2014: 126) describes, centre on 'the human subject and its choices, mediated in a web of social, economic and political structures'. In these old frameworks, unintended outcomes, such as diversion, are oftentimes viewed as the consequence of the transgressive behaviors of PWUD or the inadequate regulation of the government. The blame is either on the individuals or on the government. However, in this novel assemblage thinking, identifying who is to blame is irrelevant. OPT can be offered in a medical setting as prescribed treatment or sometimes in another setting where it is accessed without a prescription. Thus, the meanings and effects of buprenorphine are different when the associating elements (e.g. the places of prescription, people who apply the medicine, and the desires that drive it somewhere) differ. For addiction specialists, it is valuable armour to treat opioid-dependent individuals, but when distributed through drug-mill clinics, it becomes a problematic substitute for heroin that might undermine the legitimacy of the young profession of addiction medicine. Given the complicated picture of a therapeutic/diversion assemblage, what matters most is what associations are to be made (or unmade) to alter the territories of the assemblage to meet our own wishes.

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