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Readiness and Recovery

Readiness and Recovery: Switching Between Methadone and Buprenorphine/Naloxone for the Treatment of Opioid Use Disorder

A 90 credit thesis submitted
in partial fulfillment of the requirements for the degree of
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Abstract

Opioid substitution treatment is an effective form of treatment for opioid use disorders. Long acting opiates are used as part of treatment with methadone and buprenorphine/naloxone (BUP/NX) most frequently prescribed. Current evidence suggests that BUP/NX is better than no treatment, but that methadone is marginally more effective for retention in treatment. Benefits of BUP/NX include greater ease in ceasing treatment and less use of illicit opiates while in treatment as compared to methadone. As yet there is little research asking service users about their experiences.

This project aims to understand citizen perspectives of what it was like to receive BUP/NX for the treatment of opioid use disorder. A qualitative descriptive approach was used to extract themes from semi-structured interviews of seven randomly selected participants. To be selected, participants had a current diagnosis of opioid use disorder, and had been prescribed BUP/NX during the course of their treatment. The project specifically sets out to consider how citizens viewed BUP/NX as a treatment option for opioid use disorder.

Thematic analysis extracted four themes that were interpreted in terms of the harm minimization and the recovery model. The four themes were: drivers for opioid substitution treatment change; readiness for BUP/NX substitution treatment; absence of effect from BUP/NX; and an increased sense of citizenship on BUP/NX. This study identified a number of factors that impacted on the participants' decision making when it came to switching between methadone and BUP/NX for the treatment of their opioid use disorder. This thesis discusses these factors and locates them within the current literature on the topic.

The thesis concludes by saying that methadone is most effective for those people who still seek sedation and currently wish to continue using other opioids, and BUP/NX is most effective for people who no longer wish to experience sedation, and see opioid abstinence as an end point in their recovery. This thesis also concludes that as an individual's treatment expectations change, these changes are important to consider when determining medication selection. Recommendations are offered, as is a treatment model, which is intended to help with medication decision-making. Future research directions are also suggested.

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CHAPTER ONE - INTRODUCTION

The purpose of this thesis is to explore on the experiences of people with opioid use disorder when they switch between methadone and buprenorphine/naloxone (BUP/NX). This chapter gives an overview of the current knowledge of the topic, and reviews the key concepts that provide the reader some context around the treatment of opioid use disorder in order to make sense of the detailed discussion that follows. The concepts of recovery, harm reduction and citizenship provide the theoretical foundations to discuss opioid substitution treatment, and why it is effective. The pharmacological aspects of methadone and BUP/NX will be reviewed, and the bio-psychosocial complexities of opioid use disorder and the treatment of it will also be discussed.

As subsidized BUP/NX is a recent thing in New Zealand, so are the experiences of BUP/NX for most people seeking treatment. As it stands, when a client presents to an opioid treatment service, if assessed as opioid dependent they are offered methadone or BUP/NX. If there are no exclusionary criteria then citizens have a choice between either of these medicines. This places a high level of responsibility upon the clinician to provide full information about the effects and side effects of each medication, what to expect from each medication, and ultimately what will be the most suitable medication for each individuals' circumstances.

The research aim of this thesis is to understand citizen perspectives of what it was like to receive BUP/NX for the treatment of opioid use disorder. At present the process of deciding medication suitability is based on comparative quantitative research and service user anecdote. This thesis seeks to apply a qualitative description methodology to service user experiences to enhance and improve clinical decision-making when selecting an opioid substitution medication.

Opioid use disorder

Opioid use disorder is a chronic relapsing condition that profoundly impacts on those who experience it. Presently there are over 5200 people receiving treatment for their opioid use disorder in New Zealand (personal communication, Ministry of Health (MoH), April 2016). There are numerous negative outcomes for long term opiate users including blood borne

viruses, and other acute and long term mental health and physical health issues (Stein, Maksad, & Clarke, 2001).

Opioid substitution treatment (OST) is proven to be the most effective form of treatment for opioid use disorders, and long acting opiates (LAOs) are the medicines most often used as part of treatment (Mattick, Kimber, Breen, & Davoli, 2014). The LAOs that are the most prescribed are methadone and BUP/NX (Mattick et al., 2014). The New Zealand Guidelines for Opioid Substitution Treatment (MoH, 2014) do not recommend rapid detoxification from opioids as it has been demonstrated as an ineffective approach for the majority of opioid users, with high rates of relapse and mortality noted (MoH, 2014). On the whole, most of the world's societies have acknowledged that a maintenance approach to opioid use disorder is a harm reduction approach to opioid use disorder. This is because a maintenance style of prescribing LAOs is the most effective way to minimize damage associated with the taking of opiates (Mattick et al., 2014).

Both methadone and BUP/NX (which has the patent brand name Suboxone) have similar benefits in terms of reducing overdose, cravings for opiates, and reducing the likelihood of using other opiates on top of prescribed LAOs (Mattick et al., 2014). Methadone has been very well researched and used for the treatment of opioid use disorder since introduction in the United States of America in 1947, and more comprehensively from the 1960s, when Dole and Nyswander (1967) prescribed methadone with a high dose (doses greater than 60 milligrams) ongoing approach. Buprenorphine/naloxone has been used increasingly for treatment of opioid dependence since the mid 2000s but has only been available through Pharmac (and hence affordable to prescribe) in New Zealand since late 2013 (MoH, 2013). In this thesis Suboxone will be referred to as BUP/NX, with the exception of the interpretation section, when the participants refer to the brand name. Buprenorphine alone has mostly identical properties to BUP/NX, and as most research around this LAO is based solely on the buprenorphine component, at certain points buprenorphine will be referred to.

Addiction treatment clinicians and citizens are still coming to terms with the use of BUP/NX in the Aotearoa New Zealand context. This study will refer to those seeking opioid substitution treatment as citizens. The rationale for the use of this term will be discussed later in the chapter. New Zealand is in a unique situation as most of the illicit opiates used for injecting that are available are either morphine which is converted through a chemical process to 'heroin', or diverted methadone (Harris, 2013). Historically this has meant New Zealand

opioid users have manufactured their own injectable opioids from illicitly obtained pharmaceuticals (Harris, 2013). With early implementation of a needle exchange program in the late 1980s, Human Immunodeficiency Virus (HIV) is rare amongst New Zealand opioid injectors, although, as with international trends, hepatitis C virus (HCV) is prevalent amongst the intravenous drug using population (MacArthur et al., 2014).

The definition of opioid use disorder

The Diagnostic and Statistical Manual of Mental Disorders 5th edition (DSM-5) presents a clear diagnostic framework with which to understand opioid use disorder, which like the majority of substance use disorders, has four groupings of criteria, namely “impaired control, social impairment, risky use, and pharmacological criteria” (American Psychiatric Association, 2013, 483). Opioid use disorder is further defined by a set of diagnostic criteria, including but not limited to problematic use patterns that result in substantial levels of impairment or distress stemming from at least two of the following factors over a 12 month period (see Table 1).

The diagnostic features of opioid use disorder can be loosely split into three groups when applied to people requesting treatment; those who purchase opioids from an illegal market, those who gain opioids from physicians in increasing doses, or those who illegally gain access to fraudulently use prescriptions (American Psychiatric Association, 2013). Regardless of how opioids are obtained, most individuals will experience increasing tolerance, and withdrawal following sudden cessation of opioid use (American Psychiatric Association, 2013). Most individuals will also experience a profound psychological and conditioned response to any further exposure to opioid related stimuli long after physical withdrawal has ended (American Psychiatric Association, 2013).

The provision of OST, in a sense, requires only a singular decision; does the individual meet the criteria for opioid use disorder (MoH, 2014). Once the determination has been made that an individual does meet these criteria then OST can be offered. A framework focusing only on the diagnostic criteria of opioid use disorder is an incomplete framework, as the DSM-5 represents the point where an experience is identified so that an appropriate and evidenced treatment can be initiated (American Psychiatric Association, 2013). Clinicians and researchers have used the concept of harm reduction to describe this transition from diagnosis to treatment initiation and continuation (Mattick et al., 2014; Stein, Maksad, & Clarke, 2001).

Table 1: The DSM-5 diagnostic criteria for opioid use disorder

1. Opioids are often taken in larger amounts or over a longer period than was intended.
2. There is a persistent desire or unsuccessful efforts to cut down or control opioid use.
3. A great deal of time is spent in activities necessary to obtain the opioid, use the opioid, or recover from its effects.
4. Craving, or a strong desire or urge to use opioids.
5. Recurrent opioid use resulting in a failure to fulfill major role obligations at work, school, or home.
6. Continued opioid use despite having persistent or recurrent social or interpersonal problems caused or exacerbated by the effects of opioids.
7. Important social, occupational, or recreational activities are given up or reduced because of opioid use.
8. Recurrent opioid use in situations in which it is physically hazardous.
9. Continued opioid use despite knowledge of having a persistent or recurrent physical or psychological problem that is likely to have been caused or exacerbated by the substance.
10. Tolerance, as defined by either of the following:
 1. A need for markedly increased amounts of opioids to achieve intoxication or desired effect.
 2. A markedly diminished effect with continued use of the same amount of an opioid.
11. Withdrawal, as manifested by either of the following:
 1. The characteristic opioid withdrawal syndrome (refer to Criteria A and B of the criteria set for opioid withdrawal).
 2. Opioids (or a closely related substance) are taken to relieve or avoid withdrawal symptoms.

Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition, (2013).
American Psychiatric Association, p. 541, printed with the permission of the
American Psychiatric Association.

The harm reduction approach

Harm reduction in the context of opioid use disorder means reducing the mortality associated with opioid overdose and intravenous opioid use, reducing the spread of blood borne viruses such as hepatitis C and HIV, and reducing criminal behavior (Blume & Logan, 2013; Bruggmann & Grebley, 2015; MacArthur et al., 2013; Wilson, Donald, Shattock, Wilson, & Fraser-Hurt, 2015). Reduced harm is achieved by way of replacing or substituting short acting opiates (SAOs) with LAOs (Dole & Nyswander, 1967; Mattick et al., 2014). Cravings for opioids are reduced with LAOs and stability is achieved by preventing intoxication and withdrawal from opioids (Dole & Nyswander, 1967; Mattick et al., 2014).

Harm reduction has been repeatedly referenced as a way to measure the benefits of OST and there are clear and multiple reasons to offer OST within the context of harm reduction (Mattick et al., 2014; Petitjean et al., 2001; Pinto et al., 2010; Soyka, Zingg, Koller, & Kueffner, 2008). Harm reduction can be defined as a policy position, as well as a set of clearly defined interventions (Ritter & Cameron, 2006). Historically the provision of OST has been focused primarily on harm reduction (Pinto et al., 2010). Opioid substitution treatment has succeeded in reducing societal, family/whānau, and individual harm by lowering the burden on the health system through drug related hospital admissions, and on the justice system by lowering drug related criminal behaviour (Barnett, Rodgers, & Bloch, 2001; Deering, Sellman, & Adamson, 2014; Wilson et al., 2015). This is an approach of economic and humanistic ‘damage control’ within a social system that invests significant resources into the enforcement as a way of limiting access to drugs that are seen to cause harm, but significantly fewer resources into the treatment of those who experience a substance use disorder (Pinto et al., 2010).

For the lawmakers, legislation around OST is designed to maximise the ability of health practitioners to provide an evidence-based treatment whilst minimizing the diversion of prescription medication to those it is not prescribed for (Kerr, Marsh, Li, Montane, & Wood, 2005; Ritter & Di Natale, 2005). The benefit through the provision of OST versus the risk of others accessing these prescribed opiates via diversion is a dynamic many health professionals grapple with (Johnson & Richert, 2014). However, as health professionals acknowledge, illicit BUP/NX or methadone is safer than street heroin, and that by virtue of this, an amount

of diverted BUP/NX or methadone is tolerable while people either wait to come onto treatment or are still making up their minds about access to treatment (Johnson & Richert, 2014). The citizen perspective on harm reduction is also complex; the sharing of ones prescription opioids with someone who is in opioid withdrawal is seen as a caring act and an extension of harm reduction into the life of another (Harris & Rhodes, 2013; Havnes, Clausen, & Middelthon, 2013).

Harm reduction has been an important facet in the development of a robust approach to the treatment of opioid use disorder as it seeks to move clinicians and citizens away from a ‘detox then abstain’ mentality into a treatment paradigm where the citizens themselves decide on when it is the right time for them to consider abstinence from all opioids including prescribed ones. From a treatment perspective the harm reduction approach also holds some limitations for those receiving OST. Although the approach allows for long term provision of substitution opioids for the treatment of opioid use disorder, and tolerates other substance use or ongoing injecting without the need to withdraw OST, it becomes less relevant when the citizen no longer meets any of the DSM-5 criteria for opioid use disorder other than a physical dependence on their prescribed LAO.

The recovery approach

As discussed earlier, what constitutes an opioid use disorder is very clearly defined by the DSM-5’s (2013) diagnostic criteria for opioid use disorder. Beyond diagnosis, a theoretical framework helps to explain the complexity of a use disorder experience. Opioid use disorder is in part understood by the notion of harm reduction because it explains the benefits of treatment initiation and continuation (Mattick et al., 2014; Petitjean et al., 2001; Pinto et al., 2010). To create a complete theoretical framework another component is required that can define a wider sense of wellbeing and locate an individual experiencing opioid substance use disorder within a wider context. This broader, far-reaching component of the theoretical framework has been defined as the recovery approach (Bamber, 2010; White & Cloud, 2008).

The recovery approach couches health and wellbeing using strengths based language (White & Cloud, 2008). Where a harm reduction approach aims to minimize mortality, criminality, blood borne viruses, physical health issues, and other social harms, a recovery approach aims to enhance employment opportunities and living conditions, improve social connections and strengthen relationships with friends, family, and whānau (White & Cloud, 2008). The

recovery approach also aims to instill a sense of hope, and improve a person's ability to cope with life stressors (Bamber, 2010). Clients of services providing OST benefit if those clinicians deliver a recovery orientated service, and include within their mindset the idea that the citizen can reach a point whereby they can successfully come off OST (Bamber, 2010). Recovery can be said to be occurring whilst a person is undertaking varying degrees of ongoing substance use, and it also occurs in a state of abstinence (Bamber, 2010).

Recovery is the idea that wellness and wellbeing is a heterogeneous phenomenon, that the signifiers of a shift towards doing, thinking, and feeling 'better' are defined both by the individual and that individuals' interpretation of what wellness and wellbeing are (White & Cloud, 2008). Recovery seeks to broaden the idea of wellness beyond an absence of disease model, and instead view wellness as a pathway along which people locate themselves (Bamber, 2010). Recovery is in part an evolving state of being where people shift positioning as they learn about how their health issues and their whole self inter-relate. Individuals and supporters can uncover helpful strategies and reflect on underlying causes of illness through advancing their health literacy (a personal knowledge of a person's own health predicaments), and a developing knowledge of what works to improve wellness (Nutbeam, 2008).

Recovery is a bi-axial formulation (Granfield & Cloud 1999). One axis relates to a personal exploration, or an introspective process. The second axis relates to the pragmatic and practical concerns, and the persons ability to access external supports (Granfield & Cloud 1999). Wellness and wellbeing tend to improve as physical and mental health, housing, education, and employment needs are met, along with improving social and family whānau relationships (Bamber, 2010). This bi-axial formulation is deemed as recovery capital. Cloud and Granfield (2008) define recovery capital as the amount of an individual's intrinsic and extrinsic resource that can be accessed for the initiation and continuation of managing ones own substance misuse. A large proportion of these authors' research was drawn from a cohort of naturally recovering people, that is, people who did not seek peer group or professional help. This cohort instead cited the factors mentioned above as crucial in their recovery (Granfield & Cloud, 1999). White and Cloud provide a recovery capital and problem severity matrix, where people with a high recovery capital profile but with a low problem severity may need only a brief intervention to address their substance use disorder, where as someone with low recovery capital and high problem severity may benefit from more intensive interventions (White & Cloud, 2008).

Taking recovery capital into account during assessment can translate into discharge planning at admission (Bamber, 2010). White and Cloud (2008) argue that a person's individual recovery capital at the commencement of the treatment affects the treatment pathway. Part of the enquiry from this project is to ask the citizens about their perspectives of BUP/NX, and how it relates to their recovery. Productive questions include: What do citizens envisage their recovery to look like further down the line, and of what benefit would it be for the citizen if the concept of recovery capital were taken into account during initial assessment and partnership planning/goal setting? What insights can citizens offer so services moving towards a recovery perspective in their over-arching service values incorporate this into their prescribing? Are there benefits in shifting the prescribing of OSTs away from being risk mitigation and harm reduction exercise towards a framework that incorporates recovery from the outset?

Citizenship defined

Citizenship is a framework that explains how being an active participant of a civil society, who ascribes to the laws and social norms, in return is equally entitled to the rights and freedoms of their co-citizens (Isin, 2008). Within a health context there is recognition that mental health service users, and people with disabilities, are not always afforded the opportunities to be full and equal members of society as their treatment is co-opted by medico-legal and bio-medical models (Hazelton & Clinton 2001; Henderson, 2008). Historically those people who had been incarcerated, either for criminal or mental health reasons were seen as lacking the capacity to be a productive citizen, and thus their chance to exercise their legal rights and their social responsibilities was removed (Isin, 2002). Isin contends that state of being one who remains peripheral to the dominant norm experiences a state of 'otherness'. Otherness is a circumstance of citizenship because otherness enables the dominant social group to feel privileged and powerful comparative to an 'other'. The citizenship framework provides a robust way to understand what social and societal processes contribute towards how those who access mental health and addiction services experience inclusionary and exclusionary mechanisms based on perceptions of what defines them as 'normal' or as an 'other' (Harmer, Finlayson, & Warren, 2013). In the case of this study, citizenship pertains to how the treatment pathways for opioid substitution contribute or detract from the participant's sense of inclusion in a civil and social capacity.

Buprenorphine/naloxone (BUP/NX) pharmacological properties

Buprenorphine/naloxone is a patented drug combination that is branded as Suboxone. At a ratio of four to one, it is comprised of buprenorphine, a mixed agonist-antagonist opioid receptor modulator, and naloxone, an opioid antagonist, which is included to deter the intravenous use of the buprenorphine (Mendelson et al., 1996). Buprenorphine's pharmacological activity is complex and actions include acting as a partial agonist at the Mu-Opioid receptor, a weak partial agonist at the Kappa Opioid receptor, an antagonist at the Delta-Opioid receptor, and as a weak low affinity partial agonist at the nociception receptor (Khroyan, Wu, & Polgar, 2014). Buprenorphine works to block the voltage-gated sodium channels, which accounts for its powerful local anesthetic effects (Leffler, Frank, & Kistner, 2012). It also has a slow disassociation from the Mu receptor meaning it remains attached to the receptors for twelve hours at a low dose of two milligrams, and up to forty-eight hours at doses above sixteen milligrams (Khroyan et al., 2014).

Naloxone's pharmacological action is as a competitive antagonist at the Mu-Opioid, Kappa-Opioid, and Delta-Opioid receptors (Khroyan et al., 2014). Although it is included in the BUP/NX formulation as a deterrent to use the buprenorphine intravenously, the effect of naloxone is limited because the longevity of buprenorphine's action and the binding affinity of buprenorphine to the opioid receptor sites are superior to naloxone's ability to displace it (Villiger & Taylor, 1981). This means that when BUP/NX is used intravenously, the naloxone induced withdrawal sensation dissipates and the user is left with the intoxicating effect of the buprenorphine (Volpe et al., 2011). This effect diminishes the intended deterrent value of adding naloxone to buprenorphine (Volpe et al., 2011).

The clinical advantage of BUP/NX is that as a mixed agonist-antagonist it largely eliminates the possibility of a life threatening respiratory depression from overdose that is associated with full agonist opiates (Mucklow, 2000). In essence BUP/NX is a partial opioid agonist and does part of the job that a full opioid agonist does. It is an effective anesthetic, but in terms of treating opioid use disorder, it is effective because it acts as a partial agonist on the mu receptors (which reduces the risk of overdose), it has a high affinity with the Mu receptors (which means other opiates have little to no effect), and it has a slow disassociation from the mu receptors (which means it extends the period of time between doses and withdrawal) (Khroyan et al., 2014).

Methadone pharmacology

Methadone is a synthesized, long acting, full agonist opioid (Brown, Kraus, Fleming, & Reddy, 2004). An acyclic analogue of heroin, it consists of two parts. The first part, levomethadone, binds to the Mu-Opioid receptor and provides strong analgesic effects (Brown et al., 2004). The second part of the analogue is known as dextromethadone, which has some affinity with the glutamatergic n-methyl-D-aspartate receptor (NMDA) (Brown et al., 2004). As an LAO, methadone reaches peak level after four hours, and has a half-life somewhere in the vicinity of 15-60 hours, with a mean time of 22 hours (Brown et al., 2004).

Methadone's pharmacological effectiveness in terms of the treatment for opioid substance use disorder is related to its long acting mechanism on the Mu-receptor, which, at an adequate dose creates dose stability where there are no withdrawal or intoxication experiences (Brown et al., 2004). The dextromethadone, component has no opioid activity but it has been proposed that the NMDA activity is the mechanism that reduces cravings for opiates, perhaps by disrupting neural pathways associated with the memory of reward (Xiao, Smith, Caruso, & Kellar, 2001). The research rationale and approach are discussed in the next sections.

Research rationale

The providers of good health care values the input and opinions of people using the service. This research will ask citizens about their experiences of BUP/NX to understand what their perceptions are of the treatment that is offered. The findings will help mental health nurses and other health professionals working in addiction services to improve their ability to provide better treatment.

Opioid substitution treatment is most effective as an open-ended long-term treatment (Anglin, Speckart, Booth, & Ryan, 1989). The history of OST has been clouded by politically driven agendas. Decades of consistent international pressure has been applied from clinicians and mental health nurses to enable best practice principles of open-ended treatment to be the mainstay of care for opioid substance use disorder (Anglin et al., 1989).

This researcher's experience of service provision is that at one end of the treatment spectrum there are many clients on methadone who, despite repeated attempts, feel unable to come off. The other end of the spectrum is those people who are beginning their treatment for opioid

use disorder, and are unsure which option, whether it is methadone or BUP/NX, is the most suitable for them. Essentially there are two available medications at present, and there is potential to develop screening and triage tools which can identify which medicine is best for a new starter, while keeping an eye towards discharge following what is usually and extended treatment for opioid use disorder.

There are currently many assumptions health providers make while determining whether to prescribe methadone or BUP/NX, and treatment provision is guided by these assumptions. This study aims to listen to citizens' views as to the essential parts of this treatment decision from their perspective so as to better guide clinical decision-making when considering the suitability of methadone or BUP/NX for someone seeking treatment for an opioid use disorder.

Research Aim

The aims of this research include describing citizens' experiences of BUP/NX and their perspectives on the decision-making and events that contributed to medication choices.

Research design

This research used a qualitative descriptive design. These studies elicit data from participants (usually by semi-structured interviews), with the aim of identifying prominent themes to better explain a phenomenon (Vaismoradi, Turunen, & Bondas, 2013). The participants of this study were asked to compare and contrast their experiences of taking methadone and BUP/NX. The participants were selected from those people who experience opioid use disorder and have used BUP/NX at some point during their treatment. The texts were examined for patterns and themes in order to draw conclusions about how the different pharmacological effects of methadone and BUP/NX have a bearing on the participant's decision-making process, as well as other factors that also have an effect on decision making.

There are two crucial parts of the treatment pathway with which this study will be framed. The initiation of treatment is crucial because that is the point when the substitution medicine is decided upon, also at the point well into recovery, when the desire to use opioids in an uncontrolled fashion is managed by the citizen in a sustained way, and pharmacological

interventions no longer seem necessary due to the citizens own psychological ability to mitigate the risk of relapse into opiate use.

Outline of the thesis

This thesis is presented in six chapters. Leading on from the background context provided in this introduction, and the rationale for this study, the second chapter reviews the relevant literature as it relates to the experience of an opioid use disorder, and the multi-factorial elements that impact on citizen's experiences in their treatment and their recovery trajectories. Chapter two also reviews the literature that compares methadone and BUP/NX, and the research relating to the pharmacology of both methadone and BUP/NX. Chapter three explains the qualitative descriptive methodology in more depth, the features of this study's design, and the ethical considerations.

Chapter four presents the findings extracted from the interviews with the participants. Four themes were extracted from the interview data: drivers for opioid substitution treatment change; readiness for BUP/NX substitution treatment; absence of effect from BUP/NX; and an increased sense of citizenship on BUP/NX. Chapter five discusses the findings in relation to the literature and to each other, and presents a decision matrix for improving treatment decisions when someone with an opioid use disorder is switching between methadone and BUP/NX. Finally, chapter six discusses the limitations, summarises the findings, implications on future research, and finishes with recommendations.

Conclusion

A qualitative descriptive methodology is used in this research to explore the decision-making factors that result in citizens receiving treatment for an opioid use disorder switching between methadone and BUP/NX. This research also explores how the participants of the study differentiate between their experiences of being on methadone and BUP/NX. This chapter has provided a brief examination of the bio-psychosocial factors that impact on the treatment of opioid use disorder, discussed recovery, harm reduction and citizenship as the theoretical foundation with which to interpret these factors, and outlined the research aims and qualitative descriptive research design. The following chapter reviews the pertinent literature to provide context and background to the research problem.

CHAPTER TWO - LITERATURE REVIEW

Introduction

The conceptualization of what defines a use disorder has gradually developed over two centuries. Alcohol, considered a scourge of the early industrial age, attracted physicians like Dr. Benjamin Rush who in 1784 considered the harmful consequences of chronic alcoholism and argued that it should be treated as a condition or disease (Levine, 1978). Concurrently Native Americans were running support groups, known as ‘sobriety circles’ or ‘recovery circles’ (Levine, 1978). More recently use disorders have been understood as an outcome of epigenetics and transcription (Biliński et al., 2012). Epigenetics is the study of how organisms change through gene expression, rather than changes in genetic codes, and transcription refers to the first step of gene expression where a segment of the deoxyribonucleic acid (DNA) is copied into a part of the ribonucleic acid (RNA) (Biliński et al., 2012). However, the provision of treatment requires an understanding that use disorders are best managed when clinicians, and those seeking help, see use disorders as a complex interplay between bio-psycho-social factors that lead to experiencing substance use patterns that are harmful both physically and functionally.

This chapter aims to summarise the relevant literature underpinning the use of methadone and BUP/NX for the treatment of opioid use disorders. The review will explain harm reduction, recovery, and how they both relate to the treatment of opioid use disorders, and citizens perspectives on these. Research on citizens’ perspectives of opioid substitution treatment will then be reviewed. The review then focuses on methadone and BUP/NX studies, and examines their known effects and side effects.

The search strategy adopted for this literature review commenced by sourcing reviews and publications in English, or translated into the English between 1990 and 2016, using combinations of the following search terms: “methadone AND buprenorphine” OR “methadone AND Suboxone” OR “harm reduction AND methadone” OR “harm reduction AND buprenorphine” OR “harm reduction AND Suboxone” OR “recovery AND methadone” OR “recovery AND buprenorphine” OR “recovery AND Suboxone” OR “addiction AND recovery” OR “mental health AND recovery” OR “addiction AND harm reduction” OR “mental health AND harm reduction” OR “addiction AND citizenship” OR “mental health AND citizenship” OR “methadone AND psychopharmacology” OR “buprenorphine and

psychopharmacology” OR “Suboxone AND psychopharmacology” OR “methadone AND endocrine” OR “buprenorphine and endocrine” OR “Suboxone AND endocrine” OR “analgesics AND endocrine AND endocrine system diseases” OR “opioids AND endocrine AND endocrine system diseases”. Databases searched included PubMed, Medline, CINAHL, Embase, Scopus, and Google Scholar. The reference lists in the retrieved articles also identified further material.

Harm reduction: The treatment of illicit substance use and intravenous use.

A large body of literature has been published on the efficacy of harm reduction in the treatment of substance use disorders and harmful use of substances. Ritter and Cameron (2006) reviewed over 650 research articles to assess the effectiveness of a harm reduction strategy toward illicit substances, intravenous use of those substances, alcohol use, and tobacco use. At the time Ritter and Cameron found little data to validate positive health outcomes of harm reduction for alcohol use or tobacco use, although they do concede that there is useful data coming through that supports a harm reduction approach to tobacco use at the time of publication. Sellman, Foulds, Adamson, Todd, and Deering (2014) discusses the rethinking of harm reduction approaches to hazardous alcohol use and the argument that a controlled drinking approach to mild to moderate alcohol substance use disorder is a reasonable strategy to manage drinking related harms.

Ritter and Cameron (2006) assert the clear economic and health benefits of a combination of harm reduction policies and treatment approaches to illicit drug use and intravenous substance use. Logan and Marlatt (2010) concur and note harm reduction aims to diminish the negative effects of risky behaviours of those not wanting abstinence by specific means including nicotine replacement therapies, needle exchanges, and OST. The clinical desire to provide treatment for citizens who are ambivalent about abstinence is a cornerstone of the harm reduction approach. The health professional seeks to attend to the physical, psycho-social, and emotional dimensions of citizens’ needs through attempts to support a less risky style and moderation of their substance use (Davis & Rosenberg, 2013).

Blume and Logan (2013) distinguish harm-reduction further as a client centered approach that seeks to continue to provide care even if the client is unwilling to reduce their drug use. To this end a harm reduction approach seeks to modify client behavior for a reduction of risk

regardless of substance use patterns or quantities. McKeganey (2012) discusses how the term harm reduction has been left out of the 2012 United Kingdom drug strategy. He proposes that the harm reduction approach targets developing countries in an attempt to influence their policy development and services, and that its unpopularity as a policy term does not negate the continued use of the harm reduction approach in treatment settings. Essentially there is consensus in the literature about what defines harm reduction (namely a broad term for the interventions and policies that reduce problematic behaviours), and what the benefits and most effective interventions are with regards to the harm reduction approach for the treatment of illicit substance use and intravenous use (Blume & Logan, 2013; Davis & Rosenberg, 2013; McKeganey, 2012; Ritter & Cameron, 2006).

Harm reduction: The treatment of opioid dependence.

As the threat of HIV infection spread the economic and health fallout was seen from a political vantage as catastrophic, and it was noted that intravenous drug use was a catalyst for transmission of HIV (Brette, 1991). Reviews of methadone based OST conclusively demonstrate a significantly higher level of retention in treatment than abstinence based approaches (Mattick et al., 2014; Rosenbach & Hunot, 1995). When Kingsbury et al. (1996) surveyed those on methadone based OST they asserted that OST was an important ‘plank’ in a harm minimization approach. They noted that high dose methadone (60mg – 120mg/day) led to a significant reduction in illicit opioid use and injecting behaviours.

Internationally, as the coverage of methadone based OST has increased, there has been concomitant reduction in heroin use and injecting behaviours (Kingsbury et al., 1999; Rosenbach & Hunot, 1995). Stancliff et al.’s (2012) study into harm reduction from BUP/NX based OST for those marginalized from a methadone based OST produced similar results as the aforementioned studies into methadone based OST. This will be discussed further in the section comparing the treatments of methadone to BUP/NX.

Currently research examining the harm reduction approach to opioid dependence focuses on the effectiveness of the approach in reducing the spread of HCV. Opioid Substitution Treatment and needle exchange programs are an effective and relatively inexpensive way to reduce the risk of exposure to HCV (Bruggmann & Grebely, 2015; Wilson et al., 2015). Bruggmann and Grebely (2015), and Wilson et al., (2015) assert that restrictive governmental

drug policies void of harm reduction measures contribute to the spread of HCV, and will result in significant personal and societal costs downstream.

Citizens' perspectives of harm reduction, and opioid substitution treatment

The Danish addiction treatment context has many similarities to the New Zealand Aotearoa context in that they both offer open-ended prescriptions of methadone with psychosocial supports addressing the negative health related and socio-economic consequences of citizens substance use (Järvinen & Anderson, 2009). In a mixed method study by Järvinen and Anderson (2009), Danish citizen's attitudes matched that of the service; perceiving their opioid use disorder as an incurable condition, leading to an expectation of being a chronic, unchangeable addict. Citizens reported that their treatment essentially lost momentum once they were stabilized on treatment, and that fed into their perceptions of an opioid use disorder being an 'un-curable addiction'.

Järvinen and Miller (2010) expanded the focus in their phenomenological study of Danish drug policy. Their definition of harm reduction states that the OST policies in Denmark are intended not to cure citizens' opioid use disorder, but rather to stem the retrogression of their lives and the worsening of their health. Citizen interviews cast the 'Danish methadone program' in a specific light. They saw it as a contradiction in that the programme left them with a sense of stability in the reduction of substance related harm, but also a sense of inferiority and a feeling of being disenfranchised in that it fostered dependence on methadone and the service that provides it.

Citizens' voice in the literature also emphasizes the value of having same day access treatment as a means to reduce harm (Ayres et al., 2014). In the Ayres study the 'script in a day' trial included a questionnaire whereby citizens fed back how they were able to amend their behaviours that resulted in self-care, and health improvements.

Citizen discussion around harm reduction is not limited to the access and ongoing provision of OST. Harris and Rhodes (2013) identified that citizens see the diversion of methadone and the self-regulated use of methadone as a harm reduction strategy. Citizens regarded peer to peer distribution of methadone as playing an important role in alleviating withdrawal, managing their own drug use, maintaining good social relationships and indirectly reducing

the transmission of HCV. This view differs greatly from the dominant and mainly negatively held view of medication diversion as associated to overdose and the perpetuation of harmful poly-substance use through trade (Duffy & Baldwin, 2012; Harris & Rhodes, 2013; Neale, 2000; Weinrich & Stewart, 2000). It is within the context of the self-regulated transaction of prescribed opioids, (where someone other than the intended recipient of the drug obtains the drug) that citizen's perspectives stand apart from the generally accepted view of harm reduction.

Recovery and the treatment of substance use disorder and opioid use disorder

The introduction of methadone for the treatment of opioid substance use disorder was championed and evidenced as a highly effective way of reducing the harms associated with opioid use by Vincent Dole and Marie Nyswander (1967). At the time this approach to care stood apart from its contemporaries because those receiving treatment were not construed as inherently flawed or bad, rather they were experiencing the affliction of addiction (Dole & Nyswander, 1967). Although the science behind OST remains sound (in that a LAO is utilized to block opioid receptor sites and reduce cravings and withdrawals), Dole and Nyswander's interpretation of opioid use disorder is now considered both medical and passive (Bamber, 2010), and had previously been critiqued as only a small part of a wider treatment for opioid addiction amongst war veterans (Bale et al., 1980). In essence, although Bale et al. (1980) had not identified the language of recovery, their research into therapeutic communities for the treatment of opioid addiction amongst war veterans looked beyond substance use being reduced to an illness of craving and reward.

Recovery incorporates the understanding of substance use disorder as chronic illness (Kelly & White, 2011). If treatment for substance use disorder is underpinned by the view that there is chronicity to the experience, and is treated as such, then interventions are not limited to responses to acute substance use related crises (Kelly & White, 2011). Instead recovery can be seen in terms of a person reaching various decision points that most often include a reduction or cessation of other substance use, and an increase in social and employment opportunities (Cloud, & Granfield, 2008). Recovery, according to Bamber (2010) must have a cultural component, and he uses the example of abstinence, pointing out that within certain cultural contexts abstinence from socially acceptable substance use, such as alcohol, is not

considered the social norm, so in that way a teetotaler may be perceived as aberrant within certain cultural contexts. Looking at recovery through this lens, Bamber argues the complexity of wellness for those experiencing substance use disorder as the wider societal perceptions influence the recovering citizen. Bamber then presents a view of recovery that is inclusive of ongoing substance use, abstinence (including abstinence from prescribed opioids), and movement between these states of being.

As a person's recovery builds on itself so does functional capacity, which has been termed as 'recovery capital' (Cloud, & Granfield, 2008). Recovery capital is the term that explains how as the resources –be it social, financial, educational, and emotional- available to a person increase so their resilience and opportunity for wellness increases. Recovery and recovery capital include the states of stable OST and abstinence, and are a shift away from a binary modality of citizens 'being' maintained on substitution treatment or 'being' abstinent towards a consideration of the citizen as experiencing complex cultural and bio-psycho-social milieu (Bamber, 2010; Cloud & Granville, 2008; White & Cloud 2008).

Citizens' perspectives of recovery

Best and Laudet (2010) point out that the term 'recovery' is broad, open to misinterpretation, and some clinicians, academics, and policy makers have stated there are risks associated with calling recovery a 'movement'. Citizens, clinicians and academics argue that recovery is better understood, not as a movement but as a peer led theory (Bamber, 2010). The concept of recovery has been defined and developed through the citizen movement where experiential knowledge from those undergoing treatment for mental health and substance use issues has been collectively and critically reviewed to distill a model of care that places the citizen at the center treatment paradigm (Bamber, 2010; Starnino et al., 2010). Slade (2010) argues that recovery can be applied in a tangible pragmatic way within clinical treatment and across policy settings, namely by emphasis on the person's own strengths and chosen goals. Treatment, delivered from a position of recovery, prioritises increasing a person's well-being as opposed to treating illness.

Citizens have also developed specific peer-led self-management recovery groups (Starnino et al., 2010). One such group is the *Wellness Recovery Action Planning* group (WRAP). This group is citizen developed and facilitated, and the effectiveness of the group, although just below a level of statistical significance in a study conducted by Starnino (2010) demonstrated

promising evidence from group participants who self reported that WRAP had a positive effect on hope and recovery orientation. Harmer, Finlayson and Warren (2013) point out that the recovery was limited in supporting experiences of social inclusion for those engaged in addiction and mental health treatment. Recovery, although beneficial for improving individual health outcomes, did not result in those individuals feeling like they were actively participating citizens.

Citizens' experiences of opioid substitution treatment

Madden et al. (2008) surveyed 432 New South Wales citizens and asked them whether they were satisfied with their OST. Madden concluded that citizens are generally happy with either methadone or BUP/NX for the treatment of their opioid use disorder, but the caveat was that the notion of satisfaction was within the context of 'relative experience' or 'expectation', meaning that if expectations were low then the idea of satisfaction could be skewed. A notable point was that 53% of citizens reported that they had no input into their care plan.

Citizens' preferences of using BUP/NX and/or methadone have been researched in the United Kingdom, and in the United States of America with consistent themes from two heavily cited studies (Pinto et al., 2010; Schwartz et al., 2008). Schwartz et al. (2008) in the USA found that for citizens there were very few negative attitudes towards buprenorphine when compared to methadone from those seeking treatment. Schwartz et al. suggests that there is a degree of stigma attached to methadone that is not associated with buprenorphine. Pinto et al. (2010) in their Summit study conducted in the United Kingdom concluded that more citizens opted for methadone, and methadone had a slightly higher efficacy than buprenorphine. The reasons for choosing buprenorphine were similar to the Schwartz study, namely there was less stigma attached to buprenorphine. The Summit Trial (Pinto et al., 2010) backs up the Schwartz study in terms of assessing citizen perceptions of choice around OST. In the Summit Trial 361 participants were surveyed; 134 participants chose buprenorphine, and 227 chose methadone. The summit trial interviews found that the main reasons for choosing buprenorphine after the belief that it was less stigmatizing was its ability to block the effects of heroin, and that it would be easier to come off OST in the future. The reasons given for choosing methadone was based on previous positive experiences of methadone, the fear of having to be in withdrawal to start buprenorphine, the intoxicating effects of methadone and that they were on too high a dosage of heroin to take buprenorphine. Cunningham et al. (2013) interviewed 87 citizens about buprenorphine and found that in addition to the above

points that prior experience of buprenorphine was associated with better retention in treatment with buprenorphine. This is a perspective that is also supported by Gryczynski et al. (2013) whose interviews with citizens concluded that a personal experience of a buprenorphine or methadone, and the ‘street narrative’ that surrounded it had a bearing on treatment choices.

Citizens’ perspectives of various treatment settings for the provision of OST have also been studied. The two main settings for OST are specialist addiction services, and primary based services (MoH, 2014). Primary services are considered from a clinical and policy perspective as being cost effective and more efficient as comprehensive primary care can be provided in conjunction with OST (Arfken et al., 2010; MoH, 2014). Stancliff et al.’s (2012) qualitative study on citizen attitudes toward OST was conducted with New York City focus groups. The study found that i) buprenorphine was most appropriate for those citizens who wanted to stop illicit opioid use, and ii) participants felt they had more control over their treatment on buprenorphine as opposed to methadone because there was less stigma from pharmacists, prescribers, family, and others as compared to methadone (Stancliff et al., 2012). Stancliff et al. concluded that citizens see that it is important that both methadone and buprenorphine are available to address the diverse range of treatment needs for opioid use disorder.

When citizens talk about recovery, many identify coming off OST as a crucial point in their treatment (Bamber, 2010). Winstock et al. (2011) conducted a cross sectional survey of 145 citizens receiving OST in New South Wales. Sixty-two percent of the citizens surveyed considered coming off in the next six months, and of the ones who previously attempted to come off, usually through the process of ‘jumping off’ (rapidly titrating the dose down), most citizens would want to reduce the dosage slowly through a doctor led or self-managed reduction. Winstock et al. concludes that although some citizens may benefit from lifetime OST, there is a clinical responsibility to regularly discuss the issue of coming off OST with citizens.

A comparison of methadone and BUP/NX

Methadone has an auspicious history as a medication for the treatment of opioid substance use disorder, and has been used for over 60 years, and proved its benefits for the treatment of opioid use disorder (Mattick, et al., 2008). Buprenorphine/naloxone has also been demonstrated to be effective in the treatment of opioid substance use disorder (Bell, Trinh, Butler, Randall, & Rubin, 2009). In recent years there have been two meta-analyses that

clearly demonstrate that both long-term provision of methadone and the long-term provision of BUP/NX are more effective than no treatment, or short term managed withdrawal (Barnett et al., 2001; Mattick, et al., 2008). These reviews also demonstrate that retention in treatment from methadone is better than BUP/NX (Hser et al., 2014). When health professionals cite methadone as the gold standard it is because of the increased adherence to methadone that extends the time in treatment and therefore improves the likelihood of stability around opiate use (Mattick et al., 2014).

There are anecdotal reports from citizens that each of these medicines have different qualities, namely methadone sedates and reduces drive for some, and BUP/NX provides a mental clarity and energizing effect (Pinto et al., 2010). These client reports match closely the different pharmacodynamics of each medicine, essentially methadone is a long acting full agonist and BUP/NX is a long acting partial agonist, meaning that methadone's effects are similar to other opiates and BUP/NX's effects are unique to BUP/NX (Mattick et al., 2014). The Summit Trial demonstrates that methadone is easier to remain on and those on buprenorphine are less likely to use other opiates illicitly (Pinto et al., 2010). There are other quantitative studies which acknowledge both methadone's and BUP/NX's strengths and weaknesses, and conclude that the differences between both medicines is negligible, and both medicines are of equal value for the treatment of opioid dependence (Barnett et al., 2001; Giacomuzzi et al., 2003; Petitjean, & Stohler, 2001).

Comparisons of methadone and BUP/NX are limited by the methodological parameters of current studies. There is little research examining client experiences of either methadone or BUP/NX, much of the research has instead focused on retention in treatment, relative risks of treatment, and the degree of ongoing illicit opioid use while in treatment (Bell, Bell, & Mutch, 2006; Fischer et al., 2006; Gryczynski et al., 2013, Kakko et al., 2007; Soyka, et al. 2008). Further research into identifying whether certain groups suit either methadone or BUP/NX was recommended in the conclusions of the Bell et al. (2006), Fischer et al. (2006), Gryczynski et al. (2013), Kakko et al. (2007), and Soyka et al. (2008).

Methadone, buprenorphine/naloxone, and their effects on the endocrine system

Opioid use androgen deficiency results from long-term opioid therapy, whereby the endocrine system is suppressed. This can lead to hypogonadism, osteoporosis, and alterations to the

hypothalamic-pituitary-adrenal-axis and the hypothalamic-pituitary-gonadal-axis (Elliot & Fibuch, 2013; Gudin, Laitman, & Nalamachu, 2015). The impairment of the endocrine system by way of long-term opioid use or treatment, known as endocrinopathy, is experienced through symptoms such as impaired sexual function, low mood, a loss of libido, and osteoporosis (Baldini, Von Korff, & Lin, 2012; Brennan, 2013; Elliot & Fibuch, 2013; Gudin et al., 2015). Endocrinopathy has been identified specifically in people receiving term methadone treatment (Bawor et al., 2014; Trajanovska, Vujovic, Ignjatova, Janicevic-Ivanovska, & Cibisev, 2013).

The effect of endocrine suppression is especially prevalent in men because it is so closely related to testosterone levels (Bawor et al., 2014). Low plasma testosterone is the primary marker for endocrinopathy, and Bliesener, Albrecht, Schwager, Weckbecker, Lichtermann and Klingmuller (2005) identified that those prescribed buprenorphine maintained their plasma testosterone and were less likely to experience symptoms related to low testosterone than those being prescribed methadone. An important consideration when reviewing the literature related to the endocrine effects of both methadone and BUP/NX is to take into account that this literature review found no data that stipulated how long it took for these chronic endocrinopathic effects to take place, therefore there is clinical grounds to not rule out the fact that over time suppression of the endocrine system phenomena may result with the provision of BUP/NX.

Methadone, buprenorphine/naloxone, and their cognitive effects

The neuropsychological aspects of opioid use, which result in cognitive impairment, have been extensively researched (Walker & Zacny, 1998; Walsh, Nuzzo, Lofwall, & Holtman, 2008; Zacny, 1995; Zacny & Gutierrez, 2011). This cognitive impairment while on opioids is no different to those who are on long-term methadone or buprenorphine, and those participants also display impairment around processing speed, and executive functioning in the short term (Darke, McDonald, Kaye, & Torok, 2012). Chronic or long-term use though does appear to result in those on buprenorphine experiencing less cognitive impairment than those on methadone in the measures of psychomotor speed, working memory, divided attention, reaction speed, and verbal memory (Rapeli, Fabritius, Klaska, & Alho, 2011; Soyka et al., 2011). The rationale for buprenorphine leading to less cognitive impairment over the long term has been suggested as a result of buprenorphine being a partial agonist and thus only partially impacting on cognitive function when compared to full agonists such as methadone

or heroin (Soyka, Horak, Dittert, & Kagerer, 2001). Opioid use disorder though is a complex milieu of psychosocial and pharmacological factors which limit these studies, and often the methodologies associated with cognitive studies into opioid use fail to account for psychiatric comorbidities and other substance use (Mintzer, Correia, & Strain, 2004; Mintzer & Stitzner, 2002).

Conclusion

Opioid use disorder has profound negative impacts on the individual, and on communities. There is a greatly increased risk of contracting blood-borne viruses when using intravenous opioids, and life threatening overdose when using all opioids in an uncontrolled manner. Opioid substitution treatments aim to establish an individual on a stable dose of a prescribed long acting opioid to reduce the desire to use short acting opioids, ameliorate withdrawal symptoms, and reduce the chaos associated with uncontrolled opioid use. Internationally treatment providers largely recognize substitution treatment as superior in its outcomes when compared with repeated managed withdrawals off opioids.

Research has considered opioid substitution treatment as a success in terms of both harm reduction and enhancing recovery. From the participant's perspective, receiving methadone for treatment has provided many benefits in terms of harm reduction and recovery. Previous qualitative research has explored stigma as a powerful motivator for citizens seeking treatment for their opioid use disorder to leave substitution treatment or change from methadone to BUP/NX. Finally, comparisons between methadone and BUP/NX have identified that methadone is easier to remain on when compared to BUP/NX yet current literature suggests that there are likely more endocrine side-effects and more cognitive impairment with individuals taking methadone when compared to BUP/NX.

CHAPTER THREE - RESEARCH DESIGN

Introduction

This chapter outlines the methodological and theoretical underpinnings of the research in this thesis. The philosophical context influencing the selection of qualitative descriptive research methodology is discussed. Participant recruitment, data collection method, and analytic approach are explained, as well the ethical considerations of the study and the actions taken to address them. Finally the rationale as to how the rigour and trustworthiness of the study was established is discussed.

Previous research into opioid substitution treatment has used mostly quantitative methods that compare methadone and BUP/NX in terms of retention in treatment and on-going other opioid use (Mattick et al., 2008). These studies have found that those receiving methadone were more likely to remain in treatment when compared to BUP/NX, especially in the initial stages of treatment, and that those receiving BUP/NX were less likely to continue intravenous drug use (Pinto et al., 2010; Gryczynski et al., 2013). Currently there are a few qualitative studies which have enquired as to the reasons why citizens chose to change their treatment from methadone to BUP/NX (Sohler et al., 2013; Winstock et al., 2011). These studies have added to our understanding of citizens feeling stigmatized while on methadone which has served as a primary driver to switch to BUP/NX (Sohler et al., 2013). From a methodological standpoint qualitative research is ably qualified to explore the words and experiences of those citizens receiving opioid substitution treatment, and there is great value in choosing a qualitative descriptive approach to enable citizens themselves to comment on their own experiences through their own unique lens.

Research aims

This study begins with a clear sense of the quantitative literature that compares methadone and BUP/NX. In taking this deductive research into account, this research will draw from the participant's narratives to examine the patterns, themes, and feelings of those who have been prescribed BUP/NX. By interpreting the complexities of citizens' decision choices which impact on their opioid substitution treatment this study aims to enrich our understanding of how people experience methadone and BUP/NX as it relates to treatment and recovery.

Research methodology: Qualitative description

Qualitative description's philosophical roots are firmly embedded within the same ontological space as other qualitative methodologies such as grounded theory, phenomenology, and ethnography (Sullivan-Bolyai, Bova, & Harper, 2005). Unlike these clearly defined methodologies though, qualitative description has no commitment to any single theoretical foundation (Annells & Whitehead 2007). The approach also does not seek view the subject matter from a particular traditional philosophical position (Chenail, 2011). Instead, qualitative description intends to give “not thick description (ethnography), theory development (grounded theory), or interpretative meaning of an experience (phenomenology), but a rich description of the experience depicted in easily understood language” (Sullivan-Bolyai et al., 2005, p.128).

Inherent within qualitative description there is an intent that the researcher remains as close as they can to the “surface of the data and events” (Sandelowski, 2000, p. 336). This means that the strength of qualitative description lies in its ability to stay close to the research participants vivid descriptions of occurrences and experiences, unlike qualitative methodologies such as ethnography and discourse analysis, whose methodological complexities often lose the rich meaning within the data as the theoretical constraints are applied (Sandelowski, 2010). Indeed Sandelowski considers the descriptive aspect of qualitative description as important because it hones understandings of unclear phenomena: “qualitative description makes visible the porous lines between qualitative and quantitative description” (Sandelowski, 2010, p. 82). Making ‘the porous visible’ is pertinent to this study because the literature that informs the research question is primarily quantitative, but often lacks meaning for the individual requesting treatment for opioid use. Qualitative description lends itself to this research topic, as it is methodologically useful for casting more light, through the insights of the participants, on a phenomenon that has a large bank of quantitative literature.

When the researcher is documenting citizens' perspectives, their role is to take account of the events and processes that both researcher and participant would agree were authentic (Sullivan-Bolyai et al., 2005). This provides valuable opportunity for the researcher to ‘acquire inside knowledge’ of how the citizen sees the phenomenon in question (Sandelowski, 2000; Neergaard, Olesen, Andersen, & Sondergaard, 2009). The citizen is considered closest

to the phenomenon and therefore the expert, and the researcher only minimally interprets the expert's words, again to remain close to the surface of the events (Sandelowski, 2000).

Theoretical positioning

This theoretical position of this enquiry adheres to Sandalowski's (2000) definition of qualitative description as being located within the naturalist paradigm of inquiry, whereby the acknowledgement of multiple realities existing simultaneously is studied "in a manner as free of artifice as possible in the artifice-laden enterprise known as conducting research" (Sandelowski, 2010, p. 79). Naturalistic inquiry forms a theoretical basis for rigorous research and is more than simply studies which are conducted within a particular phenomena's natural setting, indeed they are diligent interpretations of particular phenomena (Lincoln & Guba, 1985).

Naturalistic inquiry maintains the researcher and the participant are not fully distinguishable from each other, as they are both subject to the same machinations that determine the human condition (Guba & Lincoln, 1989). The naturalistic inquirer acknowledges that truth is variable, and that variability is based on the assumptions the researcher takes into the data interpretations (Guba & Lincoln, 1989). Thus a naturalistic interpretation is an interpretation of the multiple truths (Guba & Lincoln, 1989). The researcher then needs to adhere to a robust and rigorous set of naturalistic enquiry principles when enacting a qualitative description study; such as how participants are selected, how data is collected, how data is analysed, any pertinent ethical considerations, the purpose of the study, and how the results are disseminated.

Methodological subjectivity

Each researcher observes and interprets phenomena based on their own contextual constructs. These constructs are defined by lived experience, temperament, assumptions, and subjective bias. This research acknowledges the researcher's subjectivity imparts a flavour on the study. More so the methodology of this research acknowledges that all parts of the research design are constructed in a flexible and connected fashion. Maxwell (2012) uses the analogy of a rubber band to explain this flexible and reflexive interconnectedness:

This 'rubber band' metaphor portrays a qualitative design as something with considerable flexibility, but in which there are constraints imposed by the

different parts on one another, constraints which, if violated, make the design ineffective. (p. 6)

These constraints refer to the rigor and robustness of the research process, and further iterate the need for the researcher to conform to the philosophical and theoretical processes contained within qualitative description methodology and thematic analysis.

As an experienced practitioner/novice researcher, this researcher approached this study with his own beliefs and assumptions:

1. Methadone is a well known treatment option amongst clinicians and service users alike. Its effects are well documented, and its risks mitigated through careful clinical management. BUP/NX is conversely relatively new in the Aotearoa New Zealand context, its effects are less well known amongst clinicians and service users, yet it has a lower cardiac and respiratory risk profile when compared to methadone.
2. Within health services in New Zealand, currently people with addiction are marginalised and struggle to be heard. The choice of the term *citizens* marks the positioning of people experiencing addiction as full citizens and participants with all the rights and responsibilities inherent in living in a civil society.
3. Diagnostic criteria and positivist evidence of the causal factors that define use disorders only go part of the way to providing the solutions required to improve health outcomes for those experiencing use disorders.
4. Formulations of the events that led to the service user requesting treatment can inform treatment, and enable the service user to navigate a new reality.
5. This research will provide a more detailed understanding of the factors that contribute to ensuring that methadone or BUP/NX are targeted towards those individuals that will likely benefit from each respective medication.

In summation, the theoretical foundations that support this inquiry into citizen's perspectives of BUP/NX substitution treatment find their origins in naturalistic inquiry. Drawing on the qualitative descriptive approach, this study acknowledges that the researcher's subjective position has bearing on the study, and therefore the researcher has adhered to clearly defined research principles to ensure other researchers could replicate the research process and also ensured that the methodological process is reflexive and does justice to the data. This research is underpinned by the naturalistic traditions of qualitative inquiry where multiple truths are

allowed to exist simultaneously (Carpenter & Suto, 2008). This research then considers the thematic complexity of the data from the position of researcher as subjective analyst, utilising robust research methods and data analysis to lend legitimacy to the studies findings.

Research methods

Participants

This study collected data from citizens experiencing opioid use disorder, who have an active diagnosis for opioid use disorder and are receiving treatment in Aotearoa New Zealand. Once ethical approval was obtained participants were invited to participate in the study.

Recruitment and data collection ran in parallel over a twelve-week time frame.

Citizens as Participants

Citizens who experience opioid use disorder and had been prescribed BUP/NX at any time during their treatment were purposefully identified through a confidential electronic database. Names were then split into two distinct groups; those who identify as Māori or non-Māori, their names were collated, randomly selected, and then contacted by an impartial mediator who was not the researcher. There was a clear determination to ensure Māori representation in the study to ensure the research had relevance to Māori to non-Māori. Citizens who agreed to consider being interviewed were then sent out an information sheet. At least 5 working days after receiving the information sheet (see Appendix 1) the researcher then contacted potential participants by phone to see if they were willing to be interviewed. The researcher arranged interviews at times that suited those approached and conducted the interviews at community centers close to or nearby where the participants resided. There were no inclusion criteria other than a current diagnosis of opioid use disorder, and having been prescribed BUP/NX for participation in this study. Exclusionary criteria consisted of those citizens who were experiencing active psychotic symptoms or were under eighteen years of age. These exclusionary criteria did not lead to any willing participant being excluded as no randomly selected participants met these exclusionary criteria. All the participant's details were made anonymous prior to the interviews commencing, with participants choosing the pseudonyms.

Seven individual interviews were conducted, with five male and two female participants. Two participants were Māori and five were European New Zealanders. Participant's ages ranged from 25 through to 65, and all participants preferred to have no other supports present

throughout the interview. Written consent was sought prior to each interview. Of the seven participants, five had switched from methadone to BUP/NX, one started directly on BUP/NX, and one from BUP/NX to methadone. Five had previously tried BUP/NX prior to the most recent switch. Six participants had chosen to change medication themselves, and one citizen participant was forced to switch from methadone to BUP/NX due to health complications that meant staying on methadone was no longer possible. It is important to note that opioid substitution treatment is a voluntary treatment, and although the reality of opioid use disorder means that options to maintain an opioid dependence are limited, none of the citizen participants in this study were compelled to receive any form of opioid substitution treatment.

The final number of seven citizen participants was arrived at partially through practicalities such as time constraints and the funded size of the study, but also based on the theoretical principles that define qualitative sampling approaches, namely the aim to have a small sample size with which to extract rich thematic data. Random sampling of citizen participants ensured citizen participation unfettered by researcher bias, especially because the researcher had previous knowledge of some of the participants. The researcher had no current health professional relationship with any of the participants or potential participants who were not selected.

Data collection

Semi-structured interviews are a very common form of qualitative data collection, and aim to gather in-depth information about specific phenomena from the citizen participant's perspective (Minichiello, Aroni, & Hays, 2008).). This interview style uses a relaxed conversational style to elicit 'expert' data that the participant sees as the pertinent data. Questions prepared by the researcher are broad in scope and open ended. The participant can shift the conversation towards what they perceive relevant information, thus the citizen participant is expertly informing the researcher on a topic the researcher knows less about than the participant (Minichiello et al., 2008).

Participants were sent a question sheet prior to the interview. All participants were asked four questions so they could relay their set of experiences and clearly articulate their own expert knowledge on BUP/NX as it is used for opioid substitution treatment (Appendix 2). These questions are as follows: What led to you seek treatment? What led to you being prescribed Suboxone? What were you hoping for from this treatment? What would your advice be for

others commencing treatment? The interviewer then asked more focused questions to elicit a deeper, richer, more considered set of perspectives from the citizen participant. This approach of beginning broadly with follow up questions being guided by the participant's answers limits the risk of the researcher guiding the participant towards a particular set of responses that the researcher puts value on (Rubin & Rubin, 2011).

The conversational interviewing style was a combination of quiet listening, punctuated with gentle exploratory questioning. As each participant shared their expertise the interviewer asked more specific descriptive questions based on what experiences or perspectives the citizen was elucidating on. Any questions from the client about incidental education or health matters were addressed with the participants after the interview ceased, and any potentially unmet need for each participant were also addressed, with the participants given any information they requested, and support was again offered as required. The duration of all interviews was between 50 and 60 minutes. The interviews were recorded and transcribed All participants were thanked and many wished to discuss the purpose of the study. Following the interviews each citizen participant received a fully anonymised copy of their transcript for their perusal, and for feedback to the researcher.

Data analysis

The data analysis in qualitative description is done by extracting and arranging the differences and similarities amongst the data, then representing the data in the citizens own terms (Sandelowski, 1995). This straight forward descriptive summation of the expert's experiences lends itself well to health research, namely as it helps practitioners to learn from participating citizens and their descriptions, and this knowledge subsequently influences interventions (Sullivan et al., 2005). As such qualitative description is often utilised for topics of special import to policy makers and health professionals (Sandelowski, 2000).

This research has adopted an approach of interpretive thematic analysis to make sense of the narrative data collected during the semi-structured interviews. This approach is informed by the work of Braun and Clarke (2006), and seeks to identify, order, and interpret the collected data. The first step in thematic analysis is to read through the transcripts to make sense of the data, and then examine what is being said in the transcript to further understand what is being said as a group (Minichiello, Aroni, & Hays, 2008).

Coding plays an important role in thematic analysis by organising or distilling data into sub-themes that are represented as initial codes. From this, patterns that describe similar events emerge, and from this, distinct themes that examine the experience or beliefs behind these events are extracted (Graneheim & Lundman, 2004). Thematic analysis in qualitative descriptive research does not require adherence to the methodological theories that underpin grounded theory, but it does share with grounded theory a common approach of coding the data, by allocating participants comments into prominent themes (Minichiello et al., 2008). This thesis adopts the coding approach that asks; what do I have in front of me? This approach is outlined by Minichiello et al. (2008), and Rubin and Rubin (2012), and evokes the researcher to examine the text regularly and repeatedly to best describe the patterns located within the text, and thus make more sense of phenomenon being explored (Holton, 2007). Along with its use of coding, qualitative descriptive data analysis draws on another element of naturalistic research known as inductive inquiry (Elo & Kyngas, 2008). Inductive inquiry extracts themes and concepts from the data as they appear, and is of benefit when little is known about a particular phenomenon (Braun & Clarke, 2006).

Four main themes were established in the analytic process, and these themes were settled on by ordering twelve particular codes. The theme of *drivers for opioid substitution treatment change* for example resulted from combining several codes to do with frustration towards a particular medicine and its effects, and a desire to change from being tethered to a particular medicine, and to attending the pharmacy under a presumptive stigma. The codes were defined as; *stigma, a loss of control, sedation, and feeling their medication was 'just another drug'*. The participants talked about being stuck in treatment and that attendance at the pharmacy made many of the participants feel stuck in treatment: “being kind of tied to the pharmacy every day”, and going to the pharmacy was “just another thing I had to do”. One participant summed up the theme of *drivers for opioid substitution treatment change*, by saying “5-10 years disappear by pretty much when you're in that sedated state...I'm here now because I don't want to be in that sedated state anymore” This comment was able to be coded in a number of ways as it pertained to being stuck in treatment, alluded to a sense of a loss of control, and feeling sedated. This approach to data analysis was utilised for all four themes that are discussed in chapter four.

Rigour and trustworthiness

Rigour and trustworthiness means to show competence and integrity in order to establish the research project as a legitimate representation (Tobin & Begley, 2004). Qualitative research cannot be replicated in the same way as quantitative research; this is due to each piece of qualitative research being specific to a particular historical, cultural, or social context (Johnson & Waterfield, 2004). Many qualitative researchers have argued that validity and reliability be rejected as concepts that sit within positivist science (Koro-Ljungberg, 2008; Peck & Secker, 1999). Others though argue that to reject these concepts is to reject qualitative research as a scientific endeavor that advances knowledge (Morse, 1999; Tobin & Begley, 2004). Consequently criteria have been advanced for qualitative research with which to judge a particular study's merit. This study will refer to the four criteria (*credibility, dependability, transferability, and confirmability*) as defined by Lincoln and Guba (1985, 1989). These criteria are intended to challenge this study's rigour (Carpenter & Suto, 2008).

Credibility and authenticity relates to the fit between what the participants have said and the researcher's representations of that account (Chilisa, 2012). A population group was carefully selected for its experience of the phenomenon, and the multiple realities from the participants were conveyed as accurately as possible. The research approach fits with the constructivist assumption that there are multiple realities that occur across various social and cultural constructs (Carpenter & Suto, 2008).

Transferability refers to what degree a qualitative inquiry can be applied to other groups or settings, and generate insights in those other groups and settings (Carpenter & Suto, 2008; Sandelowski, 2004). The data in this study has been described in detail to allow the reader to determine the transferability of the findings. Dependability asks whether the findings fit reliably with the data from 'which they have been derived' (Carpenter & Suto, 2008).

Dependability was determined by the auditability of the study, that is, is the research traceable, logical, and documented clearly (Carpenter & Suto, 2008). This thesis established transferability and dependability by including a wide range of quotes from all the participants throughout the research findings, and clearly documents the research process from consideration of the problem through to discussing the findings and conclusions.

Confirmability refers to neutrality or objectivity, and asks that the research is based on findings that are determined by the analysis of the data and not borne out of the researcher's imagination (Tobin & Begley, 2004). An audit process, whereby other investigators can follow the research method from beginning to end, and match the data to the findings, can assess both dependability and confirmability. The research in this study is auditable; recorded interviews were transcribed, member checked (that is participants had the opportunity to review the transcripts for factual accuracy), the research was peer reviewed from a methodological perspective and from a content perspective. These peer reviews happened prior to, during, and after the literature review, coding process, interpretation, and final draft. The role of the academic supervisor was to review the analytical process, and to check that interpretations made were valid and logical. The role of the content supervisor was to check that previous research was referred to accurately, and was used in a logical and factual manner when building the evidence for this thesis.

Ethical considerations

The application for ethics approval was approved by Massey University Human Ethics Committee (HEC Southern A Application-14/102) (Appendix 3). The study's code of ethics comprises of informed consent, confidentiality, risk and harm, and these ethical criteria have been outlined by Guba & Lincoln as a framework to follow throughout the research process (1989).

Informed consent

Informed consent has been defined as the process of suitably providing participants with all practicable information, so that they can make a determination as to the possible risks and benefits of the proposed research, so as to be able to consider their involvement as voluntary (Emanuel, Wendler, & Grady, 2000). This study gained written consent from the participants to interviews, and after they had been provided with an information sheet (Appendix 1). They had a five day period before being contacted by the researcher to invite participation in the research.

Confidentiality

Confidentiality is based on the principle that individuals should have the right to autonomy, and themselves decide who should know their private information (Israel & Hay, 2006). This

research has anonymised the transcriptions, data, and findings to ensure confidentiality. The information has been protected by being safely stored in a locked file, and the recordings and transcripts have no identifying information attached to them. The consent forms are stored separately so no details can be cross-referenced to the data.

Risk and harm

Researchers are obligated to ensure participants will not be adversely affected if they take part in the research (Israel & Hay, 2006; Rubin & Rubin, 2012). The participants of this study were at potential risk if they were aware of each other's involvement. There is a complex social scene that emerges from opioid use, and usually the participants are known to each other. As such this project maintained separation between the participants, hence focus groups were not been considered.

Conflict of interest

As the researcher had a clinical involvement with the service from where the participants volunteered, a conflict of interest needed to be managed. This was achieved by ensuring the researcher had no clinical involvement during the time the research was conducted. The researcher removed themselves from any clinical discussions and notified the participants of this. There was an ethical dilemma in conducting research from a service the researcher had involvement with. This dilemma was mitigated in a number of ways. Firstly, during interviews the researcher provided no treatment direction to the participants. Secondly, no research information was shared with any clinician from the service, and the research is anonymised to ensure other clinicians at the service are able to read the research so it does not impact on an individual's treatment. Finally the researcher omitted any information that could compromise any of the participant's future treatment within the service.

Relevance to Māori health outcomes

Māori are over represented in the area of substance use disorders when compared with other population groups, this includes cannabis, alcohol, amphetamine, and opioids (Adamson, Sellman, Deering, Robertson, & de Zwart, 2006). Any treatment improvement will benefit Māori citizens. An explicit response to cultural factors and cultural identity from treatment providers is cited as important to the success of treatment from Māori who experience that treatment (Huriwai, Sellman, Potiki, & Sullivan, 2000). This study actively approached those

who identified as Māori when randomly selecting participants. This meant establishing a separate selection group to ensure Māori representation. Of the seven participants, two identify as Māori.

The consultation phase of this study considered the importance of getting Māori representation, and completing research that was meaningful to its Māori participants, Māori researchers, and Māori health providers. As a non- Māori this research is not kaupapa Māori, however the qualitative description methodology fits with the oral traditions of Māori knowledge (Cunningham, 2000). The Capital and Coast District Health Board Research Advisory Group- Māori were consulted about the research (see Appendix 4). The Research Advisory Group- Māori advised that Māori participants be provided with culturally specific supports if they required them following on from the research. This was added to the information sheet and discussed with those participants identifying as Māori.

Conclusion

This chapter discusses the theoretical and methodological components that underpinned the research. The process of using qualitative description to meet the research aims, including the steps the researcher took to ensure methodological rigour and trustworthiness, ensure that the data collection was conducted in an ethical and confidential manner, and that the data analysis was conducted in a logical way is addressed. The qualitative description methodology of this thesis was conducted in a dependable and repeatable way, which lends authenticity and validity to the findings and conclusions. The following chapter will examine the research findings.

CHAPTER FOUR- THE RESEARCH FINDINGS

Introduction

Four themes were extracted from the interview data: drivers for opioid substitution treatment change; readiness for BUP/NX substitution treatment; absence of effect from BUP/NX; and an increased sense of citizenship on BUP/NX. There were a number of subthemes that shaped each of the four themes (figure 1). Despite all the participants having very different pathways into treatment, they shared some very similar perceptions and experiences when it came to discussing their decision matrix with regards to switching between methadone and BUP/NX.

The experience of internalised stigma about being on methadone contributes to a helpful switch between methadone and BUP/NX. The absence of noticeable sedative effects from BUP/NX is beneficial for those seeking cognitive clarity and sustained energy. Conversely most of the participants in the study felt that after being on methadone for an extended length of time it was unhelpful because they saw methadone as ‘another drug’ that resulted in participants experiencing methadone as reinforcing their opioid use disorder. Readiness to change can be explained as preparedness to deal with lived trauma and a desire to shift away from a lifestyle focused on seeking sedation and substance induced euphoria. Switching from methadone and BUP/NX was most beneficial when participants made recovery goals that included addressing their opioid use disorder by accessing psycho-social therapies, contributing to their community, and reconnecting with family. Participants also stated that switching from methadone and BUP/NX also made these recovery goals easier to achieve as they had more drive and could think clearer.

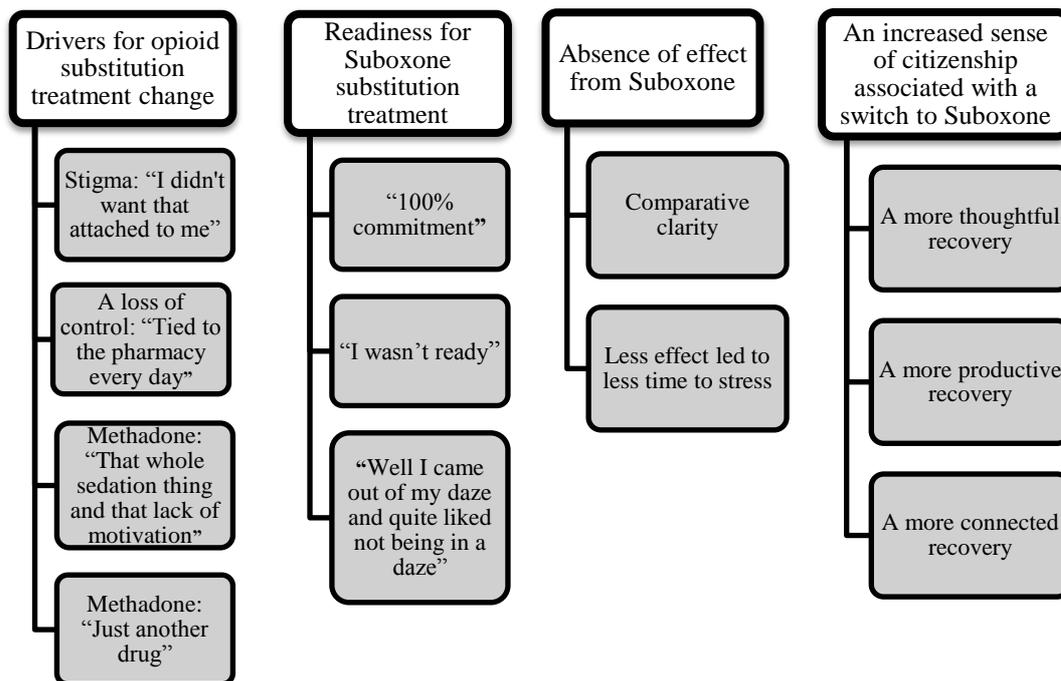


Figure 1. Themes and subthemes evident after data analysis

Drivers for opioid substitution treatment change

This theme focused on the descriptions of what led the participants to consider trying BUP/NX for the treatment of their opioid use disorder. The discussion is structured using the subthemes of stigma, and loss of control. These subthemes represent important drivers for changing from methadone to BUP/NX for the participants. Stigma was an important factor for participants in choosing treatment options, and consisted of internalized stigma, stigma directed from the participants towards others engaged in opioid substitution treatment, and stigma directed from others towards the participants. The study participants also said that their reasons for change were more than just stigma related reasons. The subtheme of loss of control included responses about experiencing the effects of methadone as reinforcing their opioid use disorder while in contrast, BUP/NX tended not to be reinforcing, disliking the sedative side effects of methadone, and experiencing no sedation on BUP/NX.

Stigma: “I didn't want that attached to me”

Stigma as it relates to the research topic is the personal feeling of disgrace or disapproval when experiencing an opioid use disorder and accessing treatment services for that use

disorder. Several participants discussed how their own sense of stigma was associated to methadone. This experience of receiving treatment for opioid use disorder is considered self-stigma. Bob talked about how being on methadone meant he associated himself with other people receiving treatment, and that this had a negative impact on his own sense of self. He did not like sharing an association with others being prescribed methadone and was frustrated that he had to “turn up at the bloody chemist everyday with the rest of them.”

Jared, who had unsuccessfully tried BUP/NX and switched to methadone also expressed a sense of self-stigma while taking methadone, and was able to articulate how the pathway through illicit opioid use and onto treatment led to a state of self criticism: “I’m really ashamed... I kick myself because of the stupidity of getting into opiates in the first place.” During the interview Jared was asked who he thought perpetuated the notion of receiving opioid substitution treatment as stigmatising. His concise response was: “The people on it themselves. Those around them that know they’re on it.”

Participants also felt stigmatized because of the behaviours they had witnessed from others who were receiving methadone substitution treatment. Three of the participants felt that the behavior and attitudes of their peers led to a sense of stigma, and made them question their decision to continue on methadone. Bob was especially frustrated with people being prescribed methadone trying to buy off him, or sell him illicit substances: “Not putting them down, but all I’d get was oh can you get this, can you get that. Do you want this, do you want that. NO!”

Tom had an explanation for this dynamic of feeling vulnerable from attending the pharmacy. He put it down to the fact that while being on methadone was undoubtedly better for everyone than getting no treatment at all, many of those people who picked up their methadone from the pharmacy had no intention to stop using other substances or engage further in their communities: “Everyone that I know from using that’s on methadone either still uses or just doesn’t do anything.” It is useful to note that the administration of methadone and BUP/NX for the treatment of opioid use disorder is tightly controlled, with those in treatment having to attend the pharmacy usually three to seven days per week to consume their medicine in front of a pharmacist. There are legal parameters that specify close control around the administration of opioids for the treatment of dependence. There is also a clinical reason for this, opioid use disorder is a disorder of compulsion, and many service users struggle to manage large amounts of opioids dispensed all at one time, especially early on in treatment.

This close control can become a source of frustration for those further along the treatment pathway, as it is disempowering, and implies mistrust from the treatment service towards the service user.

Participants also experienced a sense of stigma leveled at those on methadone from other members of society. Mr. X was able to articulate that that his own self-stigma was not entirely founded and that the judgmental attitudes he had felt towards himself were also unfounded. He talked about how methadone had helped him be less chaotic but he could not shake off the dislike of himself for being on it.

I think that there is a lot of negative stigma around methadone although I know that there's a lot of research that proves it does work.

Mr. X's decision to change from methadone to BUP/NX was in part because of how his family had treated him differently once they discovered he was on methadone. He was adversely affected because of "the stigma of having family who have judged me for being on that medication."

The restricted and monitored access to methadone also caused concerns. One participant, Tom, talked about feeling uncomfortable taking his methadone in the pharmacy because he believed that while most pharmacists are very respectful, some pharmacists were particularly judgmental about people receiving methadone, and that customers who knew what methadone was would also view you in a disparaging way: "There's a huge stigma there I think from pharmacists, stigma from people there in the pharmacy having to watch you take this thing."

Tom also talked about how his own behaviours on methadone added to his sense of stigma while on methadone. Tom would often double up on his take away doses of methadone and go into withdrawal before he could return to the pharmacy and get another dose "and you might have to go back to calling your parents to say your junkie mates stole it." This would occur over a three or four day period, and Tom would inevitably make a plea to his family to help him through his withdrawal. In hindsight Tom could see how this would taint his family's perception of methadone as a treatment option, and add to his poor self-esteem.

All the participants articulated the view that BUP/NX carried less negative connotations than methadone. Rainbow, who has only ever received BUP/NX for her opioid use disorder, said that BUP/NX was relatively unknown, whereas many people she knew had a very good idea

of what methadone was and that being on methadone identified you as an “addict”; it tarred you with a particular brush that she wanted no part of:

People are pleased that there is Suboxone, really really pleased that they're able to look at it more medically than judge a drug addict. Yes that was one part of the reason

Tom likened methadone to being a legally sanctioned ‘fix’, as there was a reputation amongst opioid users as simply another way to get ‘high’, “whereas Suboxone is just like taking a vitamin in the morning. You lose that stigma.” Dave also had a similar view about methadone being associated to people that he did not want to mix with, and he had a more positive view of those he had met who were being prescribed BUP/NX:

I know from going to the pharmacy that the two people I’ve seen that have been on Suboxone seem to be guys like myself who don’t want to hang around the chemist and cut deals and fuck around.

All participants provided ample examples of the actions of others receiving methadone, and the actions of their own historical selves while on methadone which contributed to their sense of stigma associated with methadone use. Mr. X thought that although people on BUP/NX were less likely to be engaged in on-selling their prescribed medication or dealing other drugs, it may change as BUP/NX becomes more widely prescribed:

I suppose because Suboxone is new, [and unlike methadone] it doesn't have that baggage and there aren't a lot of negative stories around. Yeah, it does have that advantage.

What Mr. X is alluding to here is that the freedom from stigma and clinical control that BUP/NX offers may go hand in hand with the relatively unknown nature of BUP/NX amongst recreational opioid users and the wider social setting.

When she switched to BUP/NX, Ruth experienced a positive change to how she thought of herself, her substance use, and about how she perceived her life. Six of the seven participants expressed similar sentiments to this, which leads into the idea that for all the participants, the stigma associated to methadone was not their only reason to change from methadone to BUP/NX, start their treatment with BUP/NX, or in Jared’s case, switch from BUP/NX to

methadone. There were a multiplicity of reasons which led to their current prescribed treatment for opioid use disorder. It was more than just stigma.

A loss of control: “Tied to the pharmacy every day”

Buprenorphine/naloxone was considered by most participants as a way of establishing more ownership of their treatment, and all participants attempted to understand the benefits and negatives of BUP/NX and methadone by comparing them. Three participants talked about methadone leading to a loss of control. They all interpreted this loss of control as an outcome of being on a controlled substance for the treatment of opioid use disorders that had a high abuse potential. All three participants said their perception of methadone was based on their own histories of methadone use that included frequent double dosing and injecting. Their reticence towards having to attend the pharmacy every day came from the factors as described earlier such as having no desire to be around people who were still caught up in drug dealing, and feeling like they were being judged by pharmacists and other customers at the pharmacy. In addition they felt that although they were adhering to the medication and were taking their methadone as prescribed, they were still expected to go to the pharmacy each day. Mr. X likened being on methadone to “being kind of tied to the pharmacy every day”. Bob likened it to being “just another thing I had to do”.

Dave’s experience was that the feeling of loss of control had little to do with being on methadone or BUP/NX but rather the tight control of the medicines he requires to function properly day to day. He talked about his perception that the clinicians and services prescribing for him wielded significant levels of influence that created a vulnerability to the decisions of others regardless of how beneficial they are to his wellbeing.

Being on the methadone is like being on the dole. These people have complete control—they can ruin your life in an instant and you’ve got no comeback. I always hated that as well. I don’t like it now either, the amount of controls you have to put up with.

Tom felt that because BUP/NX had less abuse potential and less of a ‘bad name’ amongst pharmacists and clinicians when compared to methadone, that he was more in control his treatment. Buprenorphine/naloxone in Tom’s eyes gave him a greater sense of freedom from day to day:

I felt with me as well I could just take a pill, jump in the car and drive home... as long as you're responsible with your medication you get a lot more freedom with Suboxone.

Tom and Ruth believed that the sensation of increased freedom had more to do with how they experienced BUP/NX than any precedent set by those prescribed methadone as outlined above. Tom stated that “there's a lot more freedom with BUP/NX and yeah for me, methadone is as much a handcuff as using... I'm not saying that you don't need to take your BUP/NX every day but it's not this desperation... [you get] with methadone.” Ruth expressed a similar sentiment: “Yeah, personal freedom. It doesn't feel like I've got an anchor around my neck or anything like it did with methadone.”

Methadone: “That whole sedation thing and that lack of motivation”

Sedation from methadone adversely impacted on all the participants, and the side effects of methadone along with sedative characteristics were problematic for many of the participants. They were worried that they would never be able to come off methadone even if they felt ready, and identified the effect of being sedated on methadone as adding to the perception of feeling ‘stuck’. Participants talked about the desire to end the experience of sedation played a part in their changing to BUP/NX, and the fears and complications that withdrawing of methadone presented.

Bob discussed how his sedation was noticeable to his family, and that he now recognized how sedation effects people prescribed methadone when he meets with them.

I just stuck to the methadone but I mean 5-10 years disappear by pretty much when you're in that sedated state...I'm here now because I don't want to be in that sedated state anymore... And I can see other people [on methadone] now who are like ‘gidday mate’ stuff like that, I can see it in their behaviour and things like that.

Dave also criticised the sedating effects of methadone and talked about when he was on methadone he “didn't have as much sort of drive, I was more flat...I always took drugs to be more effective, not to shut out the world. So, I didn't like that about methadone.” For Dave methadone differed from all other opioids he had taken. Heroin and poppy seed tea increased his focus and energy as opposed to methadone which detracted from it. For him BUP/NX

allowed him to have the drive to keep working full time in a way that methadone couldn't because it didn't "shut out the world".

Tom had also switched to BUP/NX in part to avoid sedation. He noticed with many of his old friends and acquaintances receiving methadone that "these guys are also quite fatigued... that whole sedation thing and that lack of motivation." For Tom, it was not only sedation that added to that sense of unease about being prescribed methadone. He was also concerned about respiratory depression from methadone, and Qt prolongation (a cardiac condition related to higher doses of methadone, which can result in heart failure)

I have lots of friends who are on methadone, friends who have died on methadone. Not only is it a poisonous medicine for your heart, there are all these terrible long-term side-effects.

For Tom then these concerns were more than theoretical possibilities as he had witnessed them himself.

Ruth supported Tom's concerns as she changed her treatment to BUP/NX due to respiratory depression on methadone as she describes: "well I kept going into respiratory arrest with methadone. I kept getting pneumonia and ending up not breathing in hospital". Ruth acknowledged that her switch in medication to BUP/NX was the only option for her, but unlike many of the other participants, she enjoyed the sedative effects of methadone and was not happy with her change in medication.

One of Rainbow's biggest concerns about starting treatment for her opioid use disorder was getting "stuck" on methadone. During the interview she talked about her reasons for selecting BUP/NX being more than just wanting to avoid the stigma associated with methadone and that her concerns were more to do with the stories she had heard about how long people stayed on methadone for:

Because I could live past the stigma, I mean being an alcoholic is no fun. Everybody knows about that, I don't even have to tell them. That's quite a hard one. So really it wasn't just stigma... I felt like I could get trapped on that [methadone] for the rest of my life.

Having never been on methadone Rainbow had no personal experience of methadone but believed she had read enough, and heard enough from others about the risk of being ‘stuck’ on methadone.

Ruth on the other hand had experience of opioid use with many opioid and sedative drugs for over forty years. She discussed the respective differences of various opioids in an attempt to articulate how methadone affected her:

Uh, well as far as opiates go it’s one of the strongest. I had a morphine habit... and I used smack in Australia... and methadone’s actually stronger, it’s got more of a clingy effect, it sticks around, it’s very hard to get out of that kind of thing... It takes a long time to wear off and it just seems to stay in your system for a long time before you actually feel clean if you know what I mean. It seems to take a long time to get back to square one with it.

For Ruth, there is a risk of getting ‘stuck’ on methadone because, simply put “it sticks around”. Ruth went on to acknowledge that methadone is important for many people, including herself as it reduced chaos in her life and essentially kept her out of trouble. She hoped to let clinicians and prescribers know though, that there is a less helpful side to methadone that deactivates or reduces the drive in some people:

But I do think that they’re not aware that a lot of people on methadone do just waste their lives, you know they don’t do anything. I know a guy that I’ve known since I was 17 and he’s in the same situation that I was but he’s never gonna do anything, he’s just not gonna do anything. He’s gonna sit around and just die, it’s sad.

Ruth reflected on methadone as both a saving grace and a trap: “They call it liquid handcuffs and it is really. It’s real tight... it’s the whole concept of it.”

Many of the participants had tried to withdraw off methadone in the past, and talked about the distressing and prolonged nature of the process. Both Mr. X and Tom had previously tried to come off methadone, and at a certain point both relapsed into illicit opioid use, and then decided to start on BUP/NX. Mr. X on withdrawing from methadone said “I found it at the start quite easy but getting to certain points it became more difficult when it got to the lower end of the titration.” Tom also compared the inevitability of methadone withdrawal with

heroin withdrawal: "...because you will go into withdrawal with methadone just like you will with heroin."

Dave had previously withdrawn of both methadone and BUP/NX so was in a position to discuss the relative experience of both reductions. He stated that it was easier to come off BUP/NX than off methadone, and once off he returned to his 'normal self' quicker coming off BUP/NX. As Dave succinctly put it: "withdrawing from methadone is the worst." For Jared this awareness that it is difficult to 'come off' methadone was a positive thing at present. It was, in his eyes, the long acting, and hard to leave effects of methadone that kept him stable. Jared like other participants was worried about how difficult it would be to come off his methadone when the time came, but presently he was worried that BUP/NX was too easy to jump on and off. For him, whereas BUP/NX encouraged him to play around with his substitution treatment, methadone kept him engaged in treatment, because he needed it to function every morning and he could not divert his dose.

Methadone: "Just another drug"

Again all the participants reflected on BUP/NX treatment benefits by comparing its effects with the effects of methadone. They all felt that both drugs were of benefit during different phases in the treatment; methadone earlier on, and BUP/NX further down their treatment pathway.

Jared said that methadone was helping him as a medication should because he was working full time, not taking any other illicit substances, and, despite the profound side effect of profuse sweating he experienced, it was generally beneficial in terms of a treatment for opioid use disorder. A number of participants reflected on how previously methadone had helped them in a similar way to what Jared was describing, but at some point things changed and that methadone brought with it, its own set of problems. For Bob methadone became "just another drug. Just another thing I had to do...the next fix... the thing, what I was living for." This was an experience that all the participants could identify with. Ruth and Tom talked of "needing" and "gagging" for methadone.

One of Dave's goals out of treatment was to not use any substances intravenously and at a certain point he found himself injecting his methadone. At that point he reverted to using poppy-seed tea illicitly as he drank it, and saw it as less harmful than injecting methadone.

The participants experienced opioid substitution treatment as a treatment of varying benefit. Methadone or BUP/NX either added to one's sense of wellbeing or detracted from it. For Dave this meant there was little point remaining on methadone if he was injecting it, so he might as well return to illicit poppy seed tea drinking, as for him that represented less harm. Jared knew there was no point staying on BUP/NX because he could easily dispose of it and use other opiates, so for him methadone was a better option. Ruth, Tom and Bob all started out getting benefit from methadone as it enabled them to restore order to their lives and function better, but at a certain point they all began to consider their methadone as 'just another drug'; a way to get a 'fix'.

These participants noted that as the benefits of their methadone, in terms of their treatment, reduced, their old compulsive behaviours pertaining to opioid use returned. While being prescribed methadone Bob was finding himself getting to the pharmacy earlier every day, until the point he was there waiting for them to open. He explained that he was turning up earlier each day "for the sedating reasons, you know... I liked that feeling... You want more, you want more, and you want more. You double-up, triple-up!"

Overwhelmingly there was something about how most of the participants experienced methadone that, at a certain point, resulted in them retuning to a set of compulsive and pressured thoughts, and behaviours. The participants noted an uncanny similarity between how they were prior to treatment and how they were after being prescribed methadone for a number of years. It was like methadone was reinforcing their opioid use disorder.

All participants spent a significant amount of time during their interviews discussing the reasons that led to them being prescribed methadone and/or BUP/NX. What they all divulged was that it was a complex set of factors including their own perceptions of both medications, the perceptions of others, their observations of how each medication affected other people, and their own experiences of what happened to their mood, energy levels, and physical self on each medication from day to day. Participants were clear that there was stigma associated with methadone, but all participants, either currently on methadone or BUP/NX were also clear that stigma was only a part of the reason why they were prescribed either BUP/NX or methadone. The pharmacological effects of each respective medication were also factors that had a bearing for the participants. Although each participant was party to a different set of

factors leading to their current medication for opioid substitution treatment, they all shared a commonality of experience.

Readiness for BUP/NX substitution treatment: “A chance to get your head around things”

This theme focuses on the participant’s considerations of what it means to be ‘ready’ to take BUP/NX, and for the beneficial effects as an opioid substitution treatment. It was clear in the subthemes that participants believed that you needed to be ready for BUP/NX to be of benefit, that if you were not prepared for BUP/NX’s relative lack of effect in comparison to other opiates then it would be of less benefit. For some of the participants, BUP/NX was associated with increased awareness of long standing anxiety and an outpouring of the emotions associated to addressing the underlying causes of opioid use disorder.

“100% commitment”

As discussed earlier participants experienced methadone as having mostly similar effects to other opioids when compared to BUP/NX. All the participants saw this as an important factor in terms of changing from one substitution treatment to another. Because BUP/NX was seen as so different in its effect, all participants felt that it took longer to adjust to. The potential for someone to feel they could not tolerate BUP/NX and then stop taking it was higher than with methadone. Bob talked about needing to be “fully committed to BUP/NX for it to work”. Bob saw commitment as giving treatment a chance, perhaps engaging in case management, psychology, group work, or even just giving things a bit of time to change: “You know, maybe signing a piece of paper saying that you’ll give it a couple of months. A chance to get your head around things.” Bob had recently met someone just starting out in treatment, who, within a matter of weeks switched from BUP/NX (the medicine he began treatment on) to methadone because he was struggling to adjust to the BUP/NX. Bob could acknowledge that perhaps this person “wasn’t ready for Suboxone”, but expressed a sense of an opportunity lost, and a strong view that this decision may reduce his opportunity to engage in more in depth treatment:

Rainbow, despite a very different pathway into treatment to Bob expressed a very similar sentiment. Where Bob had used illicit opioids for decades, Rainbows primary substance of

clinical concern was alcohol, and her opioid dependence was the result of long term prescribing. As she puts it:

I think for it to work successfully, you would want to be committed to coming off opiates altogether and I guess that's obvious and what it should be like with anything but what I was thinking is that this wouldn't work for me if I wasn't 100% committed. And believe that it does work, and I do know because I've experienced it.

Rainbow clearly felt that the motivation to abstain from all opioids increased the likelihood of BUP/NX being beneficial, and she, like Bob repeatedly referred to the concept of commitment, in fact for both Rainbow and Bob it was about being “fully committed” or “100% committed”. To them this was a part of what readiness was in terms of getting the most benefit from BUP/NX.

Tom also reported being prepared for what was going to happen when he commenced BUP/NX (what this constitutes will be dealt with in the following theme), and that he had known people who were “not ready” for BUP/NX. He went on to say: “There are a couple people I know that it hasn't worked for but that's just because they just don't want to quit using drugs.”

For Tom as for Rainbow and Bob there was a sentiment that citizens seeking treatment for their opioid use disorder will find the best gains from BUP/NX if they are “fully committed”. Bob associated commitment to the idea that one would more fully engage in psychological therapies. For Rainbow and Tom readiness meant a commitment to stopping other opiates, to quitting other drugs.

Both Tom and Bob spent some time talking about how following on from their commencement of BUP/NX they experienced a flood of anxiety and emotions associated with addressing the underlying causes of their opioid use disorder. Tom talked about how his family members and clinical team had prepared him for this, and because he expected it he was able to get through the first six months on BUP/NX and ‘ride out’ his increased anxiety once off methadone and other central nervous system (CNS) depressants. Bob also, after his previous experience on BUP/NX had primed himself with what to expect:

Yeah, things like my post traumatic stress coming back and nightmares and stuff, because of the clarity. The anxiety is coming back a little bit as well so I know I have to deal with that. The methadone wiped that all out.

Bob and Tom were clear that BUP/NX would be generally more beneficial for treating opioid use disorder if those commencing it had fore warning about the potential for underlying anxieties or unresolved issues coming to the surface.

“I wasn’t ready”

While many of the participants had made reference to the notion of being ready for BUP/NX to benefit from it, Jared talked about a different experience. He explained also that he was not ‘ready’ for the BUP/NX he was started on. His experience was in a similar vein to what Bob had previously been through. Jared sought out opioid substitution treatment because he was desperate to restore some order to his life, feel more able to function, continue to run his business, and stem the growing debt he was accruing. For a year Jared only took BUP/NX when he could not access injectable morphine, and because he was accessing an interim program (a program where BUP/NX was offered but no case management or psychological support provided) he drifted on in a way that was not compatible with his initial goals of treatment; namely cessation of illicit opioids.

On reflection Jared contended that he still wanted to use turned morphine when he started treatment on BUP/NX, and lamented not “giving it a better go” because now he has to manage the intrusive side effects of methadone such as sweating, less drive, and less energy over all. Jared stated that at present: “I think I could go on it now I’d be stable enough to go back on BUP/NX. I think I’d be OK. As of today, the way I feel today, I would never want to go back to how I was. With the illicit drug use, I never want to go back there.” In this way Jared is starting to articulate a position where he is demonstrating an increased willingness to contend with the less sedating effects of BUP/NX. Jared sums this dynamic up laconically:

At the time when I first came to the clinic you're still in that routine of uh, illicit use and so mentally I was able to divert it and carry on using opioids ... if it wasn't like that I would be taking BUP/NX today.

Bob also talked about how he was not ready for BUP/NX in the past: “I wasn't ready; I hadn't dealt with other issues which I'm dealing with now.” During his previous try of BUP/NX Bob

described himself as being highly resistant to psychological input and unwilling to consider non-pharmacological solutions to his emotional distress.

“Well I came out of my daze and quite liked not being in a daze”

Ruth had a very different experience of switching to BUP/NX in comparison to the other participants because she was forced onto BUP/NX after a prolonged hospitalization with pneumonia her treatment team decided to switch her to BUP/NX. Ruth was very resistant to this change of medication, and commenting on being forcibly switched from methadone to BUP/NX she said: “I expected disaster...I was so tuned into just the methadone thing, you know...nodding off. I was using other drugs on top as well and I don't know, I was just scared of change.”

What Ruth was most worried about was it that she thought she would miss out on the dreamy, daze like feeling that she experienced on methadone. When Ruth was asked what ended up happening she said: “Well I came out of my daze and quite liked not being in a daze”. It took a change to BUP/NX to come out of a dreamy world she said she had occupied for forty years. She said she became much happier than she could ever remember. Ruth said that although she never wanted “to go on Suboxone”, it worked.

For the participants interviewed readiness or preparedness meant a number of things. Readiness included being motivated to access psychological and psychosocial supports, to have a desire and commitment to reduce other opioid use, and to expect a period of time when anxiety and unresolved issues may be heightened. Readiness may also include an after the fact realization that an end to the “dreamy” CNS depressant experiences of methadone was of benefit, as it was for Ruth. According to the participants, citizen attention to these concepts increased the likelihood of BUP/NX being more effective in the treatment of opioid use disorder.

Absence of effect from BUP/NX: “I'm not muddled or befuddled”

This theme relates to the various differences the participants noticed since switching to BUP/NX when compared with their experiences of methadone. Participants talked about feelings of increased clarity on BUP/NX. Unlike methadone, which they experienced as clouding thinking and slowing them down, participants experienced little or no effect when taking BUP/NX. They saw this as important, they reflected on what it was like being on

methadone previously, how methadone narrowed their world and their outlook, and that BUP/NX helped them approach their lives in a more capable manner.

While talking about not being focused on getting to the pharmacy so much since on BUP/NX, there was a suggestion from Tom that BUP/NX in fact had no effect: “It’s not something that you rush to get there, methadone is like going to get a fix. Whereas Suboxone isn’t and you take it and there’s no noticeable effect.” This idea that BUP/NX had no or very little effect when compared to how other opioids were experienced was articulated by other participants. Dave said this fit with his experience of BUP/NX: “Yeah, as I said I really can’t feel it in my system... I’m not muddled or befuddled by the drug.”

Both Rainbow and Ruth actively connected the concept of clear headedness with the notion of absence of effect. Rainbow on BUP/NX: “It is like there is no effect... that could be what they mean by clarity.” Ruth on taking BUP/NX: “Yeah, you can tell you’ve taken it but it’s doesn’t like kick in or anything, you don’t really feel it as such, it just kind of makes things a bit clearer somehow.”

Comparative clarity

This clarity, the experiencing BUP/NX as having “no effect” was better understood by a number of the participants through reflecting back on how they were effected when being prescribed methadone. Bob also associated his new found clarity on BUP/NX with improving his decision-making abilities: “You can still think clearly to make decisions, proper decisions. Which I’d never made on methadone.” Dave spent time during his interview pondering how his methadone had affected him cognitively while he was taking it:

I didn’t find that it noticeably dumbed me down but looking back on the period I was on it I didn’t have as much sort of drive... So it’s hard to know, in isolation, what methadone was doing to me overall. I went to university, I held down jobs, I ran businesses. It didn’t effect my thinking, it didn’t effect my memory.

For Dave the increased sense of clarity was not as profound or noticable as it was for the other participants above. The change in medicines from methadone to BUP/NX led to more subtle changes for Dave. He did articulate clearly what it was he did not like about being on methadone though: “I think methadone encourages a sort of complacency... methadone... or monotone as I used to call it ... takes away peoples edge. You know expect it’s like a

lobotomy, slightly like that.” Dave found that being prescribed BUP/NX he experienced his relationships, social interactions and emotional states more “vibrantly”, so in this way, BUP/NX also added breadth to his life experiences.

Tom and Bob also discussed the effects of methadone that they did not like. Tom talked about losing his “fogginess” once he switched to BUP/NX and how fatigued he always felt on methadone regardless of his dose: “methadone was the worst thing for me because I was just tired, I’d sleep all night and then have naps during the day.” This was in contrast of how Tom discussed the effects of BUP/NX as having very little effect other than a noticeable experience of clear headedness.

Bob, who regarded BUP/NX as restoring his “peripheral vision” described a diametrically opposed experience on methadone where by his thinking became more narrow than off methadone, regardless of what dose he was on: “I still had the blinders on”. Bob discussed how even though methadone was a helpful medication in terms of giving a degree of stability, narrowed down his world until he viewed it with “tunnel vision. I just didn't see what was going on around me... it's just amazing how much methadone, not putting it down because it works for other people, how your peripheral vision is not there.”

Less effect led to less time to stress

These same participants all reported less need for getting to the pharmacy as soon as possible, or being motivated to increase, or double up on their dose of BUP/NX.

Dave noted: “I think less craving with Suboxone... I feel OK. Not stressed about it.”

Ruth reflected back on how methadone compared to BUP/NX in this respect. Ruth was highly motivated to access her methadone prescription first thing in the morning, “whereas with Suboxone you don’t feel like that...I’ll wake up at 10 o’clock and go down there at 12 o’clock in the afternoon, it doesn’t bother me.”

Both Tom and Ruth articulated that there were pharmacological reasons for this. Ruth pointed out that BUP/NX has “got a ceiling on it. It’s not like the methadone where you can go up and up and up; it levels off.” Tom very clearly summed up what he liked about BUP/NX and linked it the substances pharmacological profile, comparing it to methadone:

“You don’t get that ‘I need this’ thing with Suboxone because 1) it’s got a really long half-life and 2) because the lack of effect it doesn’t feel like you’re getting a fix... With Suboxone if you take nine instead of 3, it’s not going to do anything. You know, the ceiling effect. You stop thinking of it as this thing I can get high on.”

Participants thought that the differences they experienced between being prescribed methadone, and switching to BUP/NX cannot just be considered as merely psychological in origin, and that BUP/NX has very different pharmacological effects on the self when compared to the effects that participants experienced from taking methadone. When participants compared the CNS depressant effects of methadone with the relative absence of effect they experienced from BUP/NX they reported clarity of thought and clear headedness. In this way the first and second theme flow into the third theme, as the reasons for change, readiness for change, and absence of effect that BUP/NX proffers reinforce the fact that the participants decision matrices are not driven entirely by social or psychological factors alone, but also by the different pharmacological effects associated to both methadone and BUP/NX.

An increased sense of citizenship associated with a switch to BUP/NX:

“It just kind of crept up on me since the change”

The final theme extracted from the interviews pertains to the participants increased sense of citizenship since their switch to being prescribed BUP/NX. Increased sense of citizenship stemmed from entering more fully into treatments and therapies, approaching substance use differently, improving social skills, reconnecting with family, looking for employment opportunities, having a more positive view of the future, and leading a normal life.

Participants felt a greater sense of connectedness with their own sense of self, and with their social networks. Ruth talked of being more aware of how she acted and appeared to others. On reflection, prior to taking BUP/NX, she could see how her perception of herself differed greatly from how others saw her. “I used to be quite anxious and I used to think the methadone helped me with that but it didn’t it actually made me worse.”

A more thoughtful recovery

Bob relays a sense that he is more thoughtful about his substance use since his switch to BUP/NX: “I think before I act... I delay before... using any other drugs and... slowly it's

diminishing the thought of wanting to use... it's taken me a lot further than ten years on methadone ever did." As such he has a different take on what constitutes treatment for opioid use disorder. Where previously Bob perceived the only useful treatments were based on solely on pharmacotherapy, and more equaled better, he now considers pharmacotherapy as only on part of a wider treatment approach. Reflecting on his switch to BUP/NX, Bob states:

It's making me cope and look at what I've got to actually do. I've got to sort out the underlying issues; it's not so much the drugs. It's the issues that are causing me to use the drugs... Not just getting off the drugs but the reasons behind why you take the drugs... I want to deal with the causes.

Ruth also is approaching substance use differently since commencing on BUP/NX. She reported that she was disinterested in taking other substances a few weeks after she reached a stable dose of BUP/NX. Ruth was not certain if she would always have this lack of interest in using other substances, but was still surprised about it: "Well, put it this way, if I'd still been on methadone I wouldn't have actually thought about not taking anything else, I would've just kept on doing it."

Ruth, like Bob, expressed herself as being more thoughtful about her substance use, more likely to occupy herself in the hobbies she enjoyed, and less likely to seek out drugs on an impulse now that she was taking BUP/NX. There seemed to be another way now for Ruth unlike how she had conducted herself previously: "I just thought well I'm not on methadone anymore so I may as well just try to make a complete clean break, and I just stopped using other things... you want to do things other than drugs instead." When on methadone Ruth had always felt like she wanted more methadone and she never quite had enough, starting BUP/NX removed that onus and she was able to envisage a situation where she managed her medications and not the other way around.

Tom noticed that he approached his alcohol use differently. While being prescribed methadone he had a clear hierarchy of substances he craved. Opioids and benzodiazepines were at the top of the list, but even when he was trying to stay clear of these things he would always resort to drinking: "I used to drink a lot... when I was trying to stay clean, sometimes I'd drink for long periods of time and a lot to try and kind of replicate an effect I suppose, a sedative effect... since being on BUP/NX. It hasn't been an issue." Tom's new way was to not seek out a sedative effect. He decided to shift to BUP/NX to ameliorate that state of

sedation: “Once you’ve been in kind of an opiate induced haze for a long period of time it is kind of like, it’s like being in a bubble.” He opted out of ‘being in the bubble’ and instead committed to psychological supports. He was “was able to engage in quite intensive therapy to do with undiagnosed PTSD which was considered the reason that I got into opiates so young and so heavily.”

Ruth, Bob, and Tom all said that as they approached their substance use without a motivation to become as sedated as they possibly could, they were increasingly keen to access other therapies, and in turn had a better sense of self. The notion that there was another way to do things spilled over into their wider existence.

A more productive recovery

A number of the participants talked about the difference between methadone and BUP/NX, and how it impacted on their ability to consider or do work and study. Ruth said that for the first time in 40 years she has got a job. She had in the past contemplated work, but never could get herself past the application phase let alone attend an interview. She associated this to the daze that methadone put her in, and that she was not bothered either way when it came to working: “Before when I was on methadone, I went for a job and I got all these bits of paper and I thought well I can’t be stuffed filling these out. This time I filled them all out and then got a job. So that’s the difference.”

Tom had always worked while being on methadone, so as he reflected on the shift in his social circumstances since starting BUP/NX he talked about it having a broader impact. He improved in his work place interactions which allowed him to maintain better relationships with his colleagues. Like Ruth, while on methadone he saw himself as relaxed and easy going at work but his workmates experienced him as abrupt and short tempered. He talked about getting on top of his finances, not seeing “a stack of twenties as being a certain amount of a drug”, but rather seeing money as something that enabled him to travel, eat well, and live well. He also was better able to accomplish simple tasks that previously had eluded him such as tidying his room, and helping around the home: “With BUP/NX, my life just kind of settled down. I was able to start to get things back on track and still get everything in order.”

Rainbow talked about how changing from codeine to BUP/NX resulted in having more “energy” to work, travel, garden, socialize with others, and relate with her husband again. She

states that this is because BUP/NX does not change who you are, or how other people see you. This, she puts down to having more energy and BUP/NX sedating her or not altering her mood or mind like codeine did.

It doesn't alter your personality... I go to the pharmacist now, and I'm feeling good, but I'm not buzzing. And I'm just feeling glad that I can think "oh I was gonna plant something" and then I can get straight on it. I'm not walking in the door and sitting down and putting the remote on, it's good, it's really good... In the first couple of hours it makes me feel better. But then it just levels out and now I feel normal.

A more connected recovery

Employment had a positive bearing on Bob's sense of self, but also on his feeling of family connectedness. Bob talked about now having a two year plan for work and study: "Like next year is study... I met all the tutors and they were great and fully supportive there." He stated that he now wants to communicate with his tutors and this helps him work out what he needs to do for his studies, something that has not been the case previously. Bob also feels he is able to better work because he is more aware of his surroundings. He has been doing a high risk part time work in a family business and said that any dose of methadone he was on was sedating and he put himself into situations where he could have hurt himself: "Now I'm thinking beforehand, I'm thinking as I'm doing it where I'm walking, if I'm holding onto something. You know, just that clarity is awesome." As such he says that he and his family are much more comfortable with him working in that role, "my family life and that kind of thing has gotten a lot better through the Suboxone."

Ruth states that since on BUP/NX, her newly found desire and ability to communicate has also had a positive bearing on her family relationships. She feels that she now has the energy to interact with family members and where as previously she would barely talk to others, now she initiates communication: "Well they can't believe it. My brother and sister are amazed. My partner's really pleased because he's got someone to talk to again."

Many of the participants associated BUP/NX with a noticeable improvement in their sense of connectedness. This increased feeling of connection was across many facets of their life. They reported an increased ability and desire to work, socialise, study, and help their wider

community. Participants also reported that they were more aware of how they interacted with others. They said their relationships with friends, partners, family, colleagues, and peers had improved since commencing BUP/NX. Finally many of the participants said since commencing BUP/NX they were more engaged in treatment for their use disorders, and more willing to explore the underlying issues that led to their substance use. All of these changes can be conceptualized as the participants increasing their sense of citizenship. As the participants became more engaged in quality social interactions and spending their time more meaningfully, they had a sense of being a part of a wider world, and more aware of how they fitted in to that world.

Conclusion

In summary, this analysis extracted four main themes from the interview data. *Drivers for opioid substitution treatment change* presented how participants had experienced stigma from others, and had an internalized stigma about methadone, which led to them considering changing to BUP/NX. But they also were clear that changing to BUP/NX was because of the sedative effects they experienced on methadone, as well as how difficult it was to reduce of methadone. Most participants said how at a certain point in their treatment methadone stopped feeling like a medicine and felt like “just another drug”. Therefore, according to the participants, the drivers for treatment change were a combination of social, psychological and pharmacological factors.

Readiness for BUP/NX substitution treatment provided participant insights around how BUP/NX was most effective if you were committed to not wanting to use other opioids, and aware that less sedation would mean an increased likelihood that any distress or anxiety you experienced would become more pronounced. Readiness though was not necessarily awareness as one participant pointed out, in that she was forced to change to BUP/NX, but discovered after the change that she was ready to feel less in “a daze”.

Absence of effect from BUP/NX extracted participant’s views that being on BUP/NX led to more clarity in their thinking, and it felt like they were on nothing, or that BUP/NX had “no effect”. Again the participants viewed the very different effects of BUP/NX in a positive light when compared to methadone and saw this absence of effect as beneficial. The desire to not be sedated was also a key component of this theme.

An increased sense of citizenship on BUP/NX presented the participant perspective that switching to BUP/NX positively increased their social and vocational connections. Being prescribed BUP/NX for their opioid use disorder better enabled the participants to understand how their interactions with others, were perceived by others, and also better enabled participants to engage in non-pharmacological treatments and therapies. All of these factors increased personal potential for sustained recovery for most of the participants.

CHAPTER FIVE - DISCUSSION

Introduction

The findings of this study have identified multiple factors which impact on the decision making of citizens experiencing opioid use disorder when they are considering switching between methadone and BUP/NX. The themes that were extracted from the interviews are organised across five topics of discussion that cover some of the complex social, psychological, pharmacological, and emotional factors which have influenced citizen perspectives of opioid substitution treatment. The following discussion uses citizenship (Isin, 2002; Isin, 2008), the harm reduction model, and the recovery model to provide the framework for discussing the findings and relating them to current knowledge in this field.

Stigma as a switch- considering a change from methadone to buprenorphine/naloxone

Stigma was a major factor for all this studies participants when they considered whether they preferred methadone or BUP/NX for their OST. The participants, without exception, said being prescribed methadone was likely to lead to other people concluding that you were a 'drug addict' and increased the risk of associating with people who continued to trade methadone and illicit opioids. The qualitative literature supports these experiences, and supports stigma as a factor for considering options aside from methadone (Deering et al. 2014; Deering, Horn, & Frampton, 2012; Earnshaw, Smith, & Copenhaver, 2013; Etesam, Assarian, Hosseini, & Ghoreishi, 2014; Yarborough et al., 2016).

There is a growing body of qualitative data that clearly demonstrates stigmatisation (or enacted stigma) originating from family, peers, and health professionals while being provided methadone (Deering et al., 2014; Earnshaw et al., 2014; Yarborough et al., 2016). For all the participants in this study, stigma was not a theoretical concept, it was lived, long lasting, and the negative impacts on self-esteem were acute and enduring. These findings are in line with previously reported experiences in other qualitative studies on stigma and OST (Earnshaw et al., 2013; Etesam et al., 2014; Yarborough et al., 2016).

For a number of the participants in this study methadone carried a negative label or meaning that the participants were unwilling to be associated with. Harris and McElrath (2012) point

out that this has led a number of people to prematurely drop out of treatment. Gryczynski et al. (2013) reported a number of people in New York City returning to treatment when primary service initiated BUP/NX was made available because they perceived that they could re-enter treatment without being stigmatised. In New Zealand both methadone and BUP/NX are initiated within specialist services, but there is a clinical willingness and legal ability to be less restrictive in prescribing BUP/NX as compared to methadone. A stigma is attached to methadone, and societal attitudes towards the provision of methadone shape the perspectives of those citizens seeking opioid substitution treatment (Gryczynski et al., 2013). Perceptions of methadone stigma limits uptake among certain individuals (Pinto et al., 2010).

In this study participants did not want the label of methadone user “attached” to them or to be associated with the behaviors of the people they saw attending the pharmacy for their methadone. The intention of stopping methadone based treatment is to end contact with those clients prescribed methadone, and thus end any idea that these individuals may share a connection (Harris, & McElrath, 2012). As with enacted stigma, self-stigma has been reported by participants in previous studies that looked at opioid substitution as a driver to stop taking prescribed methadone (Harris, & McElrath, 2012). Luoma, Kohlenberg, Hayes, Bunting and Ry (2008) describes self-stigma as feelings of guilt and shame that stem from the fear of being associated with the group that the enacted stigma is directed against, in this case those receiving methadone for opioid treatment. Many of the participants in this study, in trying to describe how stigma shaped their choice to switch from methadone to BUP/NX respectively, express views about those being prescribed methadone which are congruent with enacted stigma

Stigma remains a well-researched area of health and, according to the participants in this study, stigma was paradoxical as they were concurrently trying to reduce their own sense of shame while enacting stigma towards those who were ‘still’ receiving methadone based treatment. Putting aside this paradox of the stigmatized enacting stigma, the participants of this study cite stigma towards them as only one of the reasons for considering a switch to BUP/NX as part of the decision matrix. Further research into exploring stigma not only as a detrimental phenomenon, but also as a helpful vehicle to facilitate recovery is warranted. There was an intricate interplay between perceived stigma and projected stigma for the participants of this study, and they made use of their own stigma experiences and perceptions to develop their own notion of what heading forward in their treatment meant.

The effects of methadone: Re-enforcing opioid use disorder

There were many effects of methadone which shaped the participants in this study decisions to switch from methadone to BUP/NX. These effects are threefold and fit with the pharmacodynamic and neuropsychological literature. Firstly, there is a sedative effect as methadone is a long acting central and autonomic nervous system depressant, and derives its sedative, anaesthetic, and ataractic effects from this mode of action (Chou et al., 2015). Secondly, there is loss of drive: methadone and most full agonist opioids interact with the endocrine system and lower testosterone levels (Elliot & Fibuch, 2013; Gudin et al., 2015). In men this can lead to hypogonadism, sparse hair growth, weight gain, and breast development. Both men and women can experience low mood, less energy, reduced drive and low sex drive (Baldini et al., 2012; Brennan, 2013; Elliot & Fibuch, 2013; Gudin, et al., 2015). Thirdly, methadone arguably has measurable cognitive impairing effects resulting in reduced conceptual flexibility and increased perseverative responses (Walker & Zacny, 1998; Walsh et al., 2008; Zacny, 1995; Zacny, & Gutierrez, 2011).

Participants in this study stated that the sedative and ‘soothing’ effects were the initial reason they started using opioids in the first place, yet over time these effects were no longer enjoyed or desired. The experiences of the citizens in this study are difficult to compare with the literature in that there is little qualitative data available which has considered the citizen experience of a decreasing tolerance of methadone’s sedative effects as treatment years extend into (in the eyes of many of this study’s participants) undesirable lengths of time. Järvinen (2008) does highlight that the service users’ attitudes towards methadone were more ambivalent than staff’s attitudes were. It is easy to glean from pharmacological literature that long acting opiates have a profoundly sedative effect (Brown et al., 2004). It is a very short and logical progression to accept that the once sought after sedative effects of methadone are no longer wanted.

According to five of the study’s participants, the stabilising benefits of methadone were also outstripped by a loss of drive, cognitive impairment, and emotional dysregulation. These five participants contended that after cessation of methadone they experienced increased drive, their thinking became clearer, and they were less likely to get frustrated or have a “short fuse”. Loss of drive is explained by the effects of methadone on hormones and the endocrine system (Gudin et al., 2015). Neuropsychologists consider methadone-related-cognitive-

impairment as associated to reduced conceptual flexibility and increased perseverative responses to daily situations (Zacny & Gutierrez, 2011).

The five participants in this study who associated these combined effects of methadone spoke about them being intrinsically linked to perpetuating their opioid use disorder. They stated that the sedation and lack of drive they experienced limited new ways of doing things the longer they received methadone based OST. For these five participants, the experience of withdrawal in the morning, then an ataractic and sedative response half an hour post dose was seen as reinforcing the very thing they were attempting to move away from; dependence on a substance for the effects it gave. These participants stated how in the initial few years of opioid substitution treatment this daily process was beneficial as it reduced chaos and helped a return to work and an improved level of health and wellbeing, yet later these gains were lost to the reinforcing effects of methadone based OST.

Participant descriptions of methadone based OST follow similar timelines in that their initial, and sometimes enduring period of stability gives way to a sense of being stuck, impaired, or going backwards. There is a complexity to the participant's decision matrix around OST medication choice that involves weighing up the societal perceptions of being on methadone, what the physical and neuropsychological effects of methadone are presently, and what the participant wanted in terms of their recovery.

Harm reduction, recovery, readiness, and absence of effect

Research around harm reduction as it relates to opioid use disorder has focussed on ensuring OST is easily accessible and, that in turn, this accessibility reduces the rates of transmitted blood borne viruses, namely HCV and HIV, and illicit drug use (Bruggmann & Grebely, 2015; Guichard, 2013; MacArthur et al., 2014; Syme et al., 2011). The short term gains are significant and easily measured, and most dramatic in the first year of treatment (Baharom, Hassan, Ali, & Shah, 2012; Kingsbury 1999). Also within the literature it is argued that the provision of OST in itself reduces societal and individual harm (Mattick et al., 2014). Access to both methadone and BUP/NX, through providing a choice to citizens seeking treatment for their opioid use disorder is also considered as a component of harm reduction (Mattick et al., 2014; Nutt, 2015). Four participants in this study were positive about how methadone had helped them stabilise and reduce substance use related harm previously in their treatment, and

one participant was currently benefiting from the stabilising and harm reduction benefits of methadone.

Six of the seven participants in this study talked about how their focus of opioid use disorder treatment had shifted from a point of stabilising and harm reduction towards broader goals of recovery. They were at a point where the harm reduction benefits from being on methadone had run its course, and they were now considering what it was that contributed to their opioid use disorder in the first instance, and were prepared to do the psychological work required. Jared was the exception, he readily acknowledged the advantages of BUP/NX, he perceived BUP/NX having less side-effects and less stigma, but he lamented that he was not at a point in his recovery where he could benefit from BUP/NX based OST as he could not rely on himself to take the medication as prescribed. This can in turn result in on-going illicit opioid use. Jared's experience fits with some of the literature which stipulates that when starting on OST, methadone has a slight advantage over BUP/NX in terms of retention in treatment (Mattick et al., 2014; Pinto et al., 2010). The other participants had experienced various types of treatment leading up to their switch to BUP/NX, and all talked about moving beyond the initial stages of treatment, marked by the concept of harm reduction, and towards a more personal type of experience best described by the recovery model. The participants in this study highlight the transitional nature of how over the course of treatment for opioid use disorder the emphasis shifts from harm reduction to recovery. Opioid substitution treatment then becomes a component of a wider treatment approach for opioid use disorder, where the emphasis for those citizens shifts from associating beneficial treatment with familiar medication effects to associating beneficial treatment with psychological therapies and medications with an absence of effect.

At this point it is important to note that harm reduction and recovery are not discreet and separate ideas but bound together within a conceptual spectrum. Although they each carry clearly different definitions, as concepts, they cannot be fully separated. White and Cloud (2008) define recovery in mental health and recovery from substance use disorders as an individual's journey with definitions of success and achievement as determined by that individual. Harm reduction stipulates that treatment for substance use disorders is beneficial whether the individual wishes to continue to use substances or seeks abstinence, as does the recovery model. In essence allowing an individual the capacity to shift between substance use and abstinence and still seek treatment is what both harm reduction and recovery have in

common. Bamber's (2010) view is that, as with illicit substance use or alcohol and nicotine use, abstinence can be seen as maladaptive within certain social constructs. An example of Bamber's view of acceptable substance use as a social construct can be seen in New Zealand Aotearoa whereby abstinence from alcohol is considered as unusual or outside social norms, as exemplified by the close relationship sporting endeavours and alcohol consumption share (O'Brien, Ali, Cotter, O'Shea, & Stannard, 2007). Perhaps, in a cultural context New Zealanders set narrow parameters for what is considered socially acceptable; the moderate drinker. By interpreting the range of citizens' experiences around substance use as wide ranging and variable; and including abstinence, moderation, and use disorders that lead to functional limitations along a continuum, one can begin to see the futility of attempting to define harm reduction and recovery as separate concepts, and the benefits of understanding recovery as a citizen defined concept.

All seven participants in this study referred to possessing a 'readiness' for BUP/NX for it to be effective for the treatment of their opioid use disorder. In pharmacodynamic terms this can be related that back to the fact that BUP/NX is only a partial agonist on the Mu-Opioid-receptor and has a weak effect on the Kappa-Opioid receptor (Khroyan et al., 2014). In essence BUP/NX is only doing part of the job of a full opiate, and Tom's description of switching to BUP/NX as losing his "bubble wrap" is reminiscent of the pharmacological differences between other long acting opiates and BUP/NX. This may also account for the slightly lower retention in treatment during initial titration as outlined by Mattick et al. (2008), and Pinto et al. (2010). Bob and Tom for example had, in the past, unsuccessfully switched from methadone to BUP/NX. They both stated that previously they were not ready for the absence of effect they experienced on BUP/NX because they were not at the right point in their recovery and so returned back to methadone based OST. Ruth contended that she was ready for the 'absence of effect' experience despite her lack of preparedness or agreement to switch from methadone to BUP/NX. Ruth's experience highlights the difficulty of citizens and clinicians being able to predict readiness. Further research and enquiry into the notion of 'readiness' as it relates to 'absence of effect' would help inform practice and provide citizens seeking treatment for opioid use disorder with a better idea of whether they could tolerate BUP/NX based OST.

Absence of effect: Citizenship, and freedom

The participants in this study emphasised their greater sense of participation in their communities, and family and whānau when switching from methadone to BUP/NX. They also articulated that the quality of their day to day interactions with others were much improved. The participants who switched from methadone to BUP/NX also felt more freedom, in that they did not feel tied to their medication or the pharmacy that provided their medication. Most participants were able to interpret this as much as an intrinsic shift toward positive interactions as a motivator in their life, and less of a focus on acquiring their methadone. Participants reported that an increased sense of personal agency went hand in hand with a switch from methadone to BUP/NX. Simply put they felt that BUP/NX had less noticeable effects than methadone did, and over time, as they continued to experience an absence of effect from BUP/NX they felt more valued in respect to their citizenship, which in turn reduced their focus on opioid use.

Research into the neuropsychological aspects of long term methadone use back up this study's participant claims, namely methadone use has been associated with a measurable decline in psychomotor speed, working memory, divided attention, reaction speed, and verbal memory (Rapeli et al., 2011; Soyka et al., 2011). The participants' assertions that they were more able to engage in difficult cognitive tasks once switching to BUP/NX is also supported by the data that demonstrates BUP/NX having less cognitively impairing effects when compared with methadone over the long term (Rapeli et al., 2011; Soyka et al., 2011). Furthermore, the participants in this study considered that their clearer thought processes allowed them to achieve things they otherwise would not have attempted. Researchers suggest that BUP/NX does not impair cognitive function in the same way full agonist opioids such as methadone do (Bliesener et al., 2005). The improvements they noted ranged from an ability to read and remember things, through to returning to more challenging employment opportunities, study goals, and social situations.

In addition to the cognitive improvements the participants reported when switching from methadone BUP/NX, they also reported a lift in energy and drive. The research argues that long term methadone use results in an increased propensity for low testosterone plasma levels (Bawor et al., 2014). Lower plasma testosterone has been linked to hypogonadism and endocrinopathy, both conditions present with symptoms such as reduced drive, low energy, and impaired sexual function (Bawor et al., 2014; Trajanovska et al., 2013).

Buprenorphine/naloxone also appears to have less of an effect on the endocrine system when compared to methadone and other long acting full agonist opioids (Rapeli et al., 2011; Soyka et al., 2011). Participants in this study stated that following a switch to BUP/NX they had experienced being free to move through their day-to-day interactions, and they reported an improvement in their ability to interact in social and intimate situations. Further research is needed to test the findings of this study; does BUP/NX lead to an improved sense of belonging with community, and connectedness, and is this benefit sustained.

The experience of increased citizenship from switching to BUP/NX is threefold. It is an outcome of the intrinsic freedom of being released from the perceived social constraints of being on methadone, an outcome of the extrinsic freedom of being released from the projected social constraints of being on methadone, and an outcome of the cognitive and pharmacological freedom participants associated with BUP/NX.

The social, psychological, emotional, and pharmacological imperatives of treatment delivery

Methadone has the effect of depressing the central nervous system, resulting in sedation (Goodman & Snyder, 1982; Zacny, 1995). It also has the effect of suppressing the production of testosterone, and results in side effects that can be generally characterised as a dampening down of drive and energy (Bawor, et al 2014; Trajanovska et al., 2013). Researchers point out pharmacological differences with regards to BUP/NX in that it appears to be less sedating and does not seem to lead to lower plasma testosterone levels (Bliesener et al., 2005). The participants of this study described at points in their treatment that they had a desire to experience sedation, and as such considered methadone very beneficial. For most of the participants though, at a certain point the loss of drive and low energy outstripped any perceived benefits related to sedation. The option of switching to BUP/NX was not without its problems for study's participants though, as they discussed an emergent emotional rawness that surfaced once they ceased methadone. This required them to take a more considered and psychologically minded approach to manage their opioid use disorder and the concomitant physical and mental health issues that shaped their opioid use in the first instance. These are new findings and further research is recommended to look at the emotional tipping point during substitution treatment for opioid use disorder. Further inquiry into participants accepting a certain amount of emotional distress as the price for the gains of an increased

sense of energy, and sense of cognitive improvement when they switched from methadone to BUP/NX would be of benefit.

In comparing the different impacts on the individual, while on long-term methadone or BUP/NX, it is clinically judicious to consider that the emotional self, psychological, social self, and the pharmacological effects of each medication are inextricably linked. The pharmacological impact on neuropsychology purports that because buprenorphine acts on receptor sites as a partial agonist it impairs cognitive function less when compared to full agonists such as methadone or heroin (Soyka et al., 2001). The study participants consider their opioid use disorder as a construction of various emotional, psychosocial and pharmacological factors which impact on their ability to function. When weighing up the options of methadone and BUP/NX the imperative of treatment delivery is to consider the psychosocial, emotional, and pharmacological parameters as a singular model titled; The Opioid Use Disorder Treatment Decision Triangle (Figure 2).

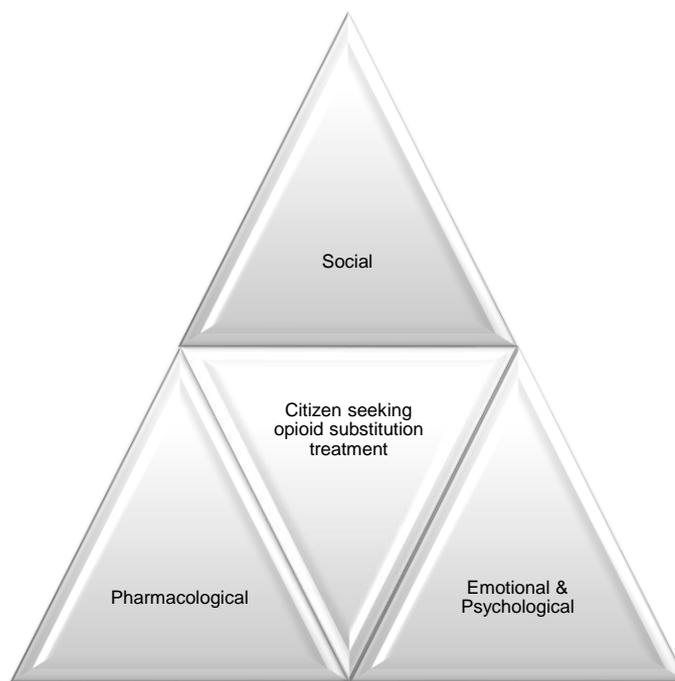


Figure 2. The Opioid Use Disorder Treatment Decision Triangle: A treatment model for informing decision making when selecting between methadone and BUP/NX for the treatment of opioid use disorder.

The treatment model is intended to fit within the recovery model, and while it is applicable to a specific population, it is informed by the concepts of harm reduction, recovery, and citizenship. The central component of the pyramid is the *Citizen Seeking Opioid Substitution Treatment*. The lower left component – *Pharmacological* – refers to the pharmacological impacts each of both methadone and BUP/NX. These include all the documented side effects of both medications as discussed previously, and also includes other pharmacological considerations which may effect the choice of medication, such as QTc prolongation (a heart rhythm side effect of methadone) that renders methadone risky for some (Krantz, Martin, Stimmel, Mehta, & Haigney, 2009). The lower right component – *Emotional and Psychological* – refers to and emphasises the importance of both the emotional and psychological readiness cited by the participants of this study for BUP/NX to provide a beneficial effect. The top component of the model – *Social* – relates to the myriad of social factors that impact on decision-making, including stigma, the citizen's theories of substance use, their definition of recovery, and the social systems around them.

Further research is required with regards to what effect emotional readiness has on retention rates for BUP/NX, but it is good to note that relapse prevention theorists have discussed the importance of emotional readiness for successful relapse prevention outcomes (Marlatt & Donavon, 2005; Marlatt & George, 1984). This model is suited to mental health nurses and other clinicians and for those seeking opioid substitution treatment at the key decision points in treatment when medication, or changes in medication are being considered. Further pharmacological research into the adverse effects of BUP/NX needs to be conducted to fully consider its cognitive and endocrine effects.

Conclusion

Internalised stigma and projected stigma are important drivers for switching from methadone to BUP/NX, as are the reinforcing effects of methadone as experienced by this study's participants. The participants' experiences compare well with previous research into stigma and the pharmacological effects of both methadone and BUP/NX. Opioid treatment expectations change over time as those accepting treatment experience their recovery as more than a reduction of harm, move towards wanting treatments that are non-sedating, and require more self-efficacy to feel like their wellbeing is improving. Again the pharmacological evidence supports these personal participant experiences. The provision of quality information when determining the most suitable medication for the treatment of opioid use

disorder is important. This requires treatment providers to take all these factors into account, and to discuss them with those requesting treatment. A treatment model for informing decision making when considering whether methadone or BUP/NX is more appropriate has been provided. The Opioid Use Disorder Treatment Decision Triangle aims to assist both the clinician and those wanting treatment.

CHAPTER SIX- CONCLUSION AND RECOMMENDATIONS

This study set out to examine the factors associated with choosing either methadone or BUP/NX for the treatment of opioid use disorder. The negative health and social consequences of uncontrolled opioid use are numerous and well accepted, as is the notion of long-term substitution treatment to reduce the corresponding harm. What is less understood are the factors that determine whether methadone or BUP/NX will be the most suitable substitution medicine for any given person.

Using a qualitative descriptive methodology, the texts of the interviews with the participants have been analysed to extract key themes. This process was used in order to understand the phenomenon that the participants were the closest to. Evidence in the findings supports the development of a hypothesis that pharmacological factors along with psychosocial and emotional factors have a bearing on how someone will respond to either methadone or BUP/NX, and that as these factors change so the costs and benefits of both medicines change.

Summary of factors involved in switching between methadone and BUP/NX for the treatment of opioid use disorder

1. Internalised stigma, and external projected stigma associated with methadone was a motivator to switch to BUP/NX.
2. The pharmacological properties of methadone that were seen as beneficial early in treatment became less tolerable over time.
3. The absence of effect associated with BUP/NX was not tolerable for some

Limitations

This study identified a number of factors that impacted on the process of switching between methadone and BUP/NX, and whether that switch was perceived as beneficial or not. However, the study has particular limitations that should be considered in relation to the findings. Firstly, although after seven interviews there was commonality across the data, the results may not be generalizable to the wider population. All the participants were vocal about the benefits of BUP/NX, and that could be considered a limitation, as there was also an

unwillingness of people who had switched from BUP/NX to methadone to participate in the research. A number of possible participants on methadone at the time of the study turned down the opportunity to participate, with only one agreeing. These factors may have contributed to a skewed perspective of the relative benefits of both medicines.

Time and cost constraints prevented larger participant involvement, but the participants interviewed were demographically diverse and articulate in their descriptions. The researcher's professional clinical role in substance use treatment may have influenced the responses of the participants. Although the researcher went to great length to recruit and brief the participants in an ethical way, and ensured anonymity, once the interviews commenced it was clear that a number of the participants were aware of the researcher's clinical involvement with their treatment service. This may have inhibited their reporting. This limitation was mitigated by utilising semi-structured interviews with the same set of questions for each participant.

Future research

Through the process of examining the factors that relate to switching between methadone and BUP/NX, this research highlighted other aspects of treatment and clinical practice that could be explored in future research. Stigma was discussed as an important factor in participants' decision making, and further research into how intrinsic and extrinsic stigma experiences may be not simply a negative mechanism, but may also help facilitate recovery, is warranted.

There was consensus amongst participants that emotional and psychological readiness was required to succeed in making an adjustment to BUP/NX's characteristic of having no noticeable effects comparable to other opiates. Further research into how readiness relates to an absence of effect would help inform practice around who best tolerates BUP/NX based OST.

The literature review highlighted the wealth of pharmacological investigations into the cognitive and endocrine effects of methadone. Future research into the long-term potential adverse effects of BUP/NX needs to be conducted to fully consider whether there are cognitive and endocrine risks associated with BUP/NX.

Finally this study identified a theme of improved citizenship following on from a switch to BUP/NX from methadone. Future research could test the findings of this study that suggest an

improved sense of belonging, and connectedness when switching to BUP/NX, and assess whether these reported benefits are sustained over the long term.

Recommendations

This research proposes a clear set of factors, generated from the current literature, and the findings extracted from this study, that define the process of switching between methadone and BUP/NX. These factors combine to provide mental health nurses and other professionals with a series of questions they can follow to determine the suitability of either methadone or BUP/NX for opioid substitution treatment:

Decision question list

- a. Does the person requesting treatment have any cardiac conditions, respiratory, or other physical co-morbidities, or substance use factors that precludes the provision of either methadone or BUP/NX?
- b. Is the person requesting treatment prescribed any other medications that preclude the provision of either methadone or BUP/NX?
- c. Does the clinical picture support the assertion that the person requesting treatment is attempting abstinence from illicit opioids?
- d. Does the clinical picture support the assertion that the person requesting treatment is seeking sedation as a beneficial characteristic of their prescribed medication?
- e. What feedback does the person requesting treatment provide around their goals of entering and continuing on with opioid substitution treatment?

A collaborative decision approach: The Opioid Use Disorder Treatment

Triangle

Utilising the Opioid Use Disorder Treatment Triangle to provide context, clinicians can then interpret the answers to the above questions in collaboration with the person requesting opioid substitution treatment. Although some clinical factors may preclude one or other of methadone or BUP/NX, a shared systematic approach to assessing suitability for each medication will greatly increase the likelihood of selecting the most tolerable and beneficial opioid substitution medication.

Conclusion

Opioid substitution treatment is a long-term treatment modality. The expectations of what defines best treatment for opioid use disorder changes over time; stability is a clear goal during initial stages of treatment, and recovery, readiness for change, and a wider set of treatment goals emerge as treatment continues. The notion of discharge planning during the initial stages of treatment should not be forgotten. When previous research into the clinical and pharmacological effects of both methadone and BUP/NX are taken into account, it can be argued that there are two particular groups to consider when determining the suitability of either methadone or BUP/NX. The first group is citizens who seek sedation from their prescribed medication, and/or do not currently consider abstinence from illicit opioids as part of their recovery. This group may benefit from methadone. The second group is citizens who seek an absence of effect from their prescribed medication, and/or do consider abstinence from illicit opioids as part of their recovery. This group may benefit from BUP/NX. By identifying which of these two groups those seeking treatment have the best fit with during initial consultations, or if a medication switch is being considered, pharmacological treatment can be better targeted. Utilising the above treatment model can aid in this decision making process. However, longitudinal research is required to measure the effectiveness of selecting either methadone or BUP/NX based on this studies decisional logic.

This study also questions the limitations of existing measures used to determine the effectiveness of opioid substitution treatment. Currently, research into opioid substitution treatment measures treatment effectiveness in terms of treatment retention and reduction of blood-borne viruses. The participants in this study, who were seeking treatment for an opioid use disorder, report that switching between methadone and BUP/NX is a complex interplay between psychosocial, distinct pharmacological, and emotional factors (in particular an exacerbation of anxiety). These participant reports are comparable with the previous quantitative and qualitative literature on the subject of opioid substitution treatment, and the rich descriptions of the study's participants shed some light on the emotional complexities that factor in medication change. This study concludes that recovery, and shifts in treatment expectations are also important factors to consider when determining medication selection.

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APPENDICES

Appendix 1



Information Sheet

Citizens' perspectives of buprenorphine/naloxone substitution treatment: Improving treatment quality

I am Blair Bishop, a Masters student at Massey University and a CADS nurse, and I am doing some research about the experiences of service users with Suboxone. I would like to invite you to contribute to this research. This project aims to understand service user perspectives of what it was like to receive Suboxone for the treatment of opioid dependence. In particular this project employs interviews with service users who were started on Suboxone, or who have shifted from methadone onto Suboxone to understand more fully what they saw as the beneficial or detrimental impacts of Suboxone on their opioid dependence. The project specifically sets out to consider how service users consider Suboxone as a treatment option for opioid dependence

Background

When an individual wanted opioid substitution treatment for their opioid dependence issues in Aotearoa New Zealand, up until last year, there was only one funded medicine - known as methadone. Since July 2013 Suboxone has become a fully funded option for the treatment of opioid dependence, and services and service users are learning more about Suboxone. Current evidence suggests that Suboxone is better than no treatment, but that methadone is better than Suboxone for retention in treatment; however Suboxone is easier to come off and those on Suboxone are less likely to use illicit opiates while in treatment than those on methadone. As yet there is little research asking service users about their experiences.

I would like to invite you to participate in this research project. It is anticipated that the interview will take no more than one hour. I can meet you at a community office near where you live or, with prior arrangement; travel to meet you at a time or place that is convenient to you. I hope that you consider participating. If you would like to participate, please respond to Verna Lawrence or myself via phone on 04-4949170 and we can arrange a convenient time. Vouchers to the value of \$20 will be provided to cover travel expenses.

All interviews will be confidential and your consent to participate will be kept separate to the interviews so complete confidentiality is maintained. All interviews are audio recorded, and then transcribed. They will only be seen by the participant, myself, and a transcribe bound by a confidentiality agreement. Transcripts of interviews will be provided to participants for editing, and if you decide to contribute to this project you have the right to withdraw prior to the completion of the study. All information remains permanently secure under lock and key to protect participant identity and ensure confidentiality

You are invited to have whānau, family, or any other support person present during the interview, and encouraged to involve your whānau, family, or support person during your decision making around participating in the study.

You are under no obligation to accept this invitation. If you decide to participate, you have the right to:

- *decline to answer any particular question;*
- *withdraw from the study until time of completion of the thesis;*
- *ask any questions about the study at any time during participation;*
- *provide information on the understanding that your name will not be used unless you give permission to the researcher;*
- *be given access to a summary of the project findings when it is concluded.*
- *ask for the recorder to be turned off at any time during the interview.*

If you require whānau support please contact Whānau Care Services on: 04 806 0948

The information you provide will be used to improve service delivery for others who access treatment for opioid substance use disorder. If you would like to know more about the project, please do not hesitate to contact me:

Blair Bishop 04-4949170 ext 88190, PO Box 1729, Newtown, Wellington, New Zealand,
6021

If you would like to contact the Massey University research supervisor contact Associate
Professor Dr Jean Gilmour, by email on j.a.gilmour@massey.ac.nz or by phone on 04
8015799 Extn 63590

This project has been reviewed and approved by the Massey University Human Ethics
Committee: Southern A, Application 14/102. If you have any concerns about the conduct of
this research, please contact Dr Brian Finch, Chair, Massey University Human Ethics
Committee: Southern A, telephone 06 350 5799 x 84459, email
humanethicsoutha@massey.ac.nz.

Appendix 2



Interview Schedule: Semi Structured interview

Citizens perspectives of buprenorphine/naloxone substitution treatment: Improving treatment quality

Four main questions:

1. What led to you seek treatment?
2. What led to you being prescribed Suboxone?
3. What were you hoping for from this treatment?
4. What would your advice be for others commencing treatment?

Possible questions generated:

1. What did you find beneficial/unhelpful about Suboxone?
2. What were the effects of Suboxone on your drug use?
3. What changed because of the Suboxone?
4. What remained the same in spite of being on Suboxone?
5. What things did others around you notice?
6. What happened to your moods?
7. What happened to your energy levels?
8. What happened to your intravenous drug use?

9. What positive or negative effects did it have socially, financially, on employment opportunities?

Appendix 3



MASSEY UNIVERSITY
TE KUNENGA KI PŪREHUROA

COPY FOR YOUR
INFORMATION

24 June 2015

Blair Bishop
1a Port Street
Mt Victoria
WELLINGTON 6011

Dear Blair

Re: HEC: Southern A Application – 14/102
Service users perspectives of Suboxone substitution treatment: Improving treatment quality

Thank you for your letter dated 9 June 2015.

On behalf of the Massey University Human Ethics Committee: Southern A I am pleased to advise you that the ethics of your application are now approved. Approval is for three years. If this project has not been completed within three years from the date of this letter, reapproval must be requested.

If the nature, content, location, procedures or personnel of your approved application change, please advise the Secretary of the Committee.

Yours sincerely

Mr Jeremy Hubbard, Chair
Massey University Human Ethics Committee: Southern A

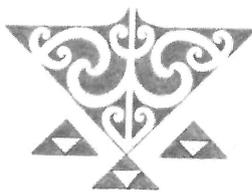
cc **A/Prof Jean Gilmour**
School of Nursing
WELLINGTON

Prof Annette Huntington, HoS
School of Nursing
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Massey University Human Ethics Committee
Accredited by the Health Research Council
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Appendix 4



RESEARCH ADVISORY GROUP MĀORI (RAG-M)

Māori Partnership Board, Capital & Coast DHB

2 June 2015
Blair Bishop
Massey University
PO Box 1729
Wellington 6021

Tēnā koe Blair

RAG-M 201/372 - Letter of Provisional Endorsement

On behalf of the Research Advisory Group Māori I write in relation to your study titled: **Service users perspectives of Suboxone substitution treatment: Improving treatment quality**

We have based our assessment of your research on the following documentation you have supplied:

- Patient information form
- Locality Assessment approval
- Ethics application
- Patient consent sheet
- RAG-M cover sheet

We acknowledge that you have completed tikanga training, and appreciate that you have a cultural supervisor.

You have mentioned that participants for your study are welcome to have whānau present at the interview, however this is not offered in the patient information sheet. Additionally, it would be useful to add the contact details for Whānau Care Services should participants require this. Both these factors are particularly important, as you have noted in your ethics application there is the potential for distress to participants by retelling a lived experience. It is important that participants can access the support required if needed.

It appears that we have received an incomplete draft of the patient information sheet.

We also note from your ethics application the intention to record patients' responses. Please provide this information in the patient information sheet, as participants need to be informed of this before they give consent. The methods used to protect participants' identity and ensure confidentiality also need to be detailed in the patient information sheet.

We note also from your ethics application that you have stated ethnicity will not be collected, however in your RAG-M cover sheet you have stated it will be collected (according to MOH ethnicity data protocols). Please clarify this.

The committee makes the following requests prior to endorsing the research:

1. Please provide the most recent information sheet, and include:
 - Whānau Care Services contact details
 - Offer for study participants to involve whānau in the interview, and in decision-making regarding study participation.
 - The request to audio record participant interviews.
 - Methods to protect patient identity and ensure confidentiality
2. Please confirm that ethnicity data will be collected
3. The committee requests a 'local report' of the numbers of Māori patients recruited, and any specific issues or concerns with recruiting or retaining Māori. This report may be submitted at the completion of local involvement in the study.
4. The committee looks forward to receiving a copy of the final research report on completion of the study.

On confirmation that the expectations specified above are understood and accepted by you we will be able to endorse your research proposal. Please confirm these details with the RAG-M secretary by email to ragm@ccdhb.org.nz.

We thank you for consulting RAG-M and wish you well in your study.

Nāku noa nā,



Jack Rikihana-Chairperson

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I agree to all of the above requests from the RAG-M committee.

PI Signature



Blair Bishop
Primary Health Care Liaison
RNCP 157012

Date: 09-06-2015