New Zealand’s emergent opioid trends - the influences and impacts:

Consumer and clinician understanding of New Zealand’s changing patterns of opioid use, availability and impacts

Klare Braye

A thesis submitted in partial fulfilment of the requirements for the degree of
Master of Health Sciences
Department of Psychological Medicine
University of Otago, Christchurch
New Zealand

2014
“Among the remedies which it has pleased Almighty God to give to man to relieve his sufferings, none is so universal and so efficacious as opium”.

(Sir Thomas Sydenham, 1680)
Abstract

This thesis explores opioid users and addiction service providers’ understandings of the changing patterns, availability and impacts of opioids and opioid use in New Zealand with a particular focus on the last two decades.

Throughout history, the availability of substances of abuse have waxed and waned. Their emergence and availability is influenced by social, legislative and political circumstances. Extensive literature exists related to the use of opioids such as morphine and methadone in New Zealand, and heroin overseas. However, few studies have examined the emerging trends of opioids that are often used as adjunctively to these substances; examples of which in recent years include poppy seed tea (PST), over-the-counter codeine-containing analgesics and most recently some prescribed pain medications. Information regarding the use, availability and impacts of these adjunct opioids from the consumers who use them, and the clinicians who work with these consumers could usefully inform service provision and public policy.

This qualitative study, adopting a Husserlian phenomenological philosophy was used, to gain an understanding of the use, access to and implications of these emergent opioid trends. Nine opioid users and five service providers were recruited through purposeful sampling as key informant participants. Their stories were elicited through in-depth interviews and analysis allowed for descriptive interpretation of participants’ experiences to emerge.

The experiences described by participants were varied, although a general pattern indicated the ebb and flow of the adjunctive use of a range of opioids in New Zealand. The diverse and at times, localised sources of supply of these opioids are described. The roles of legislative processes and policy, government agencies, pharmaceutical companies, prescribers, pharmacists, and the users themselves as creative and flexible people are discussed. The findings of this study offer insights into the ways in which opioid availability is inextricably interwoven with the impacts that availability can have on the user. Reference is made to mortality and morbidity, as well as the impacts of
displacement; the unintended consequences of stigma, discrimination, and
criminalisation; and the accessibility of some opioid formulations, notably metered
doses and abuse deterrent formulations (ADF). Overarching these descriptions is the
sense that opioid users are in the main resourceful and adaptable, and that opioids hold a
persistent place in the lives of dependent users.

Recommendations from this study fit within a harm minimisation perspective that
considers the needs of the dependent user, alongside the general population and a
context of ‘public good’. These findings and recommendations support the need to
appreciate the challenges facing opioid users who access treatment or support for their
substance use; to consider the availability and access to a range of opioids from the
perspective of minimising harm; to carefully consider the responsibilities of a number
of stakeholders; to inform treatment delivery, workforce development and in the
consideration of policy development and implementation.
Acknowledgements

My greatest appreciation goes to the participants in this study, without whom this work would not have been possible. The openness, honesty and willingness to share their stories with me was humbling. Many thanks also to the staff at both the needle exchange (Drugs and Health Development Project) and opioid treatment service who affirmed my interest in this study and aided me in the quest for service user participants.

Secondly, I am indebted to my children, Hayleigh and Olliver, who tolerated their mum’s grumpiness, maintained sanity in the house and reminded me of what was important in life. And to my partner, Phil, who did not know what he was getting himself in to, but journeyed alongside me the whole way. Thank you.

Special thanks goes to Dr. Ria Schroder, my primary supervisor and Dr. Daryle Deering for their encouragement, support and often all too honest feedback that guided me in my blindness to a better place of understanding in both the formulation of this thesis and in my own journey as a research student. I am looking forward to resuming conversations with them above and beyond the world of thesis writing.

I must also thank all those who have assisted in the proof reading, transcribing, editing and formatting of this work, especially Helen, who ensured anonymity by being 12,000 miles away.

And to Sarah - for your motivation and encouragement to keep on going. You never got to see me through the finish line, but I know that you will always be there with me. Miss you.
# Table of contents

Abstract ............................................................................................................. v
Acknowledgements ......................................................................................... vii
Table of contents ............................................................................................ ix
List of figures ..................................................................................................... xv
List of abbreviations ........................................................................................ xvii

## Chapter 1 - Introduction ............................................................................. 1

1.1 Context ....................................................................................................... 1
1.2 Thesis overview ......................................................................................... 3
1.3 Terminology ............................................................................................... 4
  1.3.1 Introduction .......................................................................................... 4
  1.3.2 Drugs and medications ........................................................................ 5
  1.3.3 Opioids ................................................................................................ 5
  1.3.4 Substance use ....................................................................................... 6

## Chapter 2 - Literature Review ................................................................. 9

2.1 Introduction ............................................................................................... 9
2.2 Literature searches ..................................................................................... 10
2.3 Common substances reported in this study .............................................. 10
  2.3.1 Introduction ........................................................................................ 10
  2.3.2 The opioids .......................................................................................... 11
    2.3.2.1 The opium poppy - Papaver somniferum ..................................... 11
    2.3.2.2 Poppy seed and poppy seed tea ..................................................... 11
    2.3.2.3 Morphine ....................................................................................... 12
    2.3.2.4 Codeine ....................................................................................... 12
    2.3.2.5 Methadone ................................................................................... 13
    2.3.2.6 Oxycodone .................................................................................. 13
    2.3.2.7 Buprenorphine (Suboxone) .......................................................... 14
    2.3.2.8 Fentanyl ....................................................................................... 14
    2.3.2.9 Over-the-counter (OTC) opioid analgesics ................................... 15
  2.3.3 Precursors ............................................................................................. 15
2.4 Patterns of opioid use ................................................................................. 16
  2.4.1 Introduction ......................................................................................... 16
2.4.2 Historical context of opioid use ......................................................... 16
2.4.3 Challenges of identifying drug use, patterns and prevalence .......... 20
2.4.4 International prevalence ............................................................... 21
2.4.5 New Zealand prevalence ............................................................... 23
2.4.6 Summary ....................................................................................... 24
2.5 Opioid availability ........................................................................... 25
  2.5.1 Introduction .................................................................................. 25
  2.5.2 Treaties, legislation and policy influencing availability ............... 25
    2.5.2.1 Introduction ........................................................................... 25
    2.5.2.2 The international treaties and legislation .............................. 26
    2.5.2.3 New Zealand drug policy and legislation ........................... 28
    2.5.2.4 Government and non-government agencies influence on availability ... 30
    2.5.2.5 Summary .............................................................................. 32
  2.5.3 Pharmaceutical opioids .............................................................. 32
    2.5.3.1 Introduction ........................................................................... 32
    2.5.3.2 The pharmaceutical industry ............................................... 33
    2.5.3.3 Pharmacists ......................................................................... 35
    2.5.3.4 Prescribers .......................................................................... 37
    2.5.3.5 Summary .............................................................................. 40
  2.5.4 Alternative sources of supply .................................................... 40
    2.5.4.1 Introduction ........................................................................... 40
    2.5.4.2 The internet .......................................................................... 41
    2.5.4.3 Information sourcing .......................................................... 42
    2.5.4.4 Diverted opioids .................................................................. 43
    2.5.4.5 Pricing .................................................................................. 44
    2.5.4.6 Summary .............................................................................. 44
  2.5.5 Summary ...................................................................................... 45
2.6 The impacts of opioid use ............................................................... 45
  2.6.1 Introduction .................................................................................. 45
  2.6.2 Harm and harm minimisation .................................................... 46
  2.6.3 Mortality ...................................................................................... 48
  2.6.4 Morbidity ...................................................................................... 49
    2.6.4.1 Health implications .............................................................. 49
    2.6.4.2 Dependence .......................................................................... 51
  2.6.5 Opioid formulations ..................................................................... 53
    2.6.5.1 Pharmaceutical opioids as metered doses ......................... 53
    2.6.5.2 Tamper resistant and abuse deterrent formulations (ADF) ....... 53
  2.6.6 Stigma and discrimination .......................................................... 55
  2.6.7 Criminalisation ............................................................................ 56
  2.6.8 Displacement ............................................................................... 59
  2.6.9 Summary ...................................................................................... 60
2.7 Rationale and research questions ...................................................... 61
Chapter 3 - Methodology and Methods ........................................... 63

3.1 Introduction .................................................................................. 63
3.2 A qualitative approach .................................................................. 63
3.3 Five defining phases to the research process ................................ 65
   3.3.1 Phase 1 - The researcher ....................................................... 65
   3.3.2 Phase 2 - The theoretical (or interpretive) paradigm ................ 68
   3.3.3 Phase 3 - The research strategy or strategy of inquiry .............. 70
   3.3.4 Phase 4 - Methods of data collection and means of analysis ...... 72
      3.3.4.1 Self reflection ................................................................. 72
      3.3.4.2 Ethical review ............................................................... 73
      3.3.4.3 Sampling and recruitment ............................................. 73
      3.3.4.4 Data collection - in depth interviews ................................ 75
      3.3.4.5 Initial analysis ............................................................. 76
   3.3.5 Phase 5 - The art and politics of interpretation ......................... 77
3.4 Summary ....................................................................................... 80

Chapter 4 - Findings: Trends, Availability and Impacts ..................... 83

4.1 Introduction .................................................................................... 83
4.2 Participants .................................................................................... 84
   4.2.1 Service user participants ....................................................... 84
      4.2.1.1 Demographics ............................................................... 84
      4.2.1.2 Substance use journeys ................................................. 84
   4.2.2 Service provider participants ................................................ 85
      4.2.2.1 Demographics ............................................................... 85
      4.2.2.2 Histories of experience in the field .................................. 85
4.3 Theme 1 - Emerging patterns and trends of opioid use ................ 86
   4.3.1 Introduction .......................................................................... 86
   4.3.2 Some emergent trends .......................................................... 86
   4.3.3 Trends can be localised and susceptible to change .................. 87
   4.3.4 Through the years ‘there has always been something’ .............. 89
   4.3.5 Summary .............................................................................. 89
4.4 Theme 2 - Availability and access to opioids ................................. 90
   4.4.1 Introduction .......................................................................... 90
   4.4.2 Pharmaceutical companies are integral to the supply of opioids ... 90
      4.4.2.1 The business of pharmaceutical companies ...................... 91
      4.4.2.2 The marketing and promotion of pharmaceuticals .......... 92
      4.4.2.3 Summary ................................................................... 94
   4.4.3 Prescriptions as a primary source of adjunctive opioids .......... 94
      4.4.3.1 Some prescribing practices could be described as irresponsible 94
      4.4.3.2 The motivations for prescribing practices ......................... 96
      4.4.3.3 Guidelines exist, but are not well adhered to ................... 98
Chapter 5 - Discussion ................................................................. 129

5.1 Introduction ........................................................................ 129
5.2 Objectives of this study ...................................................... 129
5.3 Opioid use in context .......................................................... 130
5.4 New Zealand trends ............................................................ 132
  5.4.1 The emergent trends ...................................................... 132
  5.4.2 Localised trends ........................................................... 134
5.5 The influences of availability and the impacts ...................... 135
  5.5.1 The displacement effect ............................................... 136
  5.5.2 The primary sources of opioids ...................................... 137
    5.5.2.1 Prescribed and dispensed opioids .............................. 137
    5.5.2.2 Pharmaceutical industry business ............................. 138
  5.5.3 Legislative, policy and national agency responses ............ 140
  5.5.4 Opioid users resourcefulness ........................................ 142
  5.5.5 The indirect impacts of opioid availability ...................... 143

~ xii ~
List of figures

Figure 1: A wealthy opium den........................................................................................................18
Figure 2: Mrs. Winslow’s soothing syrup, 1885 advertising image ...........................................18
Figure 3: An intravenous opioid user ............................................................................................19
Figure 4: Changing face of opioid use ...........................................................................................19
Figure 5: The effect of drug policy options on the public good and individuals ...............153
<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>AA</td>
<td>acetic anhydride</td>
</tr>
<tr>
<td>AC</td>
<td>acetyl chloride</td>
</tr>
<tr>
<td>ADF</td>
<td>abuse deterrent formulations</td>
</tr>
<tr>
<td>CADS</td>
<td>Community Alcohol and Drug Service</td>
</tr>
<tr>
<td>DHB</td>
<td>District Health Board</td>
</tr>
<tr>
<td>DHDP</td>
<td>Drugs and Health Development Project (Formally known as NEP-Needle Exchange Programme)</td>
</tr>
<tr>
<td>DSM</td>
<td>Diagnostic and Statistical Manual of Mental Disorders</td>
</tr>
<tr>
<td>GP</td>
<td>general practitioner</td>
</tr>
<tr>
<td>HCV</td>
<td>hepatitis C virus</td>
</tr>
<tr>
<td>HIV</td>
<td>human immunodeficiency virus</td>
</tr>
<tr>
<td>IDMS</td>
<td>Illicit Drug Monitoring System</td>
</tr>
<tr>
<td>INCB</td>
<td>International Narcotics Control Board</td>
</tr>
<tr>
<td>MoH</td>
<td>Ministry of Health</td>
</tr>
<tr>
<td>MST</td>
<td>morphine sulphate</td>
</tr>
<tr>
<td>NA</td>
<td>Narcotic Anonymous</td>
</tr>
<tr>
<td>NEP</td>
<td>Needle Exchange Programme</td>
</tr>
<tr>
<td>NPW</td>
<td>non-prescription website</td>
</tr>
<tr>
<td>NZ</td>
<td>New Zealand</td>
</tr>
<tr>
<td>OTC</td>
<td>over-the-counter</td>
</tr>
<tr>
<td>OST</td>
<td>opioid substitution treatment</td>
</tr>
<tr>
<td>PHARMAC</td>
<td>Pharmaceutical Management Agency</td>
</tr>
<tr>
<td>PST</td>
<td>poppy seed tea</td>
</tr>
<tr>
<td>SP</td>
<td>service provider</td>
</tr>
<tr>
<td>SU</td>
<td>service user</td>
</tr>
<tr>
<td>UK</td>
<td>United Kingdom</td>
</tr>
<tr>
<td>UNODC</td>
<td>United Nations Office on Drug Control and Crime</td>
</tr>
<tr>
<td>USA/US</td>
<td>United States of America/ United States</td>
</tr>
<tr>
<td>WHO</td>
<td>World Health Organization</td>
</tr>
</tbody>
</table>
Chapter 1 - Introduction

1.1 Context

The taking of mind-altering substances is a practice that has occurred throughout history (Escohotado, 1999). Many of these substances have remained consistent over time, being derived from naturally available substances. However, the 21st century has seen a number of changes to this with the appearance of newly derived chemical preparations and ‘herbal’ alternatives, the broadening of communication channels and a widening array of supply sources.

This has created challenges for evidence-based literature in keeping up with the rapidity of emerging drug trends. Furthermore, much of the focus of use and trends throughout the 1990s and 2000s has been on psycho stimulants, associated high profile user behaviours and societal responses, (Pederson & Skrondal, 1999; Maxwell, 2003; Wilkins, Sweetspur & Girling, 2008; Dargon, Albert & Wood, 2010).

New Zealand opioid use is dominated by the use of pharmaceutical opioids (Dore, Hargreaves & Niven, 1997), with relatively effective restrictions placed on heroin availability. There have been reports of the use of cough syrups (Griffiths, Willms & Jayathissa, 1982), codeine in the preparation of ‘homebake’ (Bedford, Nolan, Onrust & Siegers, 1987), opium poppy heads (Dore et al., 1997), poppy seed tea (PST) (Braye, Harwood, Inder, Beasley & Robinson, 2007) OTC codeine analgesics (Robinson, Robinson, McCarthy & Cameron, 2010) and more recently oxycodone (Best Practice Journal, BPJ, 2011a) indicating a utilisation and adaptation to a variety of forms of opioids. This use is often adjunctive or additional use, in a manner that ‘tops up’ or offers an alternative to opioids such as morphine and methadone which tend to be the ‘mainstays’ of opioid use in New Zealand (Robinson, Judson, Loan, Bevin & O’Connor, 2011; Wilkins, Jawalkar & Parker, 2013).

It is these reports and observations, noted through my own experiences and conversations with clients and clinicians that drew me to explore issues of the impacts
and availability of a range of opioids as they emerged into the lives of opioid users. I initially began by investigating the emergent use of poppy seed tea through the 1990s (Braye et al., 2007), a decoction that was used by a number of my clients with strong indications that it provided an alternative for maintaining dependence, avoiding and controlling withdrawal, offering stability and reducing some of the risks typically associated with some other opioid usage. As my understanding, and that of the addiction service team that I worked with grew, we were better able to support the needs of this population through interventions that offered appropriate pharmacological and psychosocial support. Throughout the later 2000s, this substance was largely removed from the market, in the main by voluntary retailer actions and I was left wondering what was being used in its place and what impacts this has on users? If a waxing and waning of different opioids was a common occurrence, what influenced these trends and from where and how were adjunctive opioids sourced? I was aware of the anecdotal reporting of such events but mindful that there did not appear to be much research information available directly related to the New Zealand context. I saw the value in pursuing this enquiry further, initially with the hope of providing better information to addiction treatment providers. As the findings emerged, I became aware that they could also be used to inform a wider stakeholder group that included pharmaceutical companies, a broad range of health care providers and influencers of government and policy initiatives. The experiences, needs and perspective of the opioid user could be highlighted, with some consideration and context of the needs of the wider population and ‘public good’.

I was mindful that although I passionately worked from a harm minimisation approach, many responses to existing substance use or emerging drug trends endeavour to address the issue through control approaches. These range from informal limits on use, set by cultural and societal influences (Akcasu, 1976); best practice prescribing practices (Ministry of Health, MoH, 2014a) and punitive actions of legislation and supply control (United Nations Office on Drug Control and Crime, UNODC, 2008). Encouragingly, some harm reduction strategies do prevail that include the likes of safe injecting rooms and the expanding opioid substitution maintenance and treatment options (Bammer, 1995; Clarke, 2001; Mattick, Ali & Lintzeris, 2009). These strategies directly address the needs of the opioid user themselves, rather than the wider population. The combined interest in emerging trends, the impacts of these trends as they emerge and then
dissipate, and the actions that are taken to control or support availability, particularly from the perspective of the opioid user, led me to further explore the existing literature and the formulation of this thesis.

1.2 Thesis overview

Chapter One introduces the study, providing some context to its development, an overview of the structure to the thesis and some discussion around terminology.

Chapter Two offers an overview of the literature in relation to observed patterns of opioid use, the mechanisms that influence these trends and the impacts these have on opioid users. Much of the available literature reports on heroin, as an internationally available opioid of abuse, with little attention paid to the availability or use of adjunctive forms of opioids and the consequential implications for users. This literature review begins by describing a number of those opioids misused in New Zealand. A snapshot of the history of opioid use indicating a constant pattern of supply is then offered. The chapter then addresses the literature that informs issues of supply and availability followed by factors influencing this availability. Finally, the complex discourse of harm and harm minimisation; availability and restricted availability, and the impacts on different population groups are discussed before the research questions are outlined.

Chapter Three describes the theoretical underpinnings and the details of the method chosen to address the aims of this research. A qualitative approach, utilising a Husserlian phenomenology was chosen to explore the experiences of opioid users. This chapter follows a format proposed by Denzin and Lincoln (2011) identifying five defining phases. It introduces myself and my position as a researcher and explains phenomenology as a theoretical paradigm that provides an interpretive framework. Phenomenology is also discussed as a strategy of enquiry, drawing specifically on the work of Husserl in guiding my investigation. The details of my method and the role of interpretation are also described.
The findings of this study are presented in Chapter Four, reporting on the narratives of the participants interviewed. A description of the participants’ experiences and stories is provided and reflections on the three research questions outlined in the literature review.

In Chapter Five the findings of this thesis are drawn together with the existing literature. A reflection on the context of opioid misuse and the trends that have emerged, both historically and geographically is provided. The sources of supply and availability of many of these emergent trends and the impacts that these have are also discussed. The impacts of displacement, the primary sources of opioids from prescribers and the pharmaceutical companies, and New Zealand’s legislative and policy responses in particular are noted, as are the resourcefulness of opioid users and some of the indirect impacts of availability, and/or restricted availability. This chapter also offers some highlighted examples of emergent trends, changing availability and the associated impacts.

The final section acknowledges the limitations within the study and highlights its strengths. Recommendations that consider both the opioid dependent population and the wider ‘public good’ are offered, and conclude by providing some suggestions for further research.

1.3 Terminology

1.3.1 Introduction

The language of substance use is fraught with complexities. The literature reflects a diverse array of language, international inconsistencies and a lack of specificity and there is concern that behaviours associated with substance use may be exaggerated, that trends are incomplete, availability may be restricted (Larance, Degenhardt, Lintzeris, Winstock, & Mattick 2011a), use under-reported and the impacts distorted. With recognition that terminology can be personalised, inconsistent and value-laden every effort is made in this thesis to represent the sentiments of participants and/or, as appropriate, the literature. In order to ensure this, the terminology as reported by participants is quoted as they have reported it. This for example may be use of the
The following section offers some clarity to a number of terms that have similar meanings, are used interchangeably or are pertinent to the understanding of this thesis. Definitions and explanations of the terms ‘drugs’, ‘opioids’ and ‘substance use’ are provided. Whilst the literature drawn on throughout this study is international, the New Zealand context is emphasised. A glossary of opioids and terms is also offered in the appendices for further clarification.

### 1.3.2 Drugs and medications

The definition of a drug is commonly accepted as “a substance that in small amounts produces significant changes in the body, mind or both” (Rosen & Weil, 2004, p10). Wilkinson (2001) describes how a drug is to be administered in the appropriate or adequate concentrations in order to have an effect at the site of action. These definitions however do not clearly differentiate drugs from some foods, poisons or medications. Furthermore, a dictionary definition describes the term ‘drug’ as a medicine or substance that has a marked physiological effect and ‘medicine’ is deemed a drug or other preparation used in the treatment or prevention of a disease (Soanes & Stevenson, 2011). As such, when the intent and actions associated with substance use are not clearly distinguished the terms attributed them are also often arbitrary. This thesis will refer to the term medication when a substance is legitimately provided and used for the purpose provided, such as a pain medication prescription or opioid substitution treatment (OST). The term drug will be used when the intent is for mind or body altering purposes, which go beyond the original purpose of the substance.

### 1.3.3 Opioids

Until the 19th century, drugs were primarily used in their natural form. In the case of opioids, this was raw opium extracted from the poppy plant (Berridge & Edwards, 1981). Pharmaceutical development and modern chemistry advanced this initially with the basic extraction of morphine and codeine and later with the production of synthetic
and semi-synthetic products (Gustein & Akil, 2001). Some of this distinction is reflected in the terms ‘opiates’ and ‘opioids’, although their usage in the literature can be inconsistent. The term ‘opiates’ defines those substances that are naturally occurring and extracted from the ‘papaver somniferum’ poppy plant. Opiates include morphine, codeine and other poppy extracts. ‘Opioids’ is the term used to define both naturally occurring opiates and synthetically manufactured opioids. ‘Semi-synthetic opioids’ are those manufactured from natural opiates and ‘synthetic opioids’ are created out of chemical properties (Rosen & Weil, 2004). A ‘pharmaceutical’ substance is a compound that is manufactured for medicinal use (Soanes & Stevenson, 2011). A ‘prescription opioid’ or ‘prescription medication’ refers to that for which a prescription would legally be required in order to obtain them and ‘over-the-counter’ medications are those available for purchase without a prescription (Sheridan & Butler, 2008). Other terms used, although more commonly in the American literature, include ‘narcotics’ as a substance derived from the opium plant and ‘analgesia’ as a medication that reduces or eliminates pain, frequently an opioid. It is important to note that despite the terminology used and the variation in chemical structures of these compounds, they all have similar pharmacological properties, share cross tolerance and interact with the opioid receptors, albeit with a varying degree of affinity (Neal, 2012).

1.3.4 Substance use

There are a number of terms that reflect the moral, social and physical understanding of substance use. The American Psychiatric Association’s (APA) Diagnostic and Statistical Manual (DSM) is the diagnostic manual most frequently utilised currently in New Zealand. It provides diagnostic categories and associated specified criteria. In DSM-IV, substance use categories are associated with a maladaptive pattern of substance use that leads to clinically significant distress or impairment. ‘Substance abuse’ is distinguished by the recurrence of at least two out of five identified criteria; ‘substance dependence’ is manifested by criteria associated with tolerance, withdrawal, salience and dyscontrol (APA, 2000). The recently released DSM 5 combines the DSM-IV categories of substance abuse and substance dependence into a single disorder of ‘substance use disorder’ measured on a continuum from mild to severe (APA, 2013). The International Classification of Diseases and Health Problems (ICD-10) offers a
further classification system (World Health Organization (WHO), 2010a), similar to the DSM.

There are also substance use terms used that do not have such specific definitions. ‘Addiction’ is a non-specific term, often associated with a personally emotive context that can refer to physical or psychological traits. ‘Substance misuse’ is arguably less judgemental indicating the use of a substance that is not consistent with legal or medical guidelines; ‘hazardous use’ indicates a pattern of use that increases the risk of harmful consequences; the term ‘unsanctioned use’ describes the use of a substance not approved of by a society or a group within that society and ‘recreational use’ indicates the use of a substance without implications or adverse effects (WHO, 2014). Each of these terms is typically considered to be associated with the taking of an illegal substance but can also refer to the taking of a medication not as prescribed.

It is also worth addressing the legality of substances and their use. Some are deemed to be ‘licit’ and legally available in contrast to ‘illicit’ ones which are prohibited for use under unsanctioned circumstances. The use or distribution of a ‘controlled substance’ and/or a precursor to that substance is forbidden by law or restricted to medical and pharmaceutical use (WHO, 2014).

When considering the concepts of ‘trends and ‘patterns’ of substance use, the term ‘trend’ typically indicate the movement of an event. As such, in this thesis, ‘trend’ is used to indicate a shift in the occurrence of opioid availability or use. The term ‘pattern’, whilst somewhat more indicative of a regular or sequential turn of events, still implies a general understanding of that event or occurrence. Neither of these terms is definitive, nor quantifiable and as such have been used to describe an understanding of a general picture rather than to indicate a prescriptive or rigid manifestation of particular opioid availability or use.
Chapter 2 - Literature Review

2.1 Introduction

This literature review provides an overview of the literature depicting patterns and trends of opioid use, the mechanisms that influence these trends and the impacts that these have on opioid users. In the main, the literature evidences use of heroin, morphine and methadone as the mainstay of opioid dependence, with little attention paid to the availability or use of adjunctive forms of opioids and the consequential implications that this has had on users. As such, this literature review begins by providing an overview of the types of opioids available for use and abuse in New Zealand, both those that are commonly available and thus tend to be the staples of opioid dependence, and those that are more susceptible to fluctuating availability and are thus frequently used as concurrent, adjunctive or additional opioids of abuse. This provides a context within which participants’ accounts of the substances used in this study sit. Following this, a snapshot of the history of opioid use both in New Zealand and internationally is included.

An overview of the literature that informs on issues of supply and availability is then provided. This section addresses the roles of legislation and policy, the pharmaceutical industry and the professions that dispense or prescribe opioids. Some attention is also paid to the role of the internet, diverted opioids, information sourcing and pricing that relate more specifically to the service users’ resourcefulness.

The final section of this literature review reports on the impacts of the availability of opioids. It acknowledges the role of opioids in pain treatment, but also the risks linked with mortality, morbidity and dependence; of opioid formulations as metered doses or containing abuse deterrent formulations (ADF); as well as the less overt impacts of stigma, discrimination, criminalisation and displacement. Much of the discourse in this literature considers the complexities of harm and harm minimisation, driven in part by consideration of the different populations that are impacted by opioid use. Some attention in this literature review is paid to the minimising of harm from the perspective
of the wider population and the ‘public good’, although the primary focus remains on the perspective of the opioid users themselves.

2.2 Literature searches

Literature was sourced and searched using a number of resources. The University of Otago databases, libraries and services were utilised and Google Scholar was used to facilitate access to a number of articles and texts that were not readily available through the library. Articles and texts were also recommended through colleagues, contacts and experts in the addiction sector and on occasion sourced from privately owned resources.

Article searches were most effectively carried out through the Medline, Embase and PsychINFO databases, with much literature overlapping in many of these sources. Scopus and Web of Science were used to search from a broader social science perspective and New Zealand specific searches were carried out through Kiwi Research Information Service (KRIS) and Index NZ with limited success. New Zealand Government documents were sourced from government websites or direct contact with the agency itself. Searches were carried out initially by combining searches of broad terms such as opioids, opiates, prevalence, policy, availability, prescribing, harm and harm minimisation. This clarified my search focus and led on to specific searches, for example, specific opioid names of oxycodone; mortality concerns such as blood borne viruses; or policy pertaining specifically to supply control and demand reduction. No exclusion criteria were made although, limited attention was paid to studies pertaining to heroin use due to its limited use in New Zealand. Cited references in peer reviewed articles and other documents provided sources for further review.

2.3 Common substances reported in this study

2.3.1 Introduction

Much international literature refers to the use of heroin. Morphine and methadone are also cited and there is a recent rise in literature regarding ‘prescription opioids’. This
study has centred less on those substances which could be considered the staples of opioid use and more on the adjunctive or concurrent use of opioids. A brief description of the commonly recognised and commonly reported opioids used by participants in this study follows. These include the naturally occurring opiates and pharmaceutically manufactured semi-synthetic and synthetic opioids. Also included is some information on the precursors that are used in the conversion of a number of those opioids sought after by opioid drug users.

2.3.2 The opioids

2.3.2.1 The opium poppy - Papaver somniferum

The papaver somniferum, opium poppy is the species of the papaveraceae, the poppy plant, which contains opium. The opium is the milky latex within the bulb or capsule of the poppy plant. The opium poppy is grown in many varieties across the world for its seed, medicinal purposes and its opium (Krikorian & Ledbetter, 1975). Opium contains approximately eighty alkaloids (Weid, Zeigler & Kutchan, 2004), the most significant, medically and commercially being morphine, codeine, thebaine and papaverine. The alkaloid contents vary considerably and have been attributed to variations in species (Popov, Dimitrov, Georgiev & Illiev, 1973), capsule mass (Harvest et al., 2009), harvest time, process and/or storage (Annett, 1920). These variances allow for morphine yields to be manipulated, motivated in part by the pharmaceutical industry (Palevitch, 1986). In New Zealand, the plant gained recognition as a naturalised wild flower in 1883 and in 1975 was listed as a prohibited plant under the Misuse of Drugs Act 1975. The availability and use of opium from the papaver somniferum plant occurs amongst opioid drug users as a seasonal activity in New Zealand (Robinson, Dukes, Robinson, Cooke & Mahoney, 1993).

2.3.2.2 Poppy seed and poppy seed tea

The poppy seed is encapsulated within the pod of the poppy plant. Typically used for culinary purposes, it costs between eight and fifteen dollars a kilo in New Zealand (Braye et al., 2007). The seed itself is not believed to contain any opiate alkaloids (Streumpler, 1987) although the opium latex within the pod which adheres to the seed does. The strength and composition of this opium latex varies (Pelders & Ros, 1996).
The 1990s saw an emerging pattern of use among the opioid using population in New Zealand, whereby the seed was used to create an opiate solution referred to as ‘poppy seed tea’ (Braye et al., 2007). Users reported some individual variation in preparation of what is essentially a simple process that removes the latex adhering to the seeds before oral consumption (Braye et al., 2007). It is indicated that approximately 45 percent of the available morphine and 48 percent of the available codeine can be removed for use (Lo and Chua, 1992).

2.3.2.3 Morphine

Morphine, named after the Greek God of dreams, Morpheus, is the most dominant naturally occurring opiate found in the opium poppy and typically consists of eight to 19 percent of the opium (UNODC, 2001). First isolated in 1805 its value in the management of pain was commercially adopted by pharmaceutical company Merck in 1927. Morphine is available in oral or injectable preparations and has been branded in New Zealand under a number of names, including MS Contin, Oramorph, Kapanol, m-Eston and RA Morph. It is readily absorbed in the gastro-intestinal tract, has a rapid onset of action after injection and an average half-life of two to three hours (Doweiko, 2009). Morphine has a high dependence liability and is commonly abused (Degenhardt et al., 2006). Morphine can be converted into a heroin base with a filtration process involving the use of the precursor acetic anhydride (AA) (UNODC, 1998).

2.3.2.4 Codeine

Codeine is found in opium in lower concentrations than morphine (one to four percent) but it is distributed more thoroughly throughout the plant (UNODC, 2001). Its potency is about ten percent of that of morphine. It is effectively administered orally (Gutstein & Akil, 2001) from where it is absorbed in the gastro intestinal tract. Approximately ten percent of codeine is converted to morphine in the body. It asserts its action through the central nervous system with a delayed onset of 30 to 45 minutes. It has a half-life of two and a half to three hours and duration of effect of three to four hours (Katzung, Masters & Trevor, 2012). It is indicated for a wide variety of conditions, historically in elixirs of laudanum and paregoric and increasingly in combination preparations with paracetemol, aspirin and ibuprofen available as OTC medications (Sweetman, 2010).
2.3.2.5 Methadone

Methadone was developed in Germany in the 1930s. It is a potent synthetic opioid agonist available as tablet or solution, designed for oral absorption although is readily injectable. Methadone has a high (85 percent) oral bioavailability, is distributed widely through body tissue and has a high protein binding affinity. Peak plasma concentrations are typically attained in two to four hours after dosing and it has a half-life of approximately 24 hours (Gordon et al., 2009), although individual responses vary (BPJ, 2012b). Methadone typically has an analgesic effect, however in opioid dependent people its long half-life facilitates the stabilising effect that prevents withdrawal and minimises sedation or intoxication (WHO, 2009). Methadone was introduced into the United States of America (USA) in 1947 by Eli Lilly and Company, initially for the treatment of pain and then later used in the treatment of opioid addiction as an opioid substitution medication. The first methadone treatment clinics opened in New Zealand in 1971 (Kemp, 1999).

2.3.2.6 Oxycodone

Oxycodone is a semi-synthetic opioid, first synthesised in 1916 in Germany and soon after available for clinical use (Kalso, 2005). It is currently available in immediate and controlled release formulations, as OxyNorm and OxyContin to treat moderate to severe pain. It has similar actions to morphine although with considerably higher bioavailability; it is deemed no more effective than morphine and is recommended for use only if morphine is not tolerated or suitable (BPJ, 2012a). Its onset of action is about 15 minutes after oral administration, peak plasma levels are attained within one hour, and it has a four hour duration of action (Keyes, 2010). Intravenous dosing has a faster onset and almost twice the potency of oral dosing (Serpell, 2008). The potential for addiction and misuse of oxycodone is comparable to that of morphine (Stoops, Hatton, Lofwall, Nuzzo & Walsh, 2010) and has been well documented internationally (Okie, 2010; Sproule, Brands, Li & Catz-Biro 2009). Oxycodone was introduced to New Zealand in 2001, a number of years after overseas availability supported by government funding through Pharmaceutical Management Agency (PHARMAC). The controlled release formulation OxyContin was released in New Zealand in 2005 (Chisolm, 2012).
2.3.2.7  Buprenorphine (Suboxone)

Buprenorphine is a semi-synthetic partial opioid agonist. As a partial mu agonist (and kappa antagonist) it has a ceiling effect. As such, dose increases prolong its duration of action without further increasing its agonist effect and thus reducing risks of overdose (Mattick, Kimber, Breen & Davoli, 2014). Its high receptor affinity and partial activity mean that the effects of additional opioids are blocked; tolerance is not seen to the same degree as methadone and the withdrawal syndrome is milder (WHO, 2009).

Buprenorphine was originally available in New Zealand in the 1980’s marketed as Temgesic (Harper, 1983). Currently promoted formulations contain the active ingredients of buprenorphine hydrochloride plus naloxone hydrochloride, an opioid antagonist. Marketed as Suboxone, it became available and subsidised by PHARMAC in 2012 (PHARMAC, 2012), as a sublingual tablet and an option for OST (Gordon et al., 2009). The naloxone is intended to block the effects of other opioids, which if taken intravenously will precipitate withdrawal symptoms (Oraman & Keating, 2009). Whilst buprenorphine and buprenorphine/naloxone combinations have shown to have some benefits, the optimism regarding it diminished abuse potential has been disputed (Anson, 2013; Simojoki & Alho, 2013; Robinson et al., 1993; Vidal-Trecan, Varescon, Nabet & Boissonnas, 2003).

2.3.2.8  Fentanyl

Fentanyl was developed in 1960 as a synthetic opioid that is significantly more potent than morphine. It is frequently used intravenously in anaesthesia due to its short time to effect and elimination (Gutstein & Akil, 2001). Its availability as a transdermal patch provides for sustained release making it effective for chronic pain. Absorption can be dependent on body temperature, skin type, body fat and placement of the patch. It is also available as a ‘lollipop’, spray and lozenge (BPJ, 2012b). The abuse potential and overdose risks of both fentanyl, and the analog, acetyl fentanyl have been recognised (Centers for Disease Control, 2013). Fentanyl can be smoked, injected or inhaled and the patches drained or heated and the fumes inhaled (Doweiko, 2009). Canada is cited as one of the top consumers of the drug (Fireston, Goldman & Fischer, 2009).
2.3.2.9 Over-the-counter (OTC) opioid analgesics

Over-the-counter medications are those sold directly to the public without the need for a prescription. They must be shown to be efficacious and deemed to have low or no abuse potential. OTCs are regulated by the active ingredient that they possess, rather than the formulation itself and as such pharmaceutical companies are able to develop a range of preparations for sale. New Zealand restrictions regarding the manufacture and sale of OTCs have followed international trends (McAvoy, Dobbin & Tobin, 2011). This includes placing them behind the counter, enforcing a maximum codeine dose, limiting the pack size to no more than six days supply and the requirement of warning labels (Medsafe, 2010).

Temple (2003) identifies three groups of people who misuse OTC’s, those using them legitimately but at too high a dose or for too long a period and who become dependent; those who deliberately experiment for non-medicinal purposes and those dependent on other drugs who deliberately use OTC’s as an alternative or substitute for their preferred drug. New Zealand has had a long history of OTC misuse, for example, converting codeine and morphine based products into ‘homebake’ and use of opioid cough syrups such as Gees linctus and Codeine linctus with the availability of kaolin and morphine mixtures, (Kemp 1999; Temple 2003). Codeine based OTCs continue to be open to abuse, compounded by the relatively recent influx of codeine based and combination OTC pain relief (McAvoy, Dobbin & Tobin, 2011) notably Nurofen Plus, Panadeine, Panadeine Plus, Mersyndol, Paracetone, Panafen Plus and Codalgin (Robinson et al., 2010).

2.3.3 Precursors

Although not substances of abuse in their own right, precursors are integral to the adaption and use of a number of opioids. This may be particularly so in New Zealand where heroin accessibility is low and the conversion of ‘homebake’ from morphine and codeine products is an adapted activity (Bedford et al., 1987; Kemp, 1999; Robinson et al., 1993). The term precursor, as with many terms used in relation to substance use, lacks clarity. A precursor is deemed both a chemical substance integral to the production of a semi-synthetic drug, and/or a refining agent that could be substituted by another chemical for processing plant based material (US Department of State, 2013).
The former would include the chemicals acetic anhydride and pyridine hydrochloride used in the production of morphine to ‘homebake’ heroin (Bedford et al., 1987; Samson, 2004). An example of the latter is citric or ascorbic acid, a water soluble powder used to filter adulterants from ‘dirty’ or street heroin (Strang, Keaney, Butterworth, Noble & Best, 2001). Many of these products are used legitimately as industrial chemicals and are thus readily available through retail outlets or online bulk orders, complicating the restrictions that can be placed on them.

### 2.4 Patterns of opioid use

#### 2.4.1 Introduction

The following section begins by providing some historical background to opioid use. It reflects briefly on its extensive history in a range of situations and contexts and its perceived acceptability of use. This section also highlights some of the challenges of identifying and quantifying drug use, in assessing patterns and recognising emerging trends, reflecting on the difficulties of data collection itself and the potential for delays in disseminating the evidence. With this in mind, it then provides some context of opioid use, exploring the global picture and international prevalence, with some reference to individual countries. Lastly, New Zealand data is presented, to provide a picture of substance use that has both similarities and differences to overseas scenarios.

#### 2.4.2 Historical context of opioid use

Opioids have long been used in a variety of contexts and situations, initially in their natural form but later compounded into chemically manufactured substances. An array of literature from the realms of ancient writings, archaeological data, fiction, nonfiction and policy reports highlight the diverse use of opioids in society (Browstein, 1993). The use of opioids in ritual and in treatment has been documented dating back to the Neolithic age; the Sumerians, in 3400 BC referred to the opium poppy as ‘Hul Gil’, the flower of joy and the Greeks and Romans were reported to boil the heads and leaves of the poppy into a juice known as ‘meconium’ (Nencini, 1997). Widespread use amongst the Chinese in the form of opium and later throughout Europe as laudanum are well
reported in addition to wholesale druggists and apothecaries supplying poppy capsules, opiate plaster, extract of opium and syrup of white poppies (Berridge & Edwards, 1981). Thomas de Quincey’s (1821/1985) ‘Confessions of an opium eater’ offers a personal journey of ‘pleasure and pain’; poppy tea drinking was described as a widespread nineteenth century practice in the Fenlands of East Anglia (London, O’Regan, Aust & Stockford, 1990) and more recent usage has been documented in UNODC’s ‘A century of international drug control’ (UNODC, 2009).

New Zealand’s documented history of opioid use is comparatively recent, dating back to the 1860s use of opium by Chinese gold mining immigrants (Butler, 1977). Restrictions to target the importation, sale and smoking of opium specifically for this population group were however put in place in 1901 with the Opium Prohibition Act. Concurrent to this, opium and morphine were deemed acceptable for use in many patented medicines and tonics from the end of the 19th century (Battin et al., 2008) and New Zealand was seen as one of the highest consumers of opiates internationally (NZ Customs Service, 2012; Kemp, 1999). The 1970s was an era in which opioid use began to be viewed as a public health concern; an age epitomised by a ‘youth culture’, protest, social rebellion and a concurrent increase in drug offences (Battin et al., 2008). Organised crime, heroin importation and ‘Mr Asia’, an international drug trafficking syndicate, were synonymous with the 1970’s (Sellman, Hannifan, Deering & Borren, 1996). This decade also saw the introduction of methadone maintenance treatment which offered an alternative to detoxification and the Misuse of Drugs Act 1975 which provided a classification system and legislative control over substances of abuse. The demise of the ‘Mr Asia’, drug ring in the early 1980s, left heroin a rare commodity in New Zealand and led to ‘homebake’ being resourcefully manufactured (Bedford et al., 1987; Kemp, 1999; Robinson et al., 1993). A miscellany of locally sourced opioid substitutes including prescription opioids, opium from the opium poppy plant, poppy seeds and OTCs have been evident since (Kemp, 1999; Braye et al., 2007; Robinson, Robinson, McCarthy, & Cameron, 2010).

Concurrent to these trends and transitions, the image of the opioid user has also changed. Images, as noted below, highlight opioids as once being the realm of the Chinese, in their salubrious, elegant opium dens, or the family sipping tinctures of apothecary-sourced opium. The hypodermic needle shifted the image to intravenous use and the ‘rebellious
youth’ or street drug addict and more recently, there is the hidden face of prescription medication. Once a function of religious symbolism, opioids today are a commodity of international trade, a behavioural factor associated with stigma and criminality (Courtwright, 2001), a ‘tool’ used for medical practice or self-medication (Berridge & Edwards, 1981) a part of everyday life, and a consideration in the formulation of policy.

Figure 1: A wealthy opium den

Figure 2: Mrs. Winslow’s soothing syrup, 1885 advertising image
Today, opioids are highly controlled substances warranting international treaties and legislative action. Global opium production has reportedly declined in the last few
years, contributed, in part, to disease that destroyed much of the harvest in 2010 and the encouragement of alternative sustainable livelihoods (UNODC, 2012). However, the production of and use of opioids developed for medicinal purposes continues to rise (UNODC, 2013). The pharmaceutical industry has developed into a highly lucrative and competitive market that challenges science and technology in the development of pharmaceutical breakthroughs (Achilladelis & Antonakis, 2001).

2.4.3 Challenges of identifying drug use, patterns and prevalence

Understanding the prevalence and patterns of drug use has its challenges. The literature does not readily distinguish between incidences of use and the prevalence of a trend. Existing measuring systems provide a partial picture, frequently focusing on quantifiable accounts such as police arrests, convictions, overdoses, poisonings and/or health interventions. Whilst these have relevancy, they do not give an adequate indication of emerging trends, or what influences availability. Studies that address substance misuse or illicit drug use specifically are also problematic. They rely on self-report, which has debatable reliability (Bale, Van Stone, Engelsing, Zarcone & Kulda, 1981); may not include those on prescribed opioids (Deering et al., 2008) and/or do not take into account local variances (Abraham, 1999). In addition, household surveys, which use random population samples, and illicit drug reporting studies targeting specific populations can produce variations in their findings that limit comprehensiveness and applicability. In part, this is due to the inherent diversity of populations and uncertainty of self-reporting amongst those who participate or are targeted for each of these survey types. There are also factors of variation in the questions that are asked, perceived sensitivity to drug use questions, a society’s attitude or the legal status of a drug, accessing the ‘hidden population’ and completeness of reporting (Harrison, 1997; Rehm, Room, van den Brinkt, & Kraus, 2005; WHO, 2000a). Each measure provides a snapshot of a population, yet remains incomplete, with recommendations that an aggregation of drug use indicators that gain good prevalence estimations are required (Frischer, Hickman, Kraus, Mariani, & Wiessing (2001).

The source of much literature and research in relation to drug use, availability and implications is from the developed countries, most notably the USA, Canada, Britain and Australia. Whilst some assimilation can occur, generalisations are made with
caution across countries. Furthermore, there are nuances in availability, culture, political and social environments that must also be considered (Babor, 2010). Thus, for example, the prevalence of heroin use is frequently documented in the international literature. It has been estimated that globally 16.5 million people took opiates, 12 million of whom took heroin (UNODC. 2008), yet heroin use in New Zealand is nominal (Wilkins, Jawalkar & Parker, 2013).

Another challenge is that of knowledge transfer, notably that of identifying an issue, carrying out research and disseminating findings, all of which can take longer than the emergence and even the decline of a trend. An example is the small yet informative study on poppy seed tea use (Braye et al., 2007). The substance was anecdotally observed to be used by a significant number of clients attending a New Zealand alcohol and drug service in the late 1990s, although clients had used it for a number of years at this stage. The study produced some useful clinical insights although, by the time a research proposal was formulated and data published, the trend had declined.

Despite the limitations noted above, ascertaining an indication of prevalence is both valuable and important. The following sections provide a selection of data pertaining to prevalence of opioid use from international and New Zealand studies.

### 2.4.4 International prevalence

The overall prevalence of illicit drug use globally has remained stable over the last few years, although there are some localised market shifts. An estimated 3.9 to 6.9 percent of the world adult population (aged 15 to 65) reported use of an illegal substance in the preceding year (UNODC, 2013). The global use of heroin and opium remained at about 0.4 percent although the use of opioids generally, which includes prescription opioids, increased to approximately 0.7 percent (UNODC, 2013). There is an indication in the European Union that a decline in heroin is being replaced by the use and availability of other opioids (European Monitoring Centre for Drugs and Drug Addiction, 2013). Whilst there is some variation in the figures reported internationally, due in part to the variations and challenges noted above, it is evident that the estimates of opioid use from these studies remain comparatively low compared to those of other substances. The British Crime Survey 2010/11 (Smith & Flatley, 2011), a nationally representative
sample of household residents aged 16 to 59 years reported prevalence rates of heroin of 0.1 percent and methadone at 0.2 percent. Australian household survey figures indicated less than 0.2 percent of the general population aged 14 and over have used opioids (Australian Institute of Health and Welfare, AIHW, 2011), although the Illicit Drug Reporting System (IDRS) 2012 specifically surveying drug using populations placed this much higher. This study cites heroin as continuing to be the most frequently reported opioid used in Australia, followed by methadone used by 50 percent of participants, (21 percent of which was illicitly obtained) and 40 to 50 percent injected morphine (Stafford & Burns, 2013).

Knowledge of the non-medical use of pain relievers is poor, although there is an increasing indication of their use (UNODC, 2013). The USA is reported to have the greatest use of prescription opioids internationally, accounting for about 70 percent of the global market (International Narcotics Control Board, INCB, 2012) and Florida alone has been reported as using 80 percent of the world’s supply of oxycodone (Holmes, 2012). Amongst a national sample of American adolescent students, the use of ‘any pharmaceutical drug’ ranked second only to that of cannabis and ‘opioid pain relievers’ accounted for more deaths than all other illicit drugs (National Institute on Drug Abuse, 2013). In the USA, pharmaceutical pain relief medication availability when compared to heroin is currently about five times to one (Babor, 2010) and Firestone and Fischer (2008) report that OxyContin, prior to its removal from the market, was one of the most commonly available street drugs in Toronto. The Australian household survey data indicated that of the general population, the non-medical use of opioids is low but indications are that it is on the increase (AIHW, 2011). Comparatively, the IDRS, 2012 reported that 30 percent of illicit drug users reported use of oxycodone; that 14 percent of participants used illicitly obtained buprenorphine and a further 15 percent a buprenorphine–naloxone combination; 15 percent reported OTC codeine use and 21 percent report the use of ‘other opioids’ (mainly Panadeine FORTE) (Stafford & Burns, 2013).

In terms of the prevalence of substance misuse problems related to prescribed opioids, it has been estimated three percent of people who take opioids for chronic non-malignant pain develop misuse or addiction problems and 11 percent develop ‘aberrant drug taking behaviours’ (Fishbain, Cole, Lewis, Rosomoff & Rosomoff, 2008). Babor (2010)
reports that in 1965 in the USA, approximately half of prescribed medication was diverted for illegal use (notably barbiturates and amphetamines), and although the substances of diversion have changed, largely to opioids, the rate has not (Inciardi, Surratt, Kurtz, & Cicero, 2007). Fischer, Patra, Cruz, Gittins, & Rehm, (2008) also noted how the characteristics of the opioid user in Canada has changed, from the traditional ‘opioid abuser’ to the ‘non medical user’, a prescription only user who is typically white, receiving a legal income, not injecting, having concurrent physical health problems and using private physician services.

2.4.5 New Zealand prevalence

New Zealand has typically shown a unique pattern of illicit opioid use. This is created in part by the low levels of heroin that make its way in to the country subsequent to the demise of the ‘Mr Asia’ drug ring in the late 1970’s and the ongoing success of the New Zealand police and customs agencies (Kemp, 1999; Robinson et al., 1993). The use of opioids by illicit drug users is thus largely dominated by pharmaceuticals, with morphine followed by methadone, reported to remain the most commonly used and widely available opioids in New Zealand (Wilkins, Jawalkar & Parker, 2013).

The 2007/08 New Zealand Alcohol and Drug Use Survey estimated that of the adult population New Zealand 3.6 percent had used an opioid (opiate of painkiller) in their lifetime and 1.1 percent in the last year (MoH, 2010a). An estimated 0.33 percent of the population have an opioid dependence (Adamson et al., 2011). By way of contrast, the Illicit Drug Monitoring System (IDMS), which has provided an annual ‘snapshot’ of drug use and drug related harm from a sample of frequent drug users in New Zealand since 2005, reported that of their injecting drug users, 88 percent had tried a pharmaceutical drug in their lifetime. Of this sample, 67 percent had used methadone, 49 percent morphine and 43 percent codeine in the six months prior. Those who had tried oxycodone in the last six months had increased from nine percent to 25 percent (Wilkins, Jawalkar & Parker, 2013).

The use of a range of opioids in New Zealand is suggested, although emerging trends and patterns are often documented through small population studies or reflect anecdotal reporting. The use of codeine containing analgesic preparations is not new in New
Zealand, availability being a contributing factor in the ability to produce ‘homebake’ since 1983 (Bedford et al., 1987). Robinson and colleagues (1993), reported on the intravenous misuse of buprenorphine within two months of its launch in New Zealand in 1982, and despite the harm reduction policy of introducing a naloxone-buprenorphine combination in 1991, the potential for abuse continues. Poppy seeds infused in a ‘tea’ by means of soaking and/or heating produce a cheap and readily available alternative to other illicit and costly forms of opioids. Shown to have some use internationally (Bailey et al., 2010; Nanjayya et al., 2010; Lloyd-Jones & Bonomo, 2006) poppy seed tea had a period of significant use in New Zealand in the mid-1990s when nearly half of opioid dependent clients attending an outpatient service reported the use of between 0.25 to three kilos of seed, typically as a means of maintaining stability or managing withdrawals (Braye et al., 2007). Over-the-counter codeine analgesic misuse and associated harm was again highlighted with the concurrent increased availability of OTC combinations with paracetemol and non-steroidal anti-inflammatories (NSAID). Evidence of admissions following adverse events primarily relating to anti-inflammatory effects raised concerns (Robinson et al., 2010). Concern was also raised about the risks and abuse potential of oxycodone and that New Zealand may follow similar trends to those overseas (Dunn, 2011). Whilst there is no published evidence of a current oxycodone misuse ‘epidemic’ as may be seen in other countries (Maxwell, 2011) there is a marked increase in use by opioid drug users (Royal Australasian College of Physicians, 2009; Wilkins, Jawalkar & Parker, 2013); concurrent with a New Zealand expenditure on oxycodone that significantly increased in 2010 to a figure which exceeded that of morphine (BPJ, 2011a).

2.4.6 Summary

The use and availability of opioids have been observed throughout history, in an array of both natural and pharmaceutical formulations and with varying degrees of control placed on availability. Challenges of identifying the use, patterns and prevalence of opioid use were highlighted, reflecting on the inconsistencies in language, research approaches and study populations. International prevalence studies indicate that the use of opioids remains lower than that of other mind-altering substances, that heroin use remains widely reported and that the use of pharmaceutical opioids is on the increase. Whilst New Zealand shares some similarities, it does have a unique pattern of illicit
opioid use that is dominated by pharmaceuticals. Since the decline of heroin availability in the late 1970s the resourcefulness of illicit opioid users in New Zealand is recorded via a number of small population studies and anecdotal reporting that indicates an adaption and use of a range of opioid substances.

2.5 Opioid availability

2.5.1 Introduction

The following section provides an overview of the literature on the availability of opioids and the means by which they are controlled. The management of opioid availability is in the main driven by a policy approach that restricts availability and access and endeavours to minimise supply. There are international treaties, domestic legislation, policies and associated government responses that guide supply control and availability. An overview of these directives is provided along with some evidence outlining the effectiveness and impacts of these controls. Consideration of the significant role of pharmaceutical companies in the development, production and availability of opioids is also offered. The role of pharmacists and prescribers is considered, reflecting on the regulations and guidelines specifically developed for this sector of health care providers. Lastly, an exploration of availability that considers the actions taken by users themselves, such as use of the internet, diversion, information sourcing and pricing is provided.

2.5.2 Treaties, legislation and policy influencing availability

2.5.2.1 Introduction

This section offers some insights into the realm of international treaties, legislation and policy. It provides some historical context of the motivations and efforts of early drug control and the current emphasis on international supply routes and directives that inform New Zealand legislation and policy. It briefly reflects on the current calls for a review of the emphasis and approach to supply control and its consequences. New Zealand drug policy has a clear philosophical underpinning of harm minimisation. This
review points to some of the current relevant legislation relating to opioid availability in New Zealand and raises some concerns regarding inconsistencies in drug policy. A brief consideration of the activities of the government agencies and departments of New Zealand Customs, Corrections, Police, Social Development and Health as well as non-government agencies is also undertaken in regard to availability through supply and/or demand reduction.

2.5.2.2 The international treaties and legislation

International drug control endeavours date back to the 1500s as Colonial empires monopolised their expanding markets. Globalisation increased the availability and usage of psychoactive substances along with a perceived need to place control on this, the best known of which culminated in the Opium Wars between Britain and China in the 1840s and 50s (Courtwright, 2001). International legislative attempts began with the Brussels General Act of 1889, which, although focused on distilled spirits, paved the way for prohibition, a process indicative of an era associated with an active illicit market (Babor, 2010).

In 1909, the Shanghai Opium Conference set out specifically to address the increasing problem of the global opium industry, the revenue it derived and associated problematic substance use. This culminated in The Hague Convention of 1912, which became the founding document of current international drug treaties and control (UNODC, 2008). The intent of these treaties were reiterated in the Harrison Narcotic Tax Act 1914, responding to drug addicts from a legislative, deviant and criminal perspective. This was in contrast to the recommendations made in the United Kingdom (UK) in the Rolleston Report 1926, which placed addiction in the hands of the medical profession (Strang & Gossop, 2005).

International drug control is currently informed by three treaties: The 1961 Single Convention on Narcotic Drugs which sets the scene stating, “addiction to narcotic drugs constitutes a serious evil” (1961, p1). The focus of this treaty was primarily on the control of distribution and demand for substances derived from the coca, opium poppy and cannabis plants. It introduced the criminalisation of distribution and initiated consequences for the user. The 1971 Convention on Psychotropic Substances extended
this legislation to cover the increase in manufactured and synthetic drugs. The United Nations Convention against Illicit Traffic in Narcotic Drugs and Psychotropic Substances of 1988 produced a refinement and refocus on controlling crime, in particular drug trafficking, trade and corruption, and offered a renewed reflection on the role that drugs play in undermining economic development. Whilst there is local flexibility, these treaties drive domestic legislation and create mandates across an array of areas including advertising, labelling, availability restrictions, penalties and reporting and monitoring systems (Babor, 2010).

The treaties are administered and monitored by the United Nations Office of Drugs and Crime (UNODC) and the International Narcotics Control Board (INCB). Combined they have three directives, these being ‘drug control’, the handling of ‘hazardous commodities’ and the ‘trade of narcotics’. Significant resources are used to target drug control and their precursors, aiming to reduce the trafficking and illicit supply of drugs. They guide the implementation of strategies that promote cooperation; strengthen border controls; develop intelligence-led law enforcement capacity, communication and operational information sharing and measure global trafficking and seizure size (heroin and morphine only) (UNODC, 2013). The aim relating to hazardous commodities as identified by their abuse or dependence potential provides further avenues of international control. The third aim regarding the trade of ‘narcotics’ is intended to ensure the distribution of opioids required ‘for the relief of pain and suffering’. This places governments in a dual position of making opioids available for medical or scientific purposes whilst also requiring significant controls to be placed on them (University of Wisconsin Pain and Policy Studies Group, 2009) and sets up a global market for distribution which has culminated in the significant disparity of the distribution of pharmaceuticals (Bosnjak, Maurer, Ryan, Leon, & Madiye, 2011).

The INCB and UNODC have been criticised for attempting to exert more influence than they are legitimately or feasibly able to do. They are funded largely with American monies and concern is expressed that policy reflects the internal situation, culture and initiatives of the USA rather than international initiatives and needs (Babor, 2010). Furthermore, they are argued to be outdated and grounded in an era of prohibition, international market control and a focus on individual substances. Supply control efforts are largely deemed ineffectual and costly (Babor, 2010), with little indication of a
decline in drug use or a sustained reduction in the supply of drugs (Wodak, 1992). They reinforce drug use as a morally and legally driven activity rather than giving consideration to social or medical implications (Baum, 1996). This criminal justice approach marginalises many of the world’s vulnerable populations (Rolles et al., 2012). Evidence indicating moral panic, discrimination and inadequate access to treatment prevail (Beckett, Nyrop & Pfingst, 2006; Buchanan & Young, 2000; Human Rights Watch, 2008) and the appropriate availability of medication for medical use internationally is lacking (University of Wisconsin Pain and Policy Studies Group, 2009).

With this in mind, there appears to be a current shift in focus amongst some factions. The UNODC’s World Drug Report raises the need to ensure that the focus is not simply shifted from one substance to another and calls for “universal access to drug therapy” (UNODC, 2010, p5); the WHO emphasises the need for a balance between access and restrictions (WHO, 2011) and the ‘war on drugs’ philosophy is being questioned (Rolles, Murkin, Powell, Kushlick & Slater, 2012).

2.5.2.3 **New Zealand drug policy and legislation**

New Zealand, as one of 183 member states signed up to the treaties must adhere to the principle of ‘shared responsibility (INCB, 2014) and the rules regarding the supply and availability of opioids. It is also guided by its own internal National Drug Policy 2007-12 (Ministerial Committee on Drug Policy (MCDP), 2007). This document is based on the principle of harm minimisation, achieved by efforts of controlling or limiting the availability of drugs (supply control); limiting the use of drugs by individuals (demand reduction) and reducing harm from existing drug use (problem limitation). Currently undergoing a review that will broaden the focus from the individual to encompass communities and society at large, the National Drug Policy 2007-2012 underpins the work of multiple agencies in a whole of government approach (MoH, 2013).

Aligning with the National Drug Policy 2007-12 and influential in relation to the availability of opioids is New Zealand legislation, notably The Misuse of Drugs Act 1975, the Medicines Act 1981 and to a lesser extent The Medicines Regulation Act 1984 and the Customs and Excise Act 1996. The scope of this thesis does not give
opportunity to expand on this here, but some consideration must also be given to the directives of national standards, practices, pharmaceutical schedules, guidelines, professional ethics and best practice recommendations that have a role to play in advertising, ethical and effective practices and the rights of consumers.

The Misuse of Drugs Act 1975 categorises drugs according to whether they are ‘controlled’, or ‘non-controlled’ drugs. Controlled drugs are those deemed to require legal restrictions on their uses, primarily through the provision of penalties for their unlawful prescribing, supply, administration or possession (Keenan, 2010). Substances are placed within a classification system as advised by The Expert Advisory Committee on Drugs (EACD) and/or international treaty obligations, with penalty severity designed to be congruent to the perceived level of harm associated with each classification. Schedule four of the Misuse of Drugs Act 1975, also places precursor substances under restrictions. Limitations are placed on the amount, level, or quantity that can be imported or possessed and the stipulation that they cannot knowingly be used for unlawful purposes. The Misuse of Drugs Act 1975 has undergone extensive reviews and amendment in its near 40 year history. In 2011, recommendations for reform were made that were intended to address the changing nature and availability of some drugs; inconsistencies with the National Drug Policy 2007-12; the current focus on supply control that places considerable demands and resources on detection, enforcement and corrections, and an adversely punitive approach shown to be detrimental to what is essentially low-level offending (New Zealand Law Commission, 2011). Whilst these concerns are generalised to substances overall, there are clear implications for opioid use and availability.

The Medicines Act of 1981 regulates the use of medicines, including their approval and registration for a specified use in New Zealand. Regulated by Medsafe, New Zealand Medicines and Medical Devices Safety Authority, medicines are defined within the Act as ‘prescription medicine’, supplied adhering to prescription details; ‘restricted medicine’, sold or supplied and recorded only by a pharmacist and ‘pharmacy only medicine’ and sold by a retailer with a licence to sell medicinal drugs (Keenan, 2010). The Customs and Excise Act 1996 aligns with the Misuse of Drugs Act 1975 and endeavours to “protect the public health and the public interest by controlling the importation, exportation, manufacture, sale, distribution, use and possession of certain
dangerous drugs” (NZ Customs, 2014, p2). The Medicines Regulations Act 1984 addresses legislation in regard to labelling, advertising, dispensing, and prescribing requirements. Pharmaceutical opioids clearly fall within these legislative frameworks, their availability intended for therapeutic use, yet also within the Misuse of Drugs Act 1975 with its role in identifying and acting on the unlawful use of possession.

2.5.2.4 Government and non-government agencies influence on availability

Government and non-government agencies implement the policies and legislation of a nation. New Zealand Customs, Police and Corrections are considered significant agencies in the management of the availability of opioids. Their primary influence is of supply control through law enforcement, although they may also address prevention and intervention. Health care and treatment providers are also stakeholders in the availability of opioids.

New Zealand Customs have a primary role in managing New Zealand’s borders and thus the supply of controlled substances and precursors to the country (Secker, 2001). They work closely with the Institute of Environmental Science and Research (ESR) on initiatives to enhance the detection of illicit drugs and in the trialling of new drug identification tools (NZ Customs Service, 2013). Current drug trafficking targets are focused on amphetamine type stimulants (ATS) and the more recent emergence of new psychoactive substances (NPS), reflected in the seizure rates as previously noted.

In terms of precursor control, The International Narcotics Control Board (INCB) report considerable success in the monitoring and tracking of the listed chemicals used in illicit drug production internationally (INCB, 2013). However concerns are raised as to whether this approach inadvertently results in the utilisation of lower grade chemicals and acids and thus the production of poorer quality substances (Grund, Latypov & Harris, 2013), and increased health risks (Strang et al., 2001).

The activities of New Zealand’s Departments of Corrections and Police are directed in part by the National Drug Policy 2007-2012 (MCDP, 2007) striving for the minimisation of harms, and the Illicit Drug Strategy, the targets of which focus on methamphetamine and cannabis identified as “the illicit drug types that cause the greatest amount of harm” (New Zealand Police, 2009, p6). New Zealand Police have a
number of targeted interventions aimed to reduce demand at an individual and community level (NZ Police, 2009) however their primary focus continues to be on targeting supply. A concerted operational effort in 2011-12 to target the dealing, trafficking and manufacture of illicit drugs led to an increase in drug arrests (non-substance specific) from previous years (NZ Statistics, 2012). Department of Corrections statistics indicate that 12 percent of the current prison population had been charged with a drug related crime (drugs, trafficking or antisocial behaviour) (Department of Corrections, 2014a), two-thirds of New Zealand prisoners have substance abuse problems and more than 50 percent of crime was committed by people under the influence of drugs and alcohol (Department of Corrections, 2013). A further ten percent of offenders are serving community orders for drug and antisocial charges and 26 percent for trafficking (Department of Corrections, 2014b).

In an effort to offer a balance of measures that reduce the effects of harmful substance use, concurrent with ‘supply control’ that limits availability of drugs, Government departments across the Ministries of Social Development and Health also contribute to The National Drug Policy 2007-12 by way of ‘demand reduction’, limiting the use of drugs and ‘problem limitation’, described as reducing harm from existing drug use (MCDP, 2007). Treatment providers across multiple agencies provide programmes that include prevention, treatment and reintegration. Needle Exchange Programmes (NEPs) which reflects the heart of harm minimisation, offer health promotion and education services within a supportive non-judgemental environment. Methadone maintenance treatment, often considered the ‘gold standard’ of opioid treatment, has expanded to include other opioid substitute medications, warranting an equivalent status to methadone maintenance (Fischer, Rehm, Kim, & Kirst, 2004). Although concerns regarding diversion of opioids from a range of sources prevail (Smirnov & Kemp, 2012), New Zealand OST practice guidelines are available from the MoH with practical and evidence-based advice for clinicians on best practice for the clinical assessment and treatment of clients with opioid dependence (MoH, 2014a). Other effective demand reduction or problem limitation interventions exist which include managed withdrawal options, residential treatment, therapy and self help/12 step programmes (Wodak, 2011) whilst coerced or compulsory treatment has received mixed reviews (Klag, O'Callaghan & Creed, 2005; Parhar, Wormith, Derkzen & Beauregard, 2008).
Another aspect of treatment provision and a source of opioids is medical intervention and pain management. The WHO developed the Pain Ladder to guide the management of pain in cancer treatment (WHO, 1990) and opioid analgesia continues to be the mainstay for pain relief in cancer treatment. The prescribing and use of opioids for non-malignant pain is increasing (Belcher, et al., 2014; Ling, Mooney, & Hillhouse, 2011) although their efficacy is still debated (Davis, 2010; Furlan, Sandoval, Mailis-Gagnon & Tunks, 2006; Large & Shug, 1995; Noble, et al., 2010; Pedersen, Borchgrevink, Riphagen & Fredheim, 2014). Concerns are expressed regarding the debatable risk of dependence (Minozzi, Amato & Davoli, 2013); adverse effects of misuse, (Ling, Mooney, & Hillhouse, 2011) risks of overdose (Volkow, & McLellan, 2011) and the potential for diversion and as such, an increased supply (Smirnov & Kemp, 2012).

2.5.2.5 Summary

International treaties, legislation and government policies that drive the supply of opioids were reviewed. In general, opioid use and management is viewed from a criminal justice perspective that endeavours to place controls on the supply and availability of opioids. There is some reported success to this globally with international cooperation, joint ventures, seizure and incarceration. However, this paints only a partial picture, with success largely being measured against heroin availability and to a lesser extent morphine. There is little consideration of the impacts of these policies on the user and minimal exploration of the supply control of pharmaceuticals, substances which predominate in New Zealand. Furthermore, whilst some policy initiatives reflect interventions to reduce demand, such as health promotion, education and treatment, these are areas that are comparatively poorly resourced.

2.5.3 Pharmaceutical opioids

2.5.3.1 Introduction

The following section explores the availability of opioids looking specifically at pharmaceuticals. It starts by reporting on the role the pharmaceutical industry plays, as an international multimillion-dollar industry whose primary business is the supply of medications. It then addresses the roles of the pharmacist and the prescriber, offering some historical context to their positions within the supply chain and some legal and
ethical directives. Their roles as health care providers or ‘gatekeepers’ in the management of the supply of opioids is also explored along with recognition of the responsibilities that they have in reporting and maintaining up to date best practice.

2.5.3.2 The pharmaceutical industry

The global industry of pharmaceuticals operates within international economies and regulations, one of the intents of which as stipulated in the Single Convention on Narcotic Drugs 1961 and reiterated in subsequent international treaties, is to promote the global availability of narcotics ‘for the relief of pain and suffering’. With this in mind it is worthy to note that the USA currently houses nearly half of all the major pharmaceutical companies, consumes 70 percent of the global market of opioids and generates one third of the global revenue, (a revenue which is expected to reach one trillion US dollars by 2015) (IMS, 2011). It is posited that this disparity is likely influenced by the availability, relative affluence and impacts of marketing, rather than an imbalance of the requirement of pain relief per se (Babor, 2010).

Advertising and marketing has a significant role to play in the promotion and availability of pharmaceuticals. Nearly 40 percent of the industry’s revenue is estimated to be spent on marketing and administration (Angell, 2004). To date, this has primarily been directed at prescribers. Direct to public advertising (DTPA) or direct to consumer pharmaceutical advertising (DTCPA) has been limited to a few countries, of which New Zealand is one. When it first occurred in New Zealand in 1994, it was referred to by PHARMAC as “a new phase in aggressive marketing ploys” (Essex, 1994, p1184). Electronic DPTA however has become increasingly common (Liang & MacKey, 2011a) through marketing media sources that include the internet (Liang & MacKey, 2011b), social media and mobile applications (Ventola, 2011) and pharmaceutical companies continue to push for broader access to the public and a manipulation of advertising regulations. In addition to this overt ‘aggressive’ marketing approach, ‘passive’ approaches are also used. An example of this is the provision of information and articles of ‘general’ interest that also provide information regarding the recognition of a possible disorder, actions and availability of specific medications that can be taken to alleviate it (Currie, 2005). Demand, availability and use of a medication consequently increase.
A recent development in the supply of pharmaceuticals is the increasing availability of ‘biosimilars’. Defined as a biotherapeutic product “similar in terms of quality, safety and efficacy to an already licensed biotherapeutic product” (WHO, 2012: table 1) it can be fast-tracked for approval for use. This is slightly different to a ‘generic’ product “which contains the same active pharmaceutical ingredient [and is] identical in the active pharmaceutical substance [for] dose, strength, route of administration, safety, efficacy, and intended use” (WHO, 2012: table 1) and can be substituted for the originator product. Although no opioid biosimilars have been released at the time of writing in New Zealand a product very similar to Suboxone has been released and marketed by a competitor overseas (Orexo, 2013). Concurrent with the patent for Suboxone soon to expire and the approval for release of two generics by another pharmacy group, a battle within the industry appears to have ensued with pharmaceutical strategising underway through packaging objections (Partnership at Drug-Free Org., 2013); the promotion of an alternative formulation and a drive to maintain the market share (Clarke, 2014).

Concern regarding the increased availability of opioids is linked to the relationship between the legal supply of pharmaceuticals being a major supply source for illegitimate use (Cicero et al., 2011; Fountain et al., 2000), for as the market in this area grows, so too does the supply (Babor, 2010). The diversion of pharmaceuticals is not a new phenomenon. Prior to regulations governing the sale of substances, distribution could be perceived as abhorrent, as travelling salesmen, and later apothecaries, who compounded medicines themselves would use their resources and supplies for personal gain (Berridge & Edwards, 1981).

With the centralising of pharmaceutical manufacturing and the increasing development and availability of patented medicines in pre-prepared formulations, the profitability shifted to pharmaceutical companies. The 1900s saw the advent of numerous substances used in an increasing number of ailments. The limitations of treatment with alcohol, opium and cocaine saw them becoming ‘a thing of the past’ and the evolution of medication interventions has seen the emergence of bromides, barbiturates, benzodiazepines, antidepressants and most recently pain relief medications. Each substance typically presents as the next wonder drug but ultimately resorts to being yet another substance open to adverse effects and misuse (Lader, 1991).
It is not clear how much prescribed medication is used in a manner for which it was not prescribed, but it is evident that a significant proportion is diverted for illicit use (Cicero et al., 2011). Much of this diverted supply comes direct from prescriptions, although other sources of diverted medication include manufacturer or distributor theft (selling drugs for which there is no licence or have been recalled); importation; theft from manufacturers, wholesalers or retail distributors; diversion via health care providers; counterfeit drugs; theft from legitimate prescriptions, and via the internet. Identifying the source of diversion may have important implications for targeting policy, however, the lack of quality information regarding quantities makes this challenging (Inciardi et al., 2007). This supply source is not targeted at the point of production, but rather at distribution. This primarily occurs through education and restrictions of the regulated, medical workforce and through the criminal justice system by targeting dealers, traffickers and illicit retailers as noted above.

2.5.3.3 Pharmacists

Considerable attention has been paid to the role of the pharmacist in the management of opioid drug availability. In the early days, New Zealand was much influenced by international legislation (Finn, 1995). In Britain, pharmacists’ responsibilities can be traced back to the Arsenic Act 1851 and the 1868 Pharmacy and Poisons Act, instigated due to public concern regarding the unrestricted availability and lack of control over ‘any’ substance. Both Acts proved ineffectual, with medicine sales and vendor numbers doubling over subsequent years and a conflict over who was most appropriate to control this supply ensuing between doctors and pharmacists (Anderson & Berridge, 2003). This battle, largely over profitability, was successfully maintained for a number of years with access and availability to pharmaceuticals dominated by the ethics, discretion and judgement of the vendor, i.e. the pharmacist. It was not until the 1909 International Opium Convention that called for the restriction of use to the ‘medical and legal profession’ and a manufacturing restriction on the amount of active ingredient contained, that this began to change. Circumstances of World War I intervened however, with special provisions made to accommodate the demands of the armed forces and the inadvertent increased opportunities for drug smuggling. International paradoxes ensued as the USA adopted a control approach largely through criminal and
legislative systems and Britain pursued a medical approach (Anderson & Berridge, 2003).

In 1939 it was stated that a pharmacist should not sell any drug or medicine “notoriously capable of being used to gratify addiction or for other abusive purposes” (Temple, 2003, p156). Today the directive notes that where a pharmacist has “reasonable grounds to suspect the misuse or abuse of prescribed medicines, consult with the prescriber” and “take appropriate steps to prevent the supply” (Pharmacy Council of New Zealand, 2011, p15). In the late 1980s, Ball and Wilde (1989) identified that 24 out of 25 pharmacists responded positively when asked if their pharmacy had a problem with the misuse of non-prescribed products, the majority of this being codeine linctus and kaolin and morphine mixture. Nearly ten years later a similar finding was identified by Paxton and Chapple (1996) who also reported on strategies to minimise this misuse, such as trying to persuade the purchaser to buy an alternative product, not displaying certain products and having an impromptu ‘grapevine’ dialogue with neighbouring pharmacies. Today, even more so, pharmacists are a profession, bound by legislation, codes, ethics, regulatory guidance, reporting and monitoring systems, in addition to being required to be compliant with advertising and sale restrictions. The enforcement of ‘behind the counter’ sales is an example of this (Tobbin, Dobbin & McAvoy, 2013), which despite the additional burden created for manufacturers, retailers and legitimate consumers is deemed a success as a control measure (Dobkin, Nicosia & Weinberg, 2013). The use of prescription monitoring programmes has indicated some positive influence in detecting drug abuse and doctor shopping but has not been consistently shown to result in changed behaviours in terms of actually addressing concerns with the client (Green et al., 2012).

Despite the increase in regulations, pharmacists are still a potentially vulnerable population. Whilst literature regarding the diversion of opioids directly from the pharmacist to the substance user due to relationships formed is sparse, isolated to cases of ‘well meaning’ pharmacists attempting to help known users (Temple, 2003), disciplinary actions would indicate that such practices do occur. Documented forms of direct pharmacy drug diversion include substance users working with pharmacy employees to steal medications from pharmacies (Rigg, Kurtz & Surratt, 2012); pharmacists taking expired drugs; managing or manipulating the inventory records;
forging prescriptions for personal gain; using ‘sleight of hand’ techniques while filling prescriptions or shelving products; blatantly stealing and collecting and retaining patients’ unused medications (Merlo, Cummings & Cottler, 2013).

There are calls for the role of the pharmacist to be reviewed and for their position as a front line health care provider who has direct relationships with consumers and thus the potential to intervene, to be promoted. Community pharmacies can reduce the incidences of drug related problems that arise from a lack of, or incorrect transfer of, information from hospitals to community pharmacies following patient discharge (Braund et al., 2014) and there is the potential to address concurrent physical health issues of opioid users (Sheridan, Wheeler & Walters, 2005). Increased involvement in the overall care of opioid dependent drug users has been observed through supervised consumption (Luger, Bathia, Alcorn & Power, 2000) and pharmacy based needle exchange programmes (Sheridan, Henderson, Greenhill & Smith, 2005).

2.5.4 Prescribers

Prescribers are another high profile group that are integral to the supply of opioids. As a regulated workforce, their practices can be scrutinised and actions taken if they are found wanting. Whilst small proportions of opioids used for abuse or dependence may be available OTC, through the internet, imported or acquired through theft or forgery, pharmaceutical opioids are in the main sourced via prescriptions. A significant portion of these are distributed through primary care (Sheridan & Butler, 2008), some are also obtained from emergency departments (Logan, Liu, Paulozzi, Zhang & Jones, 2013), hospital discharges (Clarke, Soneji, Ko, Yun & Wijeysundera, 2014) and in the case of methadone, prescribed from drug clinics for opioid dependence (Robinson, Judson, Loan, Bevin & O’Connor, 2011). New Zealand, with its dominance of ‘street’ pharmaceutical opioid use (Wilkins, Jawaker and Parker, 2013) reviewed sources of oxycodone following its introduction to New Zealand. Approximately 70 percent of oxycodone prescribing was found to be initiated in secondary care, 17 percent of which was continued in a general practice and 30 percent was initiated in general practice (BPJ, 2012a).
Occurrences of prescribers, who prescribe in abundance yet within the regulatory and legislative frameworks of the time, have in the main, resulted in actions that reduce the number of prescribers. Thus, for example, excessive heroin prescribing in Britain in the 1960s was managed by restricting the number of specifically qualified physicians licensed to prescribe (Strang & Gossop, 2005). The emergence of ‘pill mills’ or bogus pain clinics more recently in the USA is managed by the closure of such clinics (Betses & Brennan, 2013). When scrutinised at an individual practitioner level, however, there is a sentiment that “it is unlikely that prescriptions written by dishonest doctors...constitute a significant black market supply” (Hurwitz, 2005, p157). Richard and Reidenburg (2005) identified that just three percent of disciplinary action against physicians in the USA was for the overprescribing of opioids, for either personal use or for prescriptions that were without indication or intervention of pain relief or dependence.

In acknowledging the potential for misuse and risk of diversion, there is an onus placed on the prescriber to identify the drug misuser and respond to diversionary tactics. Several general risk factors have been identified which include a family history of substance dependence, the co-occurrence of a mood or anxiety disorder (Fishbain et al., 2008), history of sexual abuse (Pergolizzi et al., 2012), younger age, lower socioeconomic status, concurrent medical issues and use of specific drugs preoperatively (Clarke et al., 2014). In addition, behaviours such as presenting early for prescriptions, increasing doses and reportedly lost or stolen prescriptions have been associated with aberrant drug behaviour and linked to overuse, hoarding or diversion (BPJ, 2012a). Profiling of patients to prevent doctor shopping has also been tried in an attempt to reduce availability; however, this has frequently been shown to lead to stigmatisation, a reduction in pain management and a decline in treatment for both pain management and substance abuse. The conclusion is that neither intuition nor clinical expertise can define who is and is not a doctor shopper (Worley, 2012).

Guidelines and educational materials to support the appropriate prescribing of opioids have been encouraged. The WHO has a clear indication for prescribing analgesics in cancer pain (Ventafridda, Saita, Ripamonti & De Conno, 1984; WHO, 1996). Authors such as Leung (2012) have built on these guidelines to take in additional considerations of non-malignant pain management. Guidelines have also been developed specifically
for OST (MoH, 2014a). Recommendations and articles directing and reminding practitioners of best practice in this area are regularly published (BPJ, 2012a; BPJ, 2012b; BPJ, 2011b; BPJ, 2014). Guidelines such as these should encourage best practice prescribing that eliminates individual practitioner idiosyncrasies and encourages consistent treatment provision. Despite the availability of these resources, barriers and variations to their implementation exist, in part due to the passive approach taken to their dissemination and the lack of consideration for integration into existing practices or education opportunities (Feder, Eccles, Grol, Griffiths & Grimshaw, 1999). It is recommended that guideline implementation is offered as part of a package that includes education support and patient reminders in order to be most effective in influencing prescribing practices (Grimshaw et al., 1995; Grimshaw & Russell, 1993).

Registers for certain classes of drugs exist internationally as directed by the 1961 International Convention. New Zealand also has clear directives regarding the monitoring of Class A and B controlled drugs specified by the Misuse of Drugs Act 1975 and those drugs specified by the Misuse of Drugs Regulations 1977 (MoH, 2014b), and the monitoring of safety information (Medsafe, 2013). There is no centralised prescription monitoring platform currently in existence in New Zealand. Prescription Monitoring Programmes (PMP) overseas have been developed to assist in supply reduction and the minimising of abuse potential by providing a means of enforcing prescribing ‘rules’ and responding when violations occur. They have shown to have some effect in reducing diversion and doctor shopping (Worley, 2012), however, they have also resulted in poor pain management and the substitution of substances that may be less effective, have more adverse effects and/or comparable abuse potential (Fishman, Papazian, Gonzalez, Riches, & Gilson, 2004).

Electronic prescribing and electronic patient management systems have been developed to further reduce incidences of aberrant prescribing, in part due to reductions in prescribing error rates (Westbrook et al., 2012). However, Rothbard and colleagues (2013) suggests that whilst e-prescribing can be readily set up and administered, feedback does not show an improvement in ‘questionable prescribing patterns’. New Zealand does not currently have a national system although the Health Quality and Safety Commission (HQSC) and the National Health IT Board are working towards an electronic medicines management (eMM) system that will give health care providers
access to a patient’s medication information and better facilitate patient care. To date, this has been rolled out across four District Health Boards (DHBs) (Health Quality and Safety Commission, 2013). Additionally, development of the New Zealand Electronic Prescription Service (NZePS), expected to be rolled out nationally by July 2014 allows general practitioners (GPs) to send prescriptions to community pharmacies electronically (Health Improvement and Innovation Resource Centre, 2014).

2.5.3.5 Summary

The above section has drawn attention to the roles and activities of those involved in the supply of pharmaceuticals. It reflects on the role of the pharmaceutical industry, whose core business is the supply of medication to relieve pain and suffering. However, as multimillion-dollar businesses with considerable investment in market share, pharmaceutical companies actively engage in aggressive marketing and promotional tactics which influence both demand and supply. Pharmacy retailers and pharmacists, having once had a strong position in the control of the supply of opioids, are currently in positions more akin to that of ‘gatekeepers’, through being a regulated industry that is also in a position to enforce and monitor supplies. This position potentially negates some of their ability as front line health care workers to intervene in a more therapeutic way that could reduce demand, as well as supply. Prescribers, also a high profile workforce in terms of opioid availability, are vulnerable to the nuances of drug seekers. With the majority of ‘street’ opioids sourced from prescriptions, patient profiling, guidelines, prescription monitoring and electronic prescribing have all been introduced in an effort to support the availability of medications for the treatment of ailments, whilst limiting their potential for abuse.

2.5.4 Alternative sources of supply

2.5.4.1 Introduction

Much of the literature and reporting so far has focused on the wider systems of regulations and pharmaceutical availability. The following section will briefly explore a number of areas that reflect more on personal responsibility and actions taken by individuals or groups within society in regard to availability and sourcing of opioids.
Consideration will be given to the role of the internet, recipients and seekers of diverted opioids, the sourcing of information and the influence of pricing.

2.5.4.2 The internet

It is not clear how long the internet has been a vehicle for accessing opioids, although the number of sites available for such means is considered significant (Forman, Marlowe & McLellan, 2006). It is suggested that internet sales (with or without prescriptions) were not considered to be a major supplier until the mid to late 1990s, with the presence of non-prescription websites (NPW) documented since the late 1990s (Forman, Woody, McLellan & Lynch, 2006). The mid to late 2000s has seen a legislative response with some restriction being put in place to internet pharmacies and online sales (Boyer & Wines, 2008; Medsafe, 2009a). However, with direct to consumer advertising which includes internet sales (Liang & Mackey, 2011b), New Zealand has fewer regulations than overseas and a reliance on an inadequate self-regulatory system (Coney, 2002).

A concern is that, while the internet may offer a source of supply of opioids, it is unregulated and has the potential for harm. Inconsistencies in quality, the opening up of availability avenues to new users; having less direct access to health care providers who may take opportunities to intervene at the level of harm minimisation are identified as areas of concern (St George, Emmanuel, & Middleton, 2004). These NPWs also raise concern due to purchasers’ ability to provide incorrect or false information in order to source medications, potential conflicts of interest arising from physician consultations that then lead to sales and profitability (Bloom & Iannacone, 1999) and the pervasive marketing, sale and search strategies used (Forman et al., 2006).

Although hard to get a clear indication of quantities, a number of authors indicate that the internet is not a primary source of opioids to the end user or for illicit purchase (UNODC, 2013) and that there does not appear to be an increase in vendors since the 1990s (Forman, Woody, McLellan & Lynch, 2006). Barriers such as cost, delivery risks and delays (Forman et al., 2006), risk of detection and the comparable or lesser price of ‘street’ drugs’ are offered as reasons to suggest that this supply route is a relatively minor source for illicit purchases and its impact have been overestimated (Inciardi et al., 2010).
2.5.4.3 Information sourcing

Another consideration, although not extensively documented, is the avenue and ability to share information through networks. Just as family, friends and the internet are sources of supply, so too are they sources of information (European Commission, 2013).

Much of this information comes from what may be deemed as innocuous and formal information sources and documentation. Pharmaceutical marketing and the provision of selected information from pharmaceutical companies increases the knowledge, utilisation and demand of substances (Degenhardt et al., 2008); teaching resources and guidelines (Woolf, Grol, Hutchinson, Eccles & Grimshaw, 1999) provide extensive amounts of information and New Zealand’s labelling requirements ensure that the information pertaining to the naming, dosing, content information and warnings of the effects of medication are all included on products (BPJ, 2012a; MoH, 2012). There has been criticism that this product information, particularly when used for marketing can be misleading (Degnehardt, 2008) and that warning labels and consumer information sheets can paradoxically instruct people on how to use or abuse a medicine to maximum effect (BPJ, 2012a).

The internet is an increasingly accessible resource that provides an array of consumer and prescribing information relating to the legitimate use of opioids, including side effects and pharmacology. In a study of American adolescents, nearly half of the sample group used the internet to source health information, particularly that which may be compromising to obtain or was of a confidential nature (Boerzekowski & Richert, 2001). An investigation into the sources of information for prescription drugs in the USA found considerable direction to the sites of Wikipedia, the National Library of Medicine and industry sponsored sites, with most queries related to substances of dependence, stigma and those which had received recent media attention (Law, Mintzes & Morgan, 2011). However, internet information is not all regulated and a simple search will produce a number of hits for informal chat rooms and discussion forums for the ready sourcing and sharing of information. Examples of this are apparent with the sharing of information about substances such as ‘homebake’ (Erowid, 2004) and poppy seed tea (Braye et al., 2007; Drugs Forum, 2011) and opioid conversion rates (Bluelight, 2011).
2.5.4.4 Diverted opioids

The misuse and diversion of opioids depend to some extent on the availability of illicit drugs, the accessibility of alternatives, the effects and the abuse potential (Degenhardt et al., 2008). An ‘opioid attractiveness scale’ that considers the above factors has been developed to measure preferences for opioids (Butler et al., 2010a). The greater the attractiveness the greater the desire and demand for use. Overall, oxycodone was preferred above morphine and hydrocodone, in part due to its availability, acknowledged as being diverted from health care providers’ sources (Wightman, Perrone, Portellia, & Nelson, 2012).

The extent of diversion by drug users is unclear although Inciardi and colleagues (2007) suggests that rates are higher than may be accounted for. In a study investigating patterns of initiation into prescription opioids amongst American injecting drug users aged 16 to 25, the most frequent pathway to opioid use was motivated by curiosity and accessibility and through a friend or acquaintance, who in turn typically acquired this from a family member (Lankenau et al., 2012). The same authors report that diversion through family and friends typically occurred because the substance was ‘just there’ and could be used (Lankenau et al., 2012). Lewis Cucciare and Trafton (2013) also suggest from their sample of American veterans that an excess in opioid medication that had been legitimately prescribed but was no longer required readily facilitates the sharing and diversion of opioids. The US National Survey on Drug Use and Health identified that nearly 80 percent of their randomly selected household population sample reported family or friends as a source of non-medical pain medication (SAMHSA, 2012).

By way of contrast, an American sample population of longer-term pharmaceutical opioid users reporting on sources of diversion found the primary access of pharmaceutical opioids was through dealers (50 percent), followed by doctors’ prescriptions (25 percent), sharing or trading (20 percent) and theft (less than five percent) (Cicero et al., 2011). Fountain and colleagues (2000) collated information from previously published and unpublished literature of chronic drug users to learn more about the illicit drug market and diversion. They reported that the primary incentive for sourcing and diverting prescribed drugs was to raise finances to purchase an alternative or preferred drug and the most frequently cited means of doing so was to obtain opioids from more than one prescriber, in higher doses than required, claiming concurrent
addiction or symptomology, using a false identity or appealing to the sympathies of the prescriber. Green and colleagues (2013) further reported diversion routes from a sample of people who had overdosed with opioids that included ‘siphoning’ from the medicines cabinet’ and ‘partnering’, whereby the user would collaborate with, or use coercive measures to get a family member or caregiver to obtain additional prescriptions or medication (Green et al., 2013).

As noted previously, attempts to reduce the incidences of diversion are carried out at a multi-faceted level, be it legislative, regulatory or educational. However, it is generally accepted that the ingenuity and determination of some users to source opioids means that some level of diversion is inevitable (Fountain et al., 2000).

2.5.4.5 Pricing

The influence of pricing is important to consider in respect to the access and availability of opioids. The ‘street’ value of prescription medications is deemed a good indicator of their attractiveness to illicit users (Degnahardt et al., 2008). Indicators of a hierarchical fee structure have been found to be based on availability, injectability, dosing units (Fountain et al., 2000) and branding recognition although price fluctuations can occur on an almost daily basis (Degnahardt et al., 2008).

There is an indication that pricing can influence a substance user’s ability to control their use. This relationship has previously been found to be relevant for the legal drugs of nicotine (Grossman & Chaloupka, 1997) and alcohol (Chaloupka, Grossman, & Saffer, 2002) with the price increase correlating to a decline in use. The increased price of heroin in Australia in the early 2000s has also been to suggested have influenced a reduction in use amongst injecting drug users (Day et al., 2003) although it is important to put this in the context of a correlation between declining availability and increased prices of one substance and the subsequent use of alternative substances (Roxburgh, Degenhardt & Breen, 2004).

2.5.4.6 Summary

The above section has reflected on the use of the internet as a potential source of supply of opioids; the accessing of information from a range of sources that assists in
identifying, sourcing, enhancing or producing opioids; accessing opioids by routes of
diversion and the influence of pricing. It recognises that whilst substance users are
reliant on the wider systemic influences of availability, that using personal resources
and determination, they are also able to take some control over their supply sources.

2.5.5 Summary

Availability of opioids is frequently considered from the perspective of supply control.
Efforts to control the supply or availability of opioids typically involve multiple
international and national cross sector agency approaches. It does this at the point of
source or cultivation of the naturally occurring product; through international treaties
that focus on supply reduction and through domestic legislation and policy that in part
guides the activities of the government agencies of Customs, Justice and treatment
providers. Availability and supply is also promoted or marketed by the pharmaceutical
industry functioning within global jurisdictions and competitive markets for the relief of
pain and suffering, a consequence of which makes available an ever increasing range of
opioids and potentially an increasing demand. The availability and supply through the
regulated workforces of pharmacists and prescribers is also significant, despite their
roles and responsibilities having altered over the years. They sit within a regulated
industry in which restrictions and monitoring systems offer some assurance of best
practice, yet as health care providers with knowledge, experience and judgement, they
are in a position to influence demand, as well as supply. The need to reflect on the
impacts of the unregulated sources of supply such as the internet, information sourcing,
diversion routes and pricing variance is also significant. Each of these influences is
important in its own right but each works within a multi faceted system to influence the
availability of opioids.

2.6 The impacts of opioid use

2.6.1 Introduction

The impacts of opioid use are diverse. On the one hand opioids have a significant role in
the treatment of pain and as a component of good medical practice (WHO, 2011). On
the other, there are complications of use that negatively impacts on morbidity and mortality; are influenced by dosing and formulation accessibility; lead to stigma, discrimination and criminalisation and can be seen in the ‘unintended consequences’ arising from displacement.

The use of opioids is indicated in the relief of pain, both physical and psychological (WHO, 1996), and across a number of clinical presentations (Katzung, Masters & Trevor, 2012). Yet opioids can result in multiple complications arising from non-medical use and clinical mismanagement and are therefore the topic of much international legislation and control (Manchikanti, Fellows, Ailinani & Pampati, 2010). Opioid dependence itself is a chronic and relapsing disorder. It is associated with a high mortality rate, co-existing medical and mental health problems, criminal activity and can result in significant social impairment (Deering et al., 2008). The diversity of the opioid using population, from the ‘traditional’ injecting drug user to the emerging prescription user presents additional considerations (Nielsen, Bruno, Lintzeris, Fischer, Carruthers, & Stoove, 2011). Furthermore, factors such as the nature of the opioid substance used, the route of administration, the dosing and formulation availability, the environment within which it is used and the laws and policies surrounding the use also influence the consequences and complications of use. What may be intended to reduce risks for a wider population group may also have unintended consequences or generate harms for the opioid user (International Harm Reduction Association, IHRA, 2008) and attention to and measurement of both should occur (Strang, 1994).

This section explores some of the concepts of harm and harm minimisation. An illustration of a number of the harms associated with opioid use follows, primarily from the perspective of the opioid user. However, the user of opioids does not exist in isolation and thus some consideration from a wider societal perspective is offered.

2.6.2 Harm and harm minimisation

The impacts of opioids are frequently contextualised in terms of the risks and harms associated with use. Opioid use must also be considered within the contextual framework of harm minimisation. Harm minimisation or harm reduction (terms that are used interchangeably) is a philosophy or an approach that emerged out of the 1980s.
public health arena, in response to the Human Immunodeficiency Virus (HIV). It was further formulated at the 1990 Conference on the Reduction of Drug Related Harm in Liverpool and consolidated by the International Harm Reduction Association. Whilst there is no clear definition or policy of harm reduction there is a generally accepted intent that results in “policies and programs which attempt primarily to reduce the adverse health, social and economic consequences of mood altering substances to individual drug users, their families and their communities” (IHRA, 2010, p3).

Harm minimisation is at the core of New Zealand’s National Drug Policy 2007-12, the intent of which is to: “improve social, economic and health outcomes for the individual, the community and the population at large” (MCDP, 2007, p5). It is recognised that there is a continuum of harm associated with drug use and that there is a requirement for a continuum of strategies to address it. Policy is determined within an overarching goal of reducing harm, socially, economically and from a health perspective. Ideally this approach views drug use primarily as a public health issue and as such, it should be dealt with, at least in part, with health-based responses (MCDP, 2007). It is argued that this policy perspective does not go far enough in respect of a health approach and that the overarching focus continues to be the reduction of supply (NZ Drug Foundation, 2010). The only significant harm minimisation actions carried out in New Zealand to date are suggested to be the amendment in 1988 permitting the possession of drug paraphernalia obtained through authorised needle exchange programmes (Battin et al., 2008) and the increased availability of OST.

Assessment of harm is currently based on the WHO classification system of the level of perceived potential for causing harm (WHO, 2000b), although debate continues as to whether this perceived ‘dangerousness’ is best based on level of intoxication, toxicity or dependence potential (Babor, 2010). An alternative approach, more akin to that of a harm minimisation philosophy is to consider rating harms based on physical damage, dependence potential, and the impacts on society and families (Nutt, King, Saulsbury & Blakemore, 2007).
2.6.3 Mortality

Opioid users have a mortality rate higher than that of the general population (Gossop, Stewart, Treacy & Marsden, 2002). This can be attributed to a number of factors, with overdose being the most common cause (Degenhardt et al., 2011). Opioids are one of the most commonly implicated drugs in the causes of overdose (Hickman et al., 2003), in part due to respiratory depression associated with excessive opioid use (White & Irvine, 1999).

Overdose risks can be exacerbated by concurrent use of other depressant drugs, typically benzodiazepines and alcohol and co-occurring hepatic or pulmonary dysfunction (Warner-Smith, Darke, Lysneky & Hall, 2001). Risk is also increased following discharge from inpatient detoxification facilities (Strang et al., 2003) and release from prison, attributed to a loss of, or reduction in tolerance and erroneous judgment of dose (Bird & Hutchinson, 2003; Darke, Ross & Hall, 1996). Mortality has also been linked to the consequences of injecting behaviours resulting in HIV and more latterly hepatitis C virus (HCV), causing liver disease in opioid dependent populations (Gibson, Randall & Degenhardt, 2011). As long-term dependent opioid users live longer there are also increased risks of cancers, exacerbated by concurrent alcohol and tobacco use, HCV and human papillomavirus (HPV) (Randall et al., 2011).

The increase in pharmaceutical opioid availability has seen an associated increase in overdose death and/or poisoning (Dhalla et al., 2009), with overdose deaths involving opioid pain relievers now exceeding deaths involving heroin and cocaine combined (Centres for Disease Control, 2011).

Knowledge regarding these risks can raise awareness and reduce the associated harms. It has been shown that entering treatment is correlated with a significant reduction in mortality (Degenhardt et al., 2008). On release from prison and discharge from treatment staff and support services should emphasise overdose risks and promote tolerance awareness, offer ongoing support and OST with adequate dosing as appropriate (Bird & Hutchinson, 2003; Darke, Ross & Hall, 1996; Farrell & Marsden, 2008; Strang et al., 2003). Within a treatment context concurrent morbidities need to be managed through the development of an individualised comprehensive treatment plan.
(Ward, Hall & Mattick, 1999) and consideration given to the long-term risks of HCV and liver damage (Gibson, Randall & Degenhardt, 2011).

Pharmaceutical specific overdose causes have been attributed to physician error and knowledge deficits, non-adherence to the prescribed medication regime, and unanticipated medical and mental health comorbidities, notably mood and anxiety disorders, concurrent central nervous system depressant use and sleep disordered breathing (Webster et al., 2011). The relationship between the availability of pharmaceutical opioids and mortality rates need to be considered, focusing on the ‘way’ in which opioids are being prescribed, education of the prescriber and patient, assessment of concurrent conditions and, where relevant, the way in which opioids are funded (Centers for Disease Control, 2011; Webster et al., 2011). There are a number of opioid medications that indicate no greater effectiveness than others, yet pose a more significant risk and, could arguably be removed from sale (Reith, Fountain & Tilyard, 2005), an example of which occurred in New Zealand with the removal of Dextropropoxyphene in 2009 (Medsafe, 2009b) and then Australia in 2011 (Buckley & Faunce, 2013).

2.6.4 Morbidity

2.6.4.1 Health implications

The health of opioid users is significantly poorer than the general population (Deering, Frampton, Horn, Sellman, Adamson, & Potiki, 2004; Millson et al., 2004; Ryan & White, 1996). Even for those engaged in treatment general health problems are frequently reported (Sheridan, Wheeler & Walters, 2005). Some of these health concerns may be associated with the general characteristics of dependence, the chronicity of the disorder, and co-existing health problems and as such, indicate the need for health status monitoring, prevention and treatment intervention strategies that address health needs (Deering et al., 2004).

The route of administration, frequently being intravenous, is a contributing factor in the health of this population. The correlation between HIV and intravenous use has been well documented and there is an increasing prevalence of HCV amongst injecting
opioid drug users (WHO, 2009). Whilst New Zealand has a proportionately low rate of HIV amongst its injecting drug users there is a high rate of HCV (Kemp, Miller, Lungley & Baker, 1998) with an estimated 70 percent of injecting drug users carrying the virus (MoH, 2012) and a high rate of dual exposure to hepatitis B, associated with increased age and length of time injecting (Carter et al., 2001). The cost effectiveness of treatment for HCV is evident (Sheerin, Green & Sellman, 2004), as is effectiveness in reducing harm from approaches that offer flexible models of opioid replacement therapy (Hallinan, Byrne, Amin & Dore, 2004); monitoring of hepatic function and offers of routine free vaccination (Carter, Robinson, Hanlon, Hailwood & Massarotto, 2001).

Complications as a result of injecting behaviours are also common (Roy, Arruda & Bourgois, 2011) and are not limited to blood borne viruses. They include venous thromboses and vascular damage (Sheridan & Butler, 2008); skin and soft tissue infections; complications such as botulism, tetanus, candida, endocarditis, and viral hepatitis (Stanway, 2013); overdose and risks of poisoning due to possible impurities or contaminants (Shesser, Jotte & Olshaker, 1991). One way to address these risks is by the provision of needle exchange programmes. First established in New Zealand in 1987 as a response to the HIV epidemic, in an unprecedented move internationally, they have grown in number, adhere to a true ethos of harm minimisation for injecting drug users and contribute significantly to the proportionately low prevalence of blood borne viruses in New Zealand (Dickson, Austin, Paul, Sharples, & Skegg, 1994; Robinson, Reynolds, & Robinson, 1995).

‘Safe injecting environments’ or ‘safe injecting sites’ have received increased attention in the past few years, particularly in Europe, Canada and Australia. Safe injecting rooms have indicated benefits not only for community public health but have also demonstrated reductions in overdose, syringe sharing, blood borne virus incidences and an increased use of health and social services. They provide sterile injecting equipment and condoms; safe collection of used needles and syringes; information on safer sex and injecting practices; the offer of contact with other injecting drug users and facilitating the reintegration of service users into society (Kerr & Palepo 2001; Kimber, Dolan, Beek, Hedrich & Zurhold, 2003; Wood et al., 2004; Wood et al., 2003).
Another risk of opioids that has received some attention recently relates almost specifically to the ingestion of opioids when combined with non-steroidal anti-inflammatory (NSAID). The known gastrointestinal side effects of NSAID are well established (MacDonald et al., 1997) and the increasing availability of codeine and ibuprofen preparations has generated concern. Evidence indicates little analgesic benefit from the incorporation of low-dose codeine into combination analgesics, although their potential for increasing the risks of abuse, addiction and adverse effects are documented (Ferner & Beard, 2008). A small New Zealand study of people with codeine dependence using OTCs showed evidence of gastric ulceration, hepatotoxicity and bowel inflammation that questions the pharmacological evidence for their availability (Robinson et al., 2010).

2.6.4.2 Dependence

“Opioid dependence develops after a period of regular use of opioids, with the time required varying according to the quantity, frequency and route of administration, as well as factors of individual vulnerability and the context in which drug use occurs” (WHO 2004, p7. The correlation between opioid use and dependence has been extensively documented (Compton, Darakjian, & Miotto, 1998; Sees & Clark, 1993).

Clinical practice in New Zealand typically refers to DSM IV TR to assist in the identification and indicators of harms associated with dependence (APA, 2000; Mellsop, Dutu & Robinson 2007; Todd, 2013). This includes the physical harms associated with tolerance and withdrawal; the issues of dyscontrol, taking more than intended or unsuccessful efforts to cut down; salience as characterised by time spent in seeking using or recovering from a substance and reduced time engaged in other day to day activities and continued use despite knowledge of the harms caused. Opioid dependence has been associated with physical and mental health problems, criminal activity and significant impairments in personal, social and role functioning (Ward, Hall & Mattick, 1999).

Results of a New Zealand study of opioid users actively engaged in treatment highlighted the impacts of opioid dependence as a chronic disorder with co-existing health-related problems which impacted on day-to-day functioning of this client group
The provision of methadone maintenance is considered the ‘gold standard’ of opioid treatment. The model proposed by Dole and Nyswander (1965) with ‘blockade’ doses, a maintenance approach and a long-term supportive programme, has shown to be efficacious (Farrell et al., 1994). A number of alternative OSTs have been developed with varying efficacy, including the use of buprenorphine, levo-alpha-acetylmethadol (LAAM) and, less commonly, controlled release morphine and heroin (diamorphine) (Mattick, Ali & Lintzeris, 2009). In New Zealand, accredited doctors and GPs are able to prescribe methadone and/or other OST which is then dispensed from a specialist clinic or an accredited pharmacy (Community Alcohol and Drug Service-CADS, 2009; Larsen 2010; Sheridan & Strang, 2003). However, barriers to treatment remain with compliance and perceived punitive practices which include daily ‘consume on premises’ dispensing, urine screening and ADFs in addition to the service limitations of waitlists, links to other services and perceptions of being a registered addict (Deering et al., 2009). Poor treatment access and engagement results in poorer outcomes for illicit opioid use reductions, HIV risk behaviours, overdose deaths, financial and familial stressors (Kermode, Crofts, Kumar & Dorabjee, 2011).

Alternative and adjunctive services that more carefully consider the needs of substance users have been documented. Prescribing methadone maintenance via a GP rather than a clinic has shown better compliance and patient satisfaction (Fiellin et al., 2001); supportive activities such as employment and education that can readily be accessed (Salsitz et al., 2000); treatment that includes a contingency management approach (Preston, Umbricht & Epstein, 2000; Chen et al., 2013) and, although hard to demonstrate in a research study, a basic “trusting respectful relationship between health care staff and patients” (Babor, 2010, p193) has shown to have been effective in terms of client engagement and resulting positive outcomes. Additionally, there is consideration of the role and impact that pharmacists can have on client outcomes.

Pharmacists have historically provided much of society’s health care, but as noted earlier they have increasingly been moved in to a role guided by regulations and restriction of both dispensing and reporting practices. However, pharmacists are again being called upon to be included in provision of PST and health care for opioid users (Matheson, Bond & Hickey, 1999).
2.6.5 **Opioid formulations**

Somewhat paradoxically, it is posited that the ready accessibility of some opioids can reduce mortality and that restricted access can increase it. As reported previously, access to opioids can improve treatment outcomes. Furthermore, the availability of pharmaceutical opioids provides users with metered dosing that reduces risks inherent with other illicitly obtained substances and the restrictions of some opioids by the inclusion of an ADF can generate harms for the ongoing opioid dependent user.

2.6.5.1 *Pharmaceutical opioids as metered doses*

It has been suggested that prescription drug misuse, available in ‘metered’ doses that are pharmacologically defined, may be advantageous in harm-reduction terms (Robinson et al., 2011). Prescription opioids are able to provide dependent users with a quasi-medical opioid substitution that may not be available through treatment programmes. Access to pharmaceutical dosing has been shown to reduce overdose risks and be less costly. Furthermore, as not all prescription opioid drugs are readily or preferably injected there is an associated reduction in risk from this behaviour (Fischer, Gittins, Kendal, Rehm, 2009). A dependent user who cannot source their substance of choice but is able to source an alternative that avoids withdrawal and drug sourcing implications has both societal and individual benefits (Babor, 2010; Bell, 2000). It has been shown that there is a reduced risk of users using alternative opioids that have additional adverse effects and less chance of black market or criminal implications (Fischer et al., 2008).

Access to metered doses is suggested to be both preferable and preferred. In a Canadian study, where heroin is still available, participants were asked about their preferred substance, if finances and availability were not as issue. Morphine was favoured for its longevity of effect, despite the requirements for preparation, and pharmaceutical opioids (such as OxyContin) had a place over heroin in their ease of use and consistency of dosing (Firestone & Fischer, 2008).

2.6.5.2 *Tamper resistant and abuse deterrent formulations (ADF)*

There is a dichotomy in the development and use of ADFs intended to deter the misuse of a substance, by making it less desirable or less convenient to do so (Raffa &
Pergolizzi, 2010). However, it is important to recognise that deterring use may minimise abuse and possible harm for one section of the population, yet compound the harm caused by ongoing use of the substance by the opioid using population (Webster, Bath & Medve, 2009).

Tamper resistance or ADFs have been developed since the 1970’s with advances in science and technology increasing the range of options for formulations to match the increasing prevalence and availability of prescription opioids (Katz, Fernandez, Chang, Benoît & Butler, 2008; Pappagallo & Sokolowaska, 2012). Tamper, or abuse deterrence is achieved by the inclusion of a substance of an aversive antagonist type that creates a reaction or neutralises the drug’s effect during or subsequent to administration; by limiting the release of a substance following ingestion; or by creating obstacles to preparation of the substance (crushing, chewing or dissolving) for abusive administration (Katz, 2008). A recent high profile example of an ADF is OxyContin, a controlled release version of oxycodone hydrochloride preparation. This was released in 2010 following the extensive abuse of oxycodone (Cicero, Inciardi & Munoz, 2005) and was designed to make the product difficult to inject and to reduce the chances of snorting. Evidence indicates that is it still extensively abused, by crushing, swallowing or inhaling (Van Zee, 2009).

Abuse potential is in part related to how easily the opioid content is extracted from a medication (Raffa & Pergolizzi, 2010); the pharmacologic properties of the drug such as the pleasurable, or staving off withdrawal effects; its availability in the community (Roemack, Shoedel & Sellers, 2013) and current social, economic or trend factors such as media attention, peer preferences, cost, and availability (Butler et al., 2010b).

The USA in particular, with its extensive use of prescription opioids, is calling for the US Food and Drug Administration to approve only ADFs (Budman, Grimes Serrano & Butler, 2009). Concern remains however that a number of ADFs reviewed by the Food and Drug Administration have been recalled or rejected due to formulation stability problems (Roemach, Shoedel & Sellers, 2013), inefficiencies, or their unknown impact (Bannwarth, 2012). This is in addition to the harms associated with the use of ADFs including infections, cardiovascular risks, venous access and onset of withdrawal that have been documented for many years (Larance et al., 2011b; Robinson, Kemp, Lee and
Cranston, 2000; Robinson et al., 1993). Furthermore, a review of internet discussion forums, such as Medschat (2014) and Drugs Forum (2007) suggests that making an opioid available in an ADF, simply creates a perceived challenge for the user to overcome, rather than being a deterrent to use.

2.6.6 Stigma and discrimination

The impacts of discrimination and stigma is recognised, particularly in the mental health field. It is typically exacerbated by the media but originates from family, friends, employers, health professionals, society at large (De Ponte, Bird & Wright, 2000) or from within, as internalised or ‘self’ stigma (Peterson, Barnes & Duncan, 2008). The primary impacts of stigma and discrimination are the poor sense of worth, reduced functionality, alienation and ongoing stress. Secondary implications occur when it becomes a barrier to accessing services which in turn adversely affect health outcomes (Ahern, Stubor & Galea, 2007); unfavourable treatment and sentencing from the criminal justice system; the development of polices and agendas by governmental agencies and the effects of poverty and social inequity (Room, 2005). These primary and secondary effects can result in the exacerbation or adoption of coping strategies, substance use being one of them (Laudet, Magura, Vogel & Knight, 2004).

Historical acts, treaties, policies, the ‘war on drugs’ and the management of opioids through supply control and through the justice sector have each contributed to the social construction of opioid users as ‘deviant’ (Anderson & Ripullo, 1996). Negative perceptions of the drug user abound, with both real and perceived sanctions. Treatment programmes, such as methadone maintenance, were developed to address the physiological needs of dependence, concurrent with the psychological and social supports required (Ward, Hall & Mattick, 2009). However, stigma experienced through methadone maintenance programmes is apparent with reasons posited including medical professionals not regarding addiction as a legitimate medical condition; societies lack of acceptance of methadone, particularly when compared to a substance such as alcohol; and users own self fulfilling fears of being discovered or ‘caught’ often resulting in further concealment of their everyday experiences (Joseph, Stancliff & Langrod, 2000; White, 2009). Concerns are also raised regarding the stigma of daily pickups, supervised dispensing, drug testing, concern with dosages, take-home privileges and
tapering procedures (Anstice, Strike & Brands, 2009; Vigilant, 2004; White, 2009). The attention given to epidemics contributed to by intravenous use such as HIV and HCV plus pressure put on society through unemployment and homelessness associated with drug users, has also contributed to stigma and discrimination (Joseph, Stancliff & Langrod, 2000).

Stigma is a subjective and complex issue. It has also been identified as a barrier to initiating or continuing opioids. Patients and family members of patients with chronic non-cancer pain have been reported to associate opioid medication with the names of known ‘street’ drugs’ and have been resistant to this being prescribed (Spitz et al., 2011) and there is an association between being a recipient of opioid medication and having a terminal illness (Boulanger, Clark, Squire, Cui, & Horbay, 2007). There is concern that prescribers are under treating pain, becoming overly cautious or even resistant to prescribing opioids for fear of regulatory and medico-legal potential risk factors, a term coined opioiphobia (Bennett & Carr, 2002), and an even greater reluctance to prescribe for pain for patients with a history of substance use, due in part to distrust or experiences of previous drug seeking behaviours (Savage, 2009). When medically prescribed patients do develop a dependence, they present as a somewhat different population group to illicit users, often keeping their misuse a secret (Reay, 2009), citing different concerns regarding treatment (Stein, Anderson, Thurmond & Bailey, 2014) and experiencing a different kind of stigma when treatment is sought.

2.6.7 Criminalisation

The criminalisation of substance use is intended in the main to protect society, reducing the demand by actions of incarceration, deterrence and rehabilitation. However, unintended consequences are generated that may result in adverse outcomes for an opioid user and the creation of a black market.

Efforts to reduce ‘drug problems’ are, as noted previously, carried out in the main by drug control efforts that reduce supply with the focus on the producers and distributors of illicit drugs (Babor, 2010). The Harrison Narcotic Act, International treaties and domestic law all place the possession or use of a controlled substance as illegal, and the user is punished with a criminal offence. This policy focus and resulting justice
activities, correlate to the global increase in arrests and criminal processing (Room & Reuter, 2012). Globally, much of the prison population consists of people incarcerated for drug related crimes. In the USA, nearly 50 percent of sentenced prisoners are serving time for drug related offences (Carson & Golinelli, 2013) and approximately 12 percent of New Zealand’s prison population are convicted of drug offences (Department of Corrections, 2014a).

Legislation and subsequent policing are intended to provide a means of enforcement of a code of conduct deemed acceptable to protect society and the individual and in New Zealand the Illicit Drug Strategy clearly states, “We want a society free from the harm caused by illicit drugs” (NZ Police, 2009, p2). International approaches to legislation and enforcement have been shown to produce varying results. For example, the hard line approach taken in the Czech Republic in the late 1990s has reportedly resulted in a costly, corrupt and inconsistent system, with no decline in illicit drug availability or use (Zabransky, Mravcik, Gajdosikova & Miovskù, 2001). The move towards the decriminalisation of cannabis and the leniency shown in the Netherlands, has resulted in an overall cannabis increase, yet at a rate no greater than many other European countries and its association as a ‘stepping stone’ to harder drugs has been removed (MacCoun & Reuter, 2001). In Australia and Britain penalties have been placed within civil jurisdictions, with infringement notices and on the spot fines being preferred to the criminal sanctions and consequences (Williams, 2004). In Portugal, criminal law associated with possession of all controlled drugs was removed in 2001 and proactive encouragement of treatment attendance and a personalised approach to the consequences of use was promoted (Hughes & Stevens, 2007).

Criminal sanctions best exert their effect by the threat of arrest, fine or incarceration of the user. The approach is particularly effective if the consequences are immediate (Kleiman, 2009). Whilst these sanctions primarily focus on supply control, to protect society or the individual, they are also suggested to have a role in demand reduction. Incarceration reduces the demand for substances due to the fact that a percentage of the population have been taken out of the equation. Estimates from incarcerated cocaine users in American prisons indicate that this removes 15 percent of the potential cocaine demand (Office of National Drug Control Policy, 2001). The ongoing use in prisons however is prevalent, with 79 percent of British inmates self-reporting use and supply
routes and markets being evidenced (Penfold, Turnbull & Webster, 2005). Reduced demand for substances can also occur as a result of rehabilitation or treatment, through prison or ‘coerced’ treatment programmes. Recidivism rates have shown to significantly decrease for those receiving drug and alcohol treatment and post release support (Inciardi, Martin & Butzin, 2004; Lurigio, 2000) and there is a call for more drug treatment programmes to be available to prisoners (Butler, Levy, Dolan & Kaldor, 2003).

However, there are costs to this incarceration with significant financial expenditure for the justice department as well as the indirect costs of lost earning potential, stigma and discrimination (Prison Task Force, 2010) subsequent unemployment and the potential for ongoing criminal justice system contact (Lenton et al., 2000). Careful consideration is required of the balance between crime severity and sentence length (Doob & Webster, 2003). There is recognition that criminal sanctions often target minority communities characterised by poverty and non-white populations, which compound an anti-authoritarian response to real or perceived punitive and discriminatory practices, increased tensions and a focus on one-upmanship (Payne & Gainey, 2005).

A further impact of law enforcement is the exacerbation of the problem through the creation of black markets. A sequence of events, noted as an ‘unintended consequence’ by the United Nations Office on Drugs and Crime (UNODC, 2009) occurs when drug control makes a substance scarce. Entrepreneurial businesses seize on the opportunity to make money; prices increase to counteract risks and trafficking becomes more deviant and better resourced. The illicit drug trade is estimated to be worth 332 billion US dollars globally and entrepreneurial criminals, with no restraints of quality control, have been able to exploit opportunities concurrent with high levels of violence, corruption and money laundering (Howes, 2013). The result is an increase in the availability and purity of substances (Payne & Gainey, 2005) or substances of an unknown purity (Miron, 2003); use through an alternative route of administration (Strang, Griffiths & Gossop, 1997) or an adulteration and adaptation of an alternative substance.
2.6.8 Displacement

Concern has been raised regarding the issue of ‘displacement,’ be it of a geographical, substance or policy nature. Displacement is deemed to be one of the unintended consequences arising from drug control policy and intervention. Its ability to be measured is nominal and as such its causal relationship is tenuous, however, evidence of a relationship exists (Chouvy, 2013) concurrent with the indication that if restrictions are placed on a substance or source of supply, users will experiment or find an alternative (Raffa & Pergolizzi, 2010).

‘Geographical displacement’ refers to the movement of an activity to another area. For example, controls and limits placed on cultivation in one area can result in the displacement of production to another. Examples of this occurring are the mid-20th century opium production that moved from China to the Golden Triangle and more recently the supply restrictions in Turkey and Iran which has shifted the industry to Afghanistan (UNODC, 2009). The same can occur on a smaller scale such as through the consequences of increased police activity. The genuine intention may be to target and increase public safety by stopping an activity in one area, but what often results is an inability to practice harm minimisation strategies (Cooper, Moore, Gruskin & Krieger, 2005). ‘Policing saturation’ is a specific example of this, in which the drug market is targeted in one localised area and the distribution system shifts the activity out of the area. This was highlighted with a heroin crackdown in the suburb of Cabramatta, Sydney in the mid 1990s. Counterproductive adaptive behaviours and an overall increased level of risk arose as the increased enforcement of legislation in one area led to the dispersal of use throughout the city. Distribution markets broadened; there was an increase in overdose, poor needle disposal and a decline in use of health care resources; infection risk increased as a result of covert transfer techniques and poor access to injecting equipment and there was a general breakdown of police and community relationships (Maher & Dixon, 2001).

‘Substance displacement’ occurs when one drug is controlled resulting in suppliers and users switching to an alternative. The alternative substance will typically have similar effects but less stringent controls (UNODC, 2008). Substance displacement effects have been seen in Britain with the increased use of mephedrone conjunctive with the
declining quality and availability of cocaine (McElrath & O’Neill, 2011). Following the banning of mephedrone in 2010 the availability and subsequent use of less regulated ‘new psychoactive substances’ occurred (Reuter, 2011). A British parliamentary inquiry acknowledged that the use of OTC and prescription opioids has increased due in part to their legal availability and that this status makes them preferable to the use of illicit substances (Reay, 2009). The need to consider the impact of targeting one substance that results in the use of an alternative or an adulterated substance has implications for both the individual user and wider public policy. In recognising this, there are calls for consideration to be given to the targeting of a particular drug when it may be less harmful than its substitutes, and in so doing fully evaluate the overall level of associated risk before taking hasty action (House of Commons Affairs Committee, 2012).

‘Policy displacement’ refers to the focus of policy and the allocation of funds. This has been illustrated by examples of scarce police resourcing that, when focused on increasing one specific type of drug law enforcement, results in a reduction in resources and efforts to address other criminal activities (Møller, 2010; Rasmussen, Benson & Sollars, 1993). A variation of policy displacement is when law enforcement and public security policy takes precedence over health policy (Costa, 2008). As such, public health interventions are underfunded, resourcing for medical and scientific purposes is reduced (Barret, 2010) and the development of initiatives and interventions that reduce drug related harm are prioritised behind that of law enforcement (Morris, 2010), to an extent that the current international drug treaties and consequential policies that fall out of this “generate [a] violation of drug users’ human rights” (Room & Reuter, 2012, p84).

2.6.9 Summary

The above sections have reflected on the literature highlighting a selection of impacts related to opioid use. The harms of morbidity and mortality related to opioid use are well documented, further compounded by the lifestyle, associated behaviours and chronicity of opioid dependence. Consideration has been given to the impact of measures that may be taken to reduce harms generally, but which have an inadvertent effect on users themselves. This includes the accessibility of opioids, including reduced accessibility; the availability of metered doses and inclusion of ADFs; the unintended
consequences of criminalisation, the insidious effects of stigma and discrimination and the implications of displacement.

The impacts discussed in this thesis are by no means exhaustive and although this thesis does not allow scope for greater detail, some acknowledgement of additional impacts must also be offered. Sheridan and Butler (2008) reference a number of these in a review of prescription drug misuse, noting impacts such as lost productivity, costs to pharmaceutical subsidising schemes, inadequate prescribing, emergency department admissions, levels of aggression and violence and driving whilst under the influence. Consideration must be given to access to pain relief, particularly in developing countries and for known substance users (WHO, 2010b), as well as indicators of quality of life such as unemployment, family or friendship problems, financial and legal problems and reduced motivation which have also been implicated (MoH, 2010b). What becomes apparent is that the impacts of opioid use are complex, with different considerations required for different sectors or population groups, potentially resulting in a dichotomy between best practice and policy.

2.7 Rationale and research questions

In reviewing the prevalence of opioid use, history has consistently evidenced the use of opioids, for the real or perceived need to be medicated or to ‘self medicate’. The 1800s saw a proliferation of opium across a broad range of societies (Berridge & Edwards, 1981); a 1960s nationwide community survey in Britain identified that almost two thirds of their sample reported taking a ‘self prescribed’ medication (Dunnell and Cartwright, 1972, cited in Berridge and Edwards, 1981); and today, the production and use of prescription opioids has risen to a point described as a ‘crisis’ (Dhalla, Persaud & Juurlink, 2011).

The accessibility of these substances has ensued, despite a range of approaches and interventions to restrict supply. International treaties, legislation, policy, regulations and restrictions are counteracted in part by the encouragement of the pharmaceutical industry and the ingenuity of users themselves. New Zealand has a somewhat unique opioid environment. Enforcement, limited access routes and good border controls, harm
minimisation policies, population size, health care system and a ‘kiwi ingenuity’ all contribute to a nation that sees little availability or impact of heroin and a dominance of pharmaceutical opioids available on the street (Robinson et al., 2011; Wilkins, Jawalkar & Parker, 2013).

A review of the impacts of opioids as noted above clearly indicates potential for harm. A ‘simple’ approach to manage this would enforce restrictions to the availability of all opioids in order to eliminate the supply and reduce the harms. However, history indicates that prohibition does not work; the evidence for a focus on supply control has been critiqued; restrictive practices can have unintended consequences and opioids continue to be required for the legitimate management of medical disorders.

This complex interplay between availability and implications across populations in combination with my clinical experiences and observations of the use and misuse of a range of opioid substances highlighted the resourcefulness and adaptability of users. The availability of various opioid substances has waxed and waned over the years, and along with it practices and actions taken by opioid users that can both reduce and/or exacerbate the associated harms. An initial review of the literature found little detail regarding emergent trends, how opioid users sourced their supplies or what impacts changing availability has on them. I therefore considered that gaining an understanding of the experiences of substances users and the clinicians that worked alongside them would offer some insights into these issues. The following questions were developed:

- What are substance users’ and clinicians’ experiences of patterns and trends of new and emerging opioids?
- What are the mechanisms that influence these trends and how does this effect availability?
- What are the impacts of this availability, in particular for opioid users?

The next chapters of this thesis will report on the methodology of study; the findings that reflect the experiences of two groups of participants; discussion that draws on the related literature and the provision of recommendations and considerations for clinical practice and policy from the perspectives of the opioid dependent population and the public good.
Chapter 3 - Methodology and Methods

3.1 Introduction

This chapter provides the theoretical underpinnings and the details of the method chosen to address the aim of this research, namely to explore trends and patterns of opioid use, with a particular focus on the availability that influences these trends and the implications that this has on the user.

Qualitative research will be explained briefly recognising its position as an umbrella term that describes a number of methodological approaches (Neale, Allan & Coombes, 2005). The phenomenological methodology adopted will then be described followed by the detail of the method of data collection and descriptive analysis; approaches taken to acknowledge the individual experiences and stories of opioid users and the observations and experiences of clinicians.

3.2 A qualitative approach

A qualitative approach was chosen in order to answer the research questions (Brown and Lloyd, 2001). It was also chosen to expand on and enrich the earlier quantitative data gathered by Braye and colleagues (2007) that identified the emergent trend of PST use in a clinical setting. The desire was to further explore the experiences, the ‘whats’, ‘whys’ and ‘hows’ of opioid users, building on the ’how much’ and ‘how many’.

Qualitative research was also chosen from a desire to provide the addiction field with evidence based research, a term often synonymised with evidence based medicine and deriving from a hierarchical system determining the effectiveness of a particular intervention developed in 1979 (Burns, Rohrich & Chung, 2011). In light of my clinical experience referred to briefly and expanded on below I was encouraged to note the definition of ‘evidence based’, that expands beyond the focus on ‘levels of evidence’ that places quantitative methodology at the top of the hierarchy to include a definition in
which evidence based medicine “builds upon, rather than disparages or neglects, the evidence gained from good clinical skills and sound clinical experience” (Sackett, 1995, p840).

Qualitative research has been defined very generically as “a situated activity that locates the observer in the world” (Denzin and Lincoln, 2011, p3). This generic meaning is clearly very broad, yet it is this breadth that exemplifies the nature of qualitative research. As a fundamental approach to research its methodology is evolutionary (Putney, Green, Dixon & Kelly, 1999). Qualitative research straddles a range of fields of learning and disciplines; it has multiple theoretical paradigms reflecting an array of worldviews; it does not use any single method or procedure of data gathering and analysis is influenced by as many variables as there are subjective thoughts; it “is an interdisciplinary, transdisciplinary and sometimes counterdisciplinary field” (Nelson, Treichler & Grossberg1992, p4). It is the very essence of this complexity and opportunity for insight that adds to our depth of understanding and captures how drug use and addiction is lived and represented.

At the heart of qualitative research is the aim of describing the subjective experiences of people examining, as noted earlier, the what, whys and hows of day to day lives. This is particularly useful in addiction research in which the participant is frequently that of a ‘hidden population’, stigmatised by the assumptions held by others and whose experiences or stories may not be ‘heard’ or understood through more quantitative methods. As Neale, Allan and Coombes (2005, p1587) point out, “it is necessary to understand how they perceive and interpret their environment if their behaviour is ever to be interpreted usefully. Qualitative investigations facilitate this by enabling the researcher to understand...from participants’ perspectives”.

Qualitative research has been described as a developmental process (Rutter, 2006). It is the emergence of ideas, iterative and evolving as the detail of the stories of participants is explored. Some of this emerges through the process of data collection itself, but also through analysis, a process described by Brown and Lloyd (2001, p353) that highlights that “as an account emerges, categories and themes become apparent, and it is this generation of theory from the data, rather than the testing of a prior hypothesis, that is the purpose of qualitative analysis”. In order to understand this qualitative research
process more fully the remainder of this chapter will focus on the research process engaged in throughout this thesis.

3.3 Five defining phases to the research process

In addressing the qualitative research process I was drawn to the work of Denzin and Lincoln (2011) who proposed five defining phases, at the heart of which stands the researcher. The following sections will explore each of these phases providing context to the research project. I will define my position as a researcher, alongside the participants and the topic, before going on to describe phenomenology as a theoretical paradigm that offers an interpretive framework in line with a guiding set of beliefs. Phenomenology will also be described as a strategy of enquiry, drawing specifically on the work of Husserl in guiding my investigation. I will then provide the details of my method, the data collection and initial analysis, including recruitment, sampling, use of in depth interviews, transcription and thematic coding. Finally, I will reflect on the role of interpretation, particularly drawing on the work of Giorgi (1997) from within this paradigm.

3.3.1 Phase 1 - The researcher

This first phase acknowledges the researcher as a multicultural subject, immersed in history, shaped by their cultural nuances and personal experiences, guided and yet constrained by the ethics and politics of their chosen subject. Historically, it was assumed that researchers were able to make clear and precise observations and that the participant could formulate their thoughts and report on their experiences. The two combined would represent the story or experiences of the subject and ultimately the meaning. However, concerns were raised that these perspectives were neither truly objective nor fully explained of action or intent (Denzin & Lincoln, 2011). The stories gathered and thus a range of factors of a cultural, historical, experiential or individual nature could influence the findings of a study. Quantitative methods have traditionally endeavoured to control for these factors. Qualitative researchers however have employed interpretive methods seeking to enhance their understanding of these factors.
and impact on their topic of study. At the core of this is the researcher, their understanding of reality and of how that understanding has come about. Thus, it is critical, in order to understand and to validate this study, that both I and the reader understand ‘myself’ as the researcher.

My interest in the field of social science grew initially through undergraduate studies grounded in psychology. Following a period of significant travel opportunities and a return to England where jobs were scarce I took a role coordinating a halfway hostel and dry houses for recovering addicts. I quickly recognised that a little input generated great returns amongst a sector of the population who were not only resourceful and resilient but who could also embrace the opportunity for change given some support and empowerment. I went on to train as a counsellor with a specific clinical focus on addiction and mental health. As my professional career has evolved, I have been fortunate enough to spend many years working and walking alongside people who are using and/or recovering from substance use, seeing the many ways in which their lives and the lives of the people around them are affected as they travel their journeys.

The topic of emerging trends and patterns of opioid use became of particular interest to me whilst working in a community outpatient addiction service. I noted a number of clients resourcefully taking positive initiatives towards controlling and maintaining their opioid use, through readily accessible and minimal harm generating opioids such as poppy seeds brewed into a ‘tea’. This was in contrast to the reliance on treatment interventions such as withdrawal management regimes or opioid substitution programmes. Whilst treatment provision can vary, protocols tend to have a primary safety focus and limited adjunctive psychosocial support, the more restrictive ones perceived by clients as punitive, overly controlling and colloquially referred to ‘liquid handcuffs’. Literature identifies challenges to such protocols for both the clinician and the client and ways to address some of these barriers (Deering et al., 2011). Clinical experience alerted me to clients who felt a need to both justify their actions and requests for medication, yet also work to ‘beat’ or ‘get one over’ the restrictive punitive nature of the system. They sought their own sense of control and self-management, often with adjunctive or additional opioids obtained through whatever resources they had available.
Clients’ presentations of poppy seed use made into a decoction known as PST were increasing in the early 2000s and alongside it, there was an ignorance from clinicians as to the benefits or harms that were generated from such use. As a member of a multidisciplinary team it became apparent that we were not meeting the needs of our clients either in terms of our understanding of the role that PST played in clients’ dependence or self-management of opioid use, nor in relation to managing requested or supportive detoxification when they presented with PST use. This prompted us to investigate the use of PST amongst opioid using clients at a Wellington outpatient clinic that resulted in findings that supported clinical practice (Braye et al., 2007).

Since an apparent peak in use in the mid 2000s, it appears that the availability of poppy seeds has declined. The availability of illicitly obtained pharmaceutical opioids on the ‘street’ has remained (Robinson et al., 2011) and even diversified (Wilkins, Jawalkar & Parker, 2013), and along with it, financial, legal, medical and ethical costs to the user. Anecdotally, I observed a desire amongst sectors of the opioid using community for a low cost, legal, socially acceptable substance for the self-maintenance and management of dependence. Having been so intrigued by the utilisation of such a readily available and legal substance as PST, questions arose for me regarding what clients using as alternatives to PST as its availability declined; what was the current alternative; what was the availability of such adjunctive opioids and what were the implications of this?

I came to the current research project with a strong clinical background, a focus on harm minimisation and a passion to empower the client to make well informed and safe choices. Throughout the duration of this research, I was employed in a non-clinical role yet retained strong links with the addiction treatment sector. This position reduced any direct potential conflicts of interest between the participants and myself as a researcher. For the client participants particularly I was cognisant of the need for boundaries and explanations about my experience, current position and the distinction between the relationship that formed with therapeutic intent and one that is formed for the purposes of research. The skills gained and used from my therapeutic experiences were of considerable benefit in building a rapport with this client group, encompassing a sense of trust and ultimately in facilitating the participants to share their experiences in what is essentially a vulnerable topic.
My own beliefs and understandings, not only founded from clinical experiences, observations and relationships within the addiction sector, but also grounded in my own life story as an independent, articulate, individual, are important to acknowledge and it was imperative to ensure that they did not dominate the research question, method, analysis or interpretation. I was aware that my prior experiences and perceptions could introduce considerable bias into the study. I was cognisant of my own knowledge base and experiences, and frequently reflected on my openness to the stories and experiences of the participants. I was able to discuss in general, my themes and findings with peers and colleagues allowing for a process of peer critique, further reflection and consideration of the stories that were emerging. More formally the roles of my supervisors were invaluable, questioning my identification of poignant observations following interviews, reviewing transcripts and encouraging explanations related to the themes that emerged. The process for the place of my own experiences will be detailed further in this chapter where the subsequent stages to the research are described.

3.3.2 Phase 2 - The theoretical (or interpretive) paradigm

The second phase of this journey determines the ‘theoretical paradigm’, informed by the researcher’s ontological, epistemological and methodological premise (Guba, 1990, cited in Denzin & Lincoln, 2011). The terminology of qualitative research can be complex and the above is no exception. To assist in my understanding of the theoretical paradigm, I had to clarify my own interpretation of what this meant. Denzin and Lincoln (2011) refer to a theoretical paradigm as a ‘guiding set of beliefs’ that provides a framework for interpretation. My reality (or ontology), is thus constructed and guided, by my set of beliefs into a form of knowledge. My participants (the knowers) inform my reality, influenced by the relationships, beliefs and experiences that we each hold, by what is communicated, the understandings and the interpretations that arise from that. This is the ‘how’ we know something and is referred to as the epistemology. The process of how, as a researcher, I would systematically go about finding this knowledge, is referred to as the methodology.

Thus, my theoretical paradigm, or guiding set of beliefs is based on my own life experiences, the relationships and understanding I have with my participants, the means with which I find my knowledge out, the cultures I have been exposed to and the
opportunities I have sought. These are the very things that will ‘guide action’ with my research (Guba 1990, cited in Denzin & Lincoln 2011).

A number of well documented theoretical paradigms exist: positivism, constructivism and critical theory to name just a few. They each offer their strengths yet none felt appropriate to me as a researcher as the best way to capture the stories of my intended research group. I reflected further on my own journey and what I wanted to uncover with this study. With over 20 years experience working in the addiction sector I have formed a good working knowledge of the availability of opioids, trends that wax and wane and the general impacts of these substances from an observational and theoretical standpoint. I wanted to expand on my understanding of PST use by drawing on the experiences and lives of those who had used it, complementing that with the experiences of clinicians working with opioid users. From this premise, the broad theoretical paradigm that it made sense to draw from was that of phenomenology.

Somewhat confusingly, Patton identifies a number of authors describing phenomenology in a different ways. He summarises that Husserl has referred to it as a philosophy; Lincoln an inquiry paradigm; Denzin and Lincoln an interpretive theory; Harper an analytical perspective; Cresswell a qualitative tradition and Moustakas a research methods framework (Patton, 2002). In characterising phenomenology as a theoretical paradigm, it could be described as an opposing alternative to positivism. It has a focus on subjectivity, rather than objectivity; descriptions of events and meanings given by participants rather than logical analysis, and interpretations rather than measurement (Denscombe, 2007). It deals with people’s feelings, attitudes, perceptions and stories rather than facts, numbers and scientific reports. Its foundation lies in the question, “what is the meaning, structure and essence of the lived experience of this phenomena for this person or this group of people?” (Patton, 2002, p104).

Phenomenology has an underlying assumption that there are shared experiences, mutually understood amongst those who experience them. Variations of phenomenology have evolved, its origins lying with the German philosopher Edmund Husserl (1859-1938). As a descriptive empirical phenomenologist he placed the focus of study on how people describe and experience things through their senses, striving to explain what is the lived experience, and to find the ‘essence’ of a phenomena, as it
appears in consciousness (Patton, 2002). Heidegger (1889-1976), a student of Husserl, went on to develop ‘hermeneutic’ phenomenology arguing for the need to further involve the experiences and insights of the researcher into the study, their participation and role seen as integral to the understanding of the essence of the phenomena (Laverty, 2003). Gadamer (1900-2002) extended this further seeking clarification not only of the process of understanding, but also the conditions with which understanding takes place, with a particular focus on the role of language (Laverty, 2003). ‘Heuristic inquiry’ is a subsequent variation of hermeneutic phenomenology, built on by Moustakas (1923-2012), on which the focus is on the researcher, their creative processes and their self-discoveries (Patton, 2002). Giorgi (1997) whose method of analysis is explained later offers a return to the more descriptive nature of Husserl.

Phenomenology was thus chosen due to the desire to describe features of the lives of opioid users, identifying the meaning, attitudes and beliefs that his population held. Arguably, also this chosen topic of enquiry chose phenomenology - providing an avenue to honour the stories of the participants and the worldview of myself as the researcher. A Husserlian descriptive phenomenological framework allowed me to study the descriptions and stories of the participants in order to gain an understanding of and interpret their experiences.

3.3.3 Phase 3 - The research strategy or strategy of inquiry

Phase three, the strategy of inquiry “puts the paradigm of interpretation into motion” (Denzin and Lincoln 2011, p14). It is the strategic approach that a researcher uses, deemed the most effective way to obtain an answer to the research question(s) posed. From within the theoretical paradigm of phenomenology, a number of research strategies can be utilised, for example, case studies, participant observation, grounded theory and phenomenology (as a strategy rather than a paradigm).

Phenomenology as a strategy of inquiry focuses on how people make sense of their experiences and how they in turn transform those experiences into consciousness (Priest, 2002). Consciousness is the link between the person and the world, which Husserl believes requires reflection, an action that cannot occur whilst someone is living the experience. The strategy of inquiry requires participants, selected on their lived
experience, to be able to describe and make sense of the things that they experience. Participants stories gathered through the use of in-depth interviews, allow the mind to focus intentionally on the phenomena. The experience is bought into consciousness and the reflections are retrospective. This was the strategy used in this study to explore and reflect on participants’ experiences of opioid trends, availability and impacts.

As the experiences are identified, the process then focuses on describing and interpreting, the experiences, presenting this in a way that is true to the original, whilst allowing the researcher to have some experience of the phenomena. Pure phenomenological research would argue that to truly understand the stories of participants in a way that places importance and value on their thinking and perspectives alone, the researcher must come from a perspective of having no hypotheses or preconceptions, seeking only to describe rather than explain. Hermeneutic phenomenologists have subsequently argued that it is not possible to enter the world or experiences of another without pre-existing perceptions or bias and that any analysis becomes interpretive. The emphasis is placed on the researchers’ interpretations and the transparency of how these have been arrived at (Giorgi, 1997). The process of ‘bracketing’ or ‘phenomenological reduction’ is central to the strategy of phenomenology. Osborne (1994) describes bracketing as the identification of presuppositions about the nature of what is being explored and then setting them aside to see the phenomena as it really is. Thus, as a Husserlian researcher I would put aside my own experiences, assumptions and interpretations, not to be rid of them per se in a manner of unimportance, but simply to be ‘bracketed’ in order to allow me to see other ways of understanding the world. This allows the participants’ stories to come together, arriving at a point of description of the essence of the lived experience. Clinically, I have repeatedly heard the stories of the participants, or at least the generic stories, differentiated by individual’s experiences. I can relate to the stories of service providers (SP); however, I have not experienced first-hand the journeys of opioid use as my service user (SU) participants have. My bias stands in the observations I have made from a clinically informed perspective, the influences of the media and discussions I have had with colleagues. My experiences have been shaped by journeying with clients and observing the impacts of opioid use. I have my own perspective on issues of accessibility, the role of legislation, harm generated from opioid use and the resourcefulness of users. These influences, thoughts and processes that I bring have
required identification, exploration, reflection and ultimately to be set aside, allowing me to investigate the phenomena from a viewpoint of those who have experienced it, thus arriving at a state Husserl referred to as ‘epoché’ (Patton, 2002), a state where judgments regarding the external world are suspended.

3.3.4 Phase 4 - Methods of data collection and means of analysis

From the strategies of inquiry, the methods of data collection and the initial means of analysis are formed, describing and directing the researcher on a procedure of knowledge gathering. This information would traditionally be presented in a methods chapter in a document such as this, however, I feel it important to note here that, within a phenomenological paradigm, the term ‘methodology’ is deemed more appropriate whereupon “good judgment and responsible principles” are used to guide the research process (Laverty 2003, p28). The reluctance to be prescriptive reflects fears of being analogous to quantitative research approaches as Keen (1975) states “…unlike other methodologies, phenomenology cannot be reduced to a ‘cookbook’ set of instructions” (as cited in Hycner, 1985, p279). Regardless, in keeping with the fourth phase of the research process as described by Denzin and Lincoln (2011) and with the need to articulate the method of knowledge gathering, I have described here the components of the methods used, recognising that these are enacted in a cyclical and reflective manner more so than a linear or prescriptive one.

3.3.4.1 Self reflection

As noted, in phase one, integral to defining my interpretive paradigm and research strategy, interwoven in to the data gathering process is the need for self reflection. The experiences, preconceptions, personal observations and beliefs that I held about the study, were reflected upon and discussed with colleagues, peers and my supervisors. These thoughts and ideas were documented, not to be interwoven into the interpretive process as would occur in a hermeneutic approach, but to facilitate the process of ‘bracketing’, ensuring that I could then describe things through the eyes of the participant.
3.3.4.2 Ethical review

Consultation with cultural and consumer advisors has taken place throughout this project. In the early stages of study development this was carried out on an informal basis with colleagues. As the proposal developed, a formal consultation process through Ngai Tahu Research Consultation Committee, University of Otago was undertaken. A copy of their ‘letter of suggestions, recommendations and advice’ is included in appendix one.

In addition, I liaised with the local Wellington School of Medicine based Eru Pōmare Māori Health Research Centre, University of Otago, consulting with them regarding my plans to carry out this study. Whilst this is not a Māori specific project, Māori are affected. The study, its approach and the importance of drawing on the experiences of users were affirmed as were recommendations regarding dissemination.

Ethical approval was granted following an expedited application from the Central Regional Ethics Committee responsible for reviewing research proposals carried out within the District Health Board (DHB) regions of Taranaki, Whanganui, Hawke's Bay, Midcentral, Wairarapa, Hutt Valley and Capital and Coast. This approval letter is included as appendix two.

3.3.4.3 Sampling and recruitment

In line with a phenomenological approach an in-depth understanding of the phenomena was sought rather than a generalised perspective. A purposeful sampling approach was used to gain insight and knowledge from a small and select group of participants. Eight to ten opioid users and up to five service providers were sought for interviews. These numbers were deemed appropriate to provide adequate information for richness and saturation (Patton, 2002). The sample aimed to draw from a selection based on gender, age and ethnicity. A criterion requirement was that the participants had a minimum of ten years opioid use and/or ten years working in the field, a time deemed broad enough to experience or observe changing opioid trends. Purposive sampling inclusion questions are included as appendix three.
Service user (SU) participants were purposefully recruited through two Wellington services known to have clients attending with relatively long histories of opioid use. I had existing relationships with these services and clinicians and as such, they provided an invaluable interface between potential participants and myself. They were able to facilitate the process of recruiting appropriate and willing participants as well as allay any potential concerns relating to trust, safety and credibility. A small number of service user participants shared information about the study within their own networks and provided an avenue for recruitment. I did not know any of the service user participants that requested information or volunteered to participate in this study yet I had a common understanding and the basis of a relationship formed through familiarisation with their substances of choice and/or use. This commonality proved an asset in gaining the trust and rapport required of investigating and exploring an issue such as opioid use.

Recruitment of service provider (SP) participants occurred through existing relationships from within the addiction sector and they were selected based on their known and diverse knowledge and their experience of working with opioid users. Knowing my sample group facilitated recruitment. However, I was at times challenged by the interview process requiring me to strongly encourage these participants to tell their story in their own words, rather than referring to the pre-existing knowledge that we shared.

Potential participants who expressed an interest in the research project were provided with an information sheet (appendix four and five). I contacted the potential participant by phone or spoke with them face to face, reiterated the intent of the research, the interview, recording and reporting processes, clarified eligibility, explained about confidentiality and the opportunity to withdrawal at any stage. I responded to any questions or concerns and arranged an interview time as appropriate. Written informed consent (appendix six and seven) was obtained at the point of interview.

No payment was offered for participation; however, participants received a food voucher or food koha in acknowledgement and appreciation of their time and openness.
3.3.4.4  Data collection - in depth interviews

As noted above in considering my strategy of inquiry, in depth interviews were deemed the most appropriate method of data collection. Substance use generally, and opioid use perhaps even more so, is by its nature a sensitive topic with contentious legality, associated prejudices, attitudes and preconceived notions. A reliance on building rapport within a limited period was thus imperative. In-depth interviews facilitated this process allowing participants to feel safe in sharing their stories. I was thus able to hear their journeys of opioid use; elicit participants’ understanding of what influenced the availability of opioids; draw out the implications that this availability had on their lives; reflect on the commonalities and/or differences in their stories and journeys and bring to the conscious, their experiences.

Interviews were carried out over a ten-month period from mid-2012 to 2013 ranging from 50 to 90 minutes in duration. Participants were provided the opportunity to meet in a location convenient to them. All of the service provider participants met at their place of work, two service users met where they were accessing services, six in their or a friend’s home and one at an alternative convenient location. Two pairs of service users chose to be interviewed together, resulting in 7 interviews with nine participants. Although we strove for an environment that would not be susceptible to interruptions, some did occur. These interruptions were from within their own networks, among their peer group and on their own grounds and did not appear to adversely affect the interview process.

Reflective listening and open-ended questions provided participants the opportunity to share their journeys, use their own words and thoughts and allow their experiences to come to the fore. Whilst this study had a particular focus on trends, availability and impacts, and an associated interview/question guide was developed (appendix eight and nine), in the main the stories were allowed to emerge, with many of these topic areas arising in their own time throughout the interview process. As the number of interviews progressed and some preliminary themes of shared or outlying experiences emerged, some specific clarification was subsequently sought.

Immediately following the interview process I allowed myself a period of reflection. During this time I documented my initial thoughts and the strong sentiments that
emerged for me from each story. Each interview was recorded and transcribed, at which point I could further reflect and consider my assumptions. These opportunities, initial thoughts, verbatim and documented reflections, facilitated my own processes and my supervisor’s ability to check-in on any biases, assumptions or leading questions.

3.3.4.5 Initial analysis

Qualitative research by nature produces a lot of data, the analysis of which transforms the data into findings. It is this quantity, which allows for the depth and provides the richness that is inherent to a phenomenological paradigm. Whilst there are no clear or agreed formulae for the most appropriate way of generating this transformation there are documented processes for analysis. Denscombe (2007) reported on five generalised stages: preparation, familiarity, interpretation, verification and representation of the data. The reality of the analysis, which draws out the experiences of participants, means that there is flexibility to these stages, transitioning back and forth as coding, verification and interpretation occurs. The goal is to ensure that the focus is the interplay of experiences and that the trivia is eliminated.

Guided by Denscombe’s stages and adopting Giorgi’s (1997) method of analysis and interpretation as noted previously, following the interview I embarked on a further period of reflection and elaboration. In part this pertained to my own processes and was important for bracketing, whilst also centring on participants’ experiences, reflecting, ruminating and documenting the non-verbal communications, the intuitive reflections (Giorgi, 2007) and the ‘between the lines’ ideas (Laverty, 2003) leaving the detail of what was ‘said’ to be captured in the verbatim.

The interviews were recorded and transcribed verbatim, substituting any names or identifying factors with pseudonyms. The process of transcribing and rehearing the stories whilst lengthy was invaluable for familiarisation and to bring to life the stories of the participants. Initial coding was done as a tabled word document allowing for early interpretations, clusters and themes to emerge. Consideration was given to Davidson and Tolich’s (1999) suggested functions of coding - namely to identify interesting data that may either represent or lie outside of a research theme; to indicate that more data on
a theme may be required and to signal an entry or quote as being worthy of inclusion within a particular theme.

A Computer Assisted Qualitative Data Analysis Software (CAQDAS) package, that arguably revolutionises the way that qualitative research is managed (Davidson & di Gregorio, 2011) was then used to assist in the organisation, coding and verification of data. The benefits of using a data analysis software programme have been documented, concurrent with concerns that phenomenological analysis is impeded through technology such as this (Goble, Austin, Larsen, Kreitzer & Britnell (2012). However, N-Vivo was the software that facilitated the organising and structuring of my data. Initial concerns that this software would relegate the experiences of my participants to a system of categorising comments and ‘nodes’, quantified simply by the frequency of their use were readily allayed. With exploration and familiarisation of the tool, its value in facilitating reviews of my information was recognised. It allowed me the opportunity to make connections, systemically code the themes that emerged, build on my evidence, revisit that evidence in a readily accessible format and offer some assurance that data was not being ‘lost’ in the complex process of analysis that may have occurred if I had done it by hand.

This process resulted in some clarity of emergent themes pertaining to the factors that influenced the availability of certain opioids and the implications that this had on the participant. As an iterative process, this was an ongoing review and reflection, with data able to be coded against the emerging patterns and generalisations. Further collation of themes and codes occurred, epitomising quotes identified and interpretations that produced an initial description of the phenomena portraying an everyday experience were documented (Priest, 2002).

### 3.3.5 Phase 5 - The art and politics of interpretation

By describing the phases that define a research process as I am doing here, a logical progression is intimated. However, as noted above transitioning back and forth is evident. This is equally so in the final stage, described by Denzin and Lincoln (2011) as ‘the art and politics of interpretation’. This brings us back to the role of the researcher and all that they bring to the research process, intertwined with the creativity and
interpretation that constructs the research findings. The intent here is to describe what it is that I have learnt as I have journeyed through my research process.

If I were adopting a hermeneutic strategy, a cyclical process to interpretation would occur in which the ideas of the participants and the researcher are interwoven in a ‘hermeneutic circle of understanding’ resulting in a single interpretation of what are, in fact, multiple realities (Laverty, 2003). Giorgi (2007) critiques this process on the grounds that it is the researcher’s interpretation that still dominates, with results that can at best be described as tenuous. Husserlian and empirical descriptive phenomenology seeks to secure knowledge, based on the initial process of bracketing, data gathering that brings consciousness of the phenomena to the fore, followed by a description of the essence of what has been discovered. The description in this case is the interpretation.

Like Van Kaam (1966) and Colaizzi (1978) before him, Giorgi adopted a phenomenological methodology but also described a process of analysis and interpretation, endeavouring to provide a rigor to the phenomenological approach taken (Whiting, 2002). Giorgi (1997) posits the first requirement is for bracketing or phenomenological reduction. Documented earlier in the chapter as a core component of the research strategy, it achieves the goal of “allowing phenomena to come directly into view, rather than to be viewed (and distorted) through our preconceptions” (Cohen and Omery 1994, cited in Whiting, 2002, p64). Complementary to this is the need to get a sense of the whole. This was achieved by carrying out the interviews personally, partaking in the process of transcription and allowing myself to become familiar with the stories. The next stage is to determine the natural ‘meaning units’, achieved not by focusing on the individual specific aims of the research per se, but instead striving for maximum ‘openness’ that then allows a central theme to emerge (Whiting 2002). These processes directed me to the issues of availability, access and implications of this availability, from where I returned to my research questions. Using the methods noted earlier, I was able to interrogate the data and question each piece of thematic coding, asking what does this tell me about the patterns and trends of use; what are the influences of emerging trends; what is the role of availability in these emergent trends and what are the impacts of changing availability and trends on users? Answering these questions provided the basis of my findings.
Giorgi posits that these final stages of tying in the interpretive nature of phenomenology occur through the formulation of descriptive statements (Whiting, 2002). For me, this identified the essence of the experiences of participants, provided the foundations to my findings and informed the development of my discussion. Thus my descriptions in relation to trends became statements of: ‘trends are difficult to document but there are emergent trends’; they ‘can be localised and susceptible to change’ and ‘throughout history, there has always been something’. In terms of the influences of trends, statements reflected the role of the ‘pharmaceutical companies as integral to the supply of opioids’; ‘prescriptions as a primary source of opioids’; ‘New Zealand’s legislative and regulatory initiatives’ and opioid users are creative and flexible people’. The descriptive statements regarding the implications of these trends and availability issues were evidenced by the discourse regarding the complex concepts related to harm and harm minimisation, notably for the wider or naive populations. Participants specifically described ‘the harms associated with opioid use’; ‘how some emergent trends generate greater harms than others’; ‘the relationship between opioid availability and dependence’; ‘the impact of ADFs’ and ‘regulations and enforcement’; ‘considered approaches to harm minimisation’ and ‘participant’s reflections on the issue of responsibility’.

As a fledging researcher, following Giorgi’s guidance facilitated the process that allowed me to remain true to the facts and how they reveal themselves, i.e. the intent of phenomenology as indicated by Husserl. As noted above, there is a reluctance to describe a structure for fear of phenomenology being seen as a method rather than a philosophical approach. As Caputo (1987) noted, interpretation can be both tentative and changing and in striving to come “to a place of understanding, with a meaning of the experience that is reached that is deemed sensible” (Laverty, 2003, p30) I felt reassured that I was able to describe the lived experiences of my participants.
3.4 Summary

In engaging in a qualitative phenomenological research project, I have endeavoured to describe and then document this approach and process by formulating this chapter into five phases of the research process as described by Denzin and Lincoln (2011) in so doing recognising and honouring the intent of phenomenology. The ambiguity over phenomenology as a methodology and a method, compounded by the diversity of phenomenological traditions makes describing that process complex. In describing these overlapping phases, I have identified the paramount role and position of myself as the researcher; drawn on my guiding beliefs to inform my understanding of phenomenology as a theoretical paradigm; articulated the strategic approach of Husserlian phenomenology that highlights the need to bracket my own assumptions and bring to the fore the experiences of participants; described the method used to obtain the data from the experiences of participants and offered a descriptive framework for interpretation that honours the stories of participants and allows me to describe the findings of my study.

With much reflection, I believe I have adhered to a phenomenological philosophy. I do however remain cognisant that, considering the complexities and intricacies of Husserl's descriptive approach and Giorgi’s method of analysis and interpretation, my processes are informed only by readings set in a different time and place to my own. Furthermore, as Hycner (1985) pointed out, many researchers and in particular students, do not have enough of the philosophical underpinnings or experience to be true to the phenomena. That said, I remain assured that I have adopted what has been described as a ‘phenomenological attitude’ (Wertz, 2005) and have, as an underlying principle, strived to offer a rich description of the lived experience of my participants (Finlay, 2009).

As a final note on this methodology and method chapter, it must be considered that I could write extensively on my understanding of phenomenology, the language used, actions that I have taken and the adoption of a Husserlian approach. I could argue the distinctions and nuances between Husserlian, hermeneutic and subsequent phenomenologists or focus discussion on the variant guidance regarding actions to analysis and idiosyncrasies of interpretation. However, the scope of this thesis does not allow for that. What I have endeavoured to achieve is that the reader is inspired to both
question and critique my approach; acknowledge the realm of understanding; consider
the variations both from and within phenomenology, as a philosophy, a paradigm and a
research method (ology) that has traditions, but that has subsequently been built upon,
borrowed from and adapted to, and then to put that in the context of this piece of
research, carried out by this researcher and living in this culture. To borrow the words
of authors before me, Patton (2002, p433) encourages the researcher “to do your best
with your full intellect, to fairly represent the data and communicate what the data
reveal given the purpose of the study” yet as Finlay highlights, recognise that “each type
of analysis and way of presenting the data simultaneously reveals and
conceals...however rich and comprehensive, any one analysis is, inevitably, incomplete,
partial, tentative, emergent, open and uncertain” (Finlay, 2008, p6).
Chapter 4 - Findings: Trends, Availability and Impacts

4.1 Introduction

This chapter presents the findings of this study, reporting on the narratives of the participants interviewed. It begins with a brief description of the participants in order to assist the reader in the identification of their stories. Some basic demographic data is offered along with a snapshot of service users’ journeys of use and the providers’ histories of working in the field.

This chapter then describes the participants’ experiences and stories, reflecting on the three objectives established at the outset of this study, namely to identify:

- patterns of new and emerging opioid drug use (trends)
- the mechanisms that influence these trends (availability)
- the impacts of these on opioid users (impacts)

Adopting a phenomenological methodology and using Giorgi’s process of ‘interrogating the data’ a number of themes emerged relating to these objectives. The trends of opioid use produced themes pertaining to some emergent trends; that trends can be localised and are susceptible to change and that there will ‘continue to be something’, some opioid that can be misused. These trends were influenced by availability, where a complex relationship exists, influenced by pharmaceutical companies, prescribers, New Zealand legislation and regulatory initiatives and opioid users themselves as creative and flexible people. The third objective, that of the impacts of these emerging trends and availability, produced themes highlighting the complexity of real or perceived harms to users and the wider population. As such, these themes referred explicitly to the identified harms of opioid use; that some emergent trends generate more harms than others; the relationship between availability and dependence and the impacts of ADFs,
4.2 Participants

4.2.1 Service user participants

4.2.1.1 Demographics

Nine opioid using participants were recruited. This sample included seven males and two females; they ranged in age from 34 to 56 years; predominantly self-identified as New Zealand European (n=8) and also including ethnicities of Māori (n=2), British (n=2), Niuean (n=1), Australian (n=1) and Jewish (n=1). Three of the participants were in long-term stable relationships; one was employed full time and four were employed part time. Six participants opted to be interviewed in their own or a friend’s home, two at the Drugs Health and Development Project (DHDP), also referred to as the ‘needle exchange’, and one at a venue convenient to both researcher and participant.

4.2.1.2 Substance use journeys

Although these participants were selected to represent the experiences of an opioid using population, there were individual similarities and differences between them. Most of the sample reported their first opioid use in their teens, with 13 years being the youngest. Two participants reported that they did not start using opiates until their mid-20s, although they had used other drugs prior to this. One participant had been using for just ten years, with the remainder using for 30 years or more. Most of the participants reported some historical or current adjunctive use of alcohol, cannabis or benzodiazepines, to a lesser extent hallucinogens and rarely amphetamines. The patterns of use were dynamic and varied from intermittent use, use as required, and regular daily dependent use.

A broad range of opioids were used with all nine participants reporting historical use of codeine based “over-the-counter” medications; the use of “poppy seed tea” was cited by eight of the participants and “poppies” by seven; “homebake” was used by seven of
the participants and “heroin” use was reported by five. Participants cited a number of other opioid substances, referred to by both generic and brand names that they had used over the last thirty plus years. These included: “Temgesic”, “Omnopon”, “cough syrups”, “Diastop”, “opium tincture”, “paregoric”, “fentanyl”, “oxycodone”, “tramadol”, “Suboxone”, “Gees linctus”, “OxyNorm” “Duragesic” and “pethidine”.

Two service user participants had become dependent on prescribed pain medication and/or OTC analgesics. At the time of the interviews, two participants reported to be abstinent from opioid use and seven were receiving prescribed methadone. Each of these participants volunteered that they continued to ‘use something’ in addition to, or ‘did not always’ take their medication as prescribed, in preference for using their medication to suit their individual needs. All participants could be described as ‘stable’ in their day-to-day living and opioid use.

4.2.2 Service provider participants

4.2.2.1 Demographics

Five experienced service provider participants were interviewed for this study. The sample included three males, one Māori and ranged in age from mid-thirties to mid-sixties.

4.2.2.2 Histories of experience in the field

These participants were invited based on their knowledge and experience of working with and alongside opioid users for a period of at least ten years, ranging from ten to 35 years, the mean number of years being 18. They had previously or currently, worked in either one or a number of services supporting opioid clients: OST, CADS, NEP, managed withdrawal services and across the provider arms of community services, non-government organisations and district health boards and represented a spectrum of health professions.
4.3 Theme 1 - Emerging patterns and trends of opioid use

4.3.1 Introduction

At the outset of this study there was a desire to identify participants’ experiences of the patterns and trends of emerging opioid use. As discussed previously, this was prompted in part by my own observations and clinical experiences of PST use in the mid-1990s and the anecdotal increase in use of OTC medications. What transpired through the research process were stories that indicated a fluid flow of use and availability with specific trends determined in part by the complexities of time, location, supply sources and user resourcefulness. There was an overarching sense that it did not really appear to matter what the substance was, ‘here today gone tomorrow’, but that there would always be something.

4.3.2 Some emergent trends

Service user and service provider participants consistently reported on the popular perception of methadone and morphine use as the ‘staples’ of substance dependence. Whilst this had some accuracy, it also had limitations and did not necessarily reflect the ‘actual experiences’ of opioid users. An interesting observation made was how information about patterns and trends of opioid use was greatly affected by the way questions about drug use were asked. An advantage of a qualitative approach such as used in this study being that the experiences of participants were allowed to emerge.

what is reported is that morphine and methadone is used predominantly, but then that’s because they ask about morphine and methadone. They don’t actually ask about the more OTCs or... (Hugo-SP)

The focus of this study though was less on the ‘staples’ and instead endeavoured to explore the ‘atypical’ or adjunctive opioids used. Identifying patterns or trends however was complex. Whilst there was a lack of consistency over names of substances or recall
of times and events from the participants, Ngaire, a service provider, did offer a progressive recount of her observations since starting in the field 13 years ago:

...probably more homebake more than anything else... And then the change, what else we’ve seen is the change of the different brands of long acting opiates. So from the MST [morphine sulphate] right through to what we have now is the oxycodone, Oxycontin. Then the combinations, yeah, well the morphine is still there and it is still used widely, but Fentanyl patches have come in as well, not used in an abusive way but there is the potential. The re advent of Suboxone in later years, the Temgesic/naloxone combination... And I guess, even if we go to the more of the street use, to the poppy seed... I think now, that sort of scene has gone on a downward trend. The over-the-counter codeine additives, to things like Panadol and ibuprofen have sort of succeeded it in a way and there’s a lot more over-the-counter use of the analgesic preparations (Ngaire-SP).

Despite the overall lack of succinct stories, there was a general picture of emergent trends from the participants. These could be summarised over the last few decades to include the introduction of methadone maintenance treatment in the early 1970s; the changing role of the pharmacist with a reduced need to compound medications containing morphine and codeine, the decline of heroin importations and the subsequent increased utilisation of ‘homebake’ and morphine in the late 1970s to 80s; PST use emerging in the mid-1990s; OTC analgesia in early 2000; oxycodone from 2007 and buprenorphine reintroduced as combination buprenorphine-naloxone, manufactured as Suboxone in 2011. What was apparent from the participants’ recounts was that the range of substances used is diverse and their use reflects what can be sourced or created at any given point in time.

**4.3.3 Trends can be localised and susceptible to change**

To add to the complexity of identifying trends in a linear or substance specific way, it became apparent that trends could be both localised and readily susceptible to change. These were influenced in part by geographical locations reflecting climate, space,
prescribers, suppliers, displacement effects and drug subcultures. Participants talked about the South Island in particular having a proliferation of opioids available, which in turn had implications for the population that lived and/or moved to the area. Owen for example told of how he moved to Dunedin in the 1980s to find not only more people using but also “more people being free and easy with it”. Nigel, who had a similar experience reflected on the reason for this:

Oh, yeah. When I went to Dunedin I only knew about, the only opiates I knew about were poppies, morphine and homebake. But then I went down there and they had opium tincture, OT, and Paregoric which is stuff called camphorated opium... Because there were a lot of people down there going to doctor’s school and chemist school and some of them could be deviated by the local community into doing other chemistry stuff, helping them out (Nigel-SU).

The service providers had a similar understanding when it came to what was available in certain areas and pointed, in particular, to the idiosyncrasies that arise from local activities, including the role of regulation by the criminal justice system. Thus, Tristan reported that:

...it’s a comparatively small market and, you know, it only needs one dealer to get put in jail and you know, the whole thing changes, and one big bust and there will be a recalibration of what people use and what is available (Tristan-SP).

The participants’ stories told of trends influenced by local communities and subcultures, although the emphasis of the stories varied. Service user stories tended to address how a local trend supported or affected their supply, whilst the service providers tended to see a broader picture of how a trend was influenced by external forces, such as regulations and restrictions.
4.3.4 Through the years ‘there has always been something’

All of the participants at some point in their interviews referred to substances’ fluctuating availability, the challenges of sourcing a preferred substance, or the opportunity to use an alternative, some of which told of a particular era. Thus, there was heroin in the 1960s through to the late 1970s: “back when there were heaps in the country, there were lots around. All the bikies had it under control and they were getting people to bring it into the country for them and they were getting heaps of it, they were bringing so much in it was unbelievable” (Craig-SU). There was a proliferation of poppy plants in the 90s: “When I first started using them [poppies] they seemed to be growing out of cracks in the pavement, basically, well now” (Owen-SU) and the advent of poppy seeds: “Yeah, yeah, we would get kilo sacks...Oh, must have been about ‘95. But someone must have told like the authorities about them ‘cos then they weren’t around so much” (Nigel-SU). Then more recently the OTC analgesics: “There are more Panadeine-plus Nurofen-plus available just over-the-counter... Yes, I’ve noticed, there’s been ads in like the Listener” (Owen-SU). For others it was about access and available supplies, which will be reported on later.

The underlying story that emerged through these narratives was an acceptance that things would change, but that there would always be something. There was the belief that some new pharmaceuticals would appear or that some ingenuity would be applied to develop or adapt a substance to meet the needs of users. Whilst Daniel (SU) did consider at one point that the opioid users were perhaps a “dying breed” and that methamphetamine was the substance of the 2000s, Susan (SP) stated that “there is always something that will always replace something that goes” in so doing epitomising the general consensus that there would always be opioid users and that there would always be opioids that could be used.

4.3.5 Summary

This theme has described the patterns and emerging trends of opioid use in New Zealand as reflected in the participants’ stories. Whilst it is well documented that morphine and methadone remain the dominant substances of use, it is also evident that there are many other opioids that come and go from the scene, although service user
participants in particular felt these were seldom asked about. Some of these substances are noted more prolifically than others such as ‘homebake’, PST, OTCs and the recent availability of oxycodone indicating emergent trends. What is also evident in the stories of these participants is that these trends can be localised, to a geographical location or to the activities or actions of a local population. Despite this localisation, there is an overall sense that opioid use will continue, just as there will be a continuation of opioids of different sorts to support that use.

4.4 Theme 2 - Availability and access to opioids

4.4.1 Introduction

Participants described how the availability and access to opioids was integral to the emergence of trends. Service user (SU) participants in particular told of informal sources; the importance of relationships, notably with prescribers; and the need to be both creative and flexible in their approach to accessing whatever was available. They also reported on the ‘cooking’ and distribution processes, expanding the availability discourse beyond opioids themselves to also include precursors and potentiators. The service provider participants recounted stories of a broader and systemic nature, reflecting more widely on the role of pharmaceutical companies, PHARMAC, prescribers, prescribing guidelines and regulations. What follows are the descriptive statements and stories that address the topic of availability and the question of what influences these trends.

4.4.2 Pharmaceutical companies are integral to the supply of opioids

This theme describes a dichotomy in the business of pharmaceutical companies. Recognising their role in the supply of medication, but also as a supplier of drugs; providing to both the wider population for pain relief and to the dependent user; to make medication available but also to grow market share in a competitive business; to inform the public of medication availability but also to adopt strategic and powerful marketing approaches.
4.4.2.1 The business of pharmaceutical companies

The role of a pharmaceutical company is to develop and produce drugs and pharmaceuticals, licensed for use as medications, perceived as being of value to the health of society. The participants in this study however saw the intent of their actions as being different to that. Participants acknowledged pharmaceutical companies for their role in producing medications that provide stability (and/or chaos) in the lives of opioid dependent individuals yet they also saw them as a primary supplier of drugs. They saw the development and promotion of opioids influencing what is available to both the new and the dependent user. Both the service users and providers articulated this dual role:

*They are big corporations, and that’s what they do. That’s their whole kind of mission statement, the same with alcohol. I don’t mean to sound cynical but growing market share is what they do, and ideally they are developing better medications as part of that but the fact is, that the two get mixed up* (Tristan-SP).

*They [pharmaceutical industry] keep supplying and supplying, and keep the opiate users going... But the thing is, unfortunately, well not unfortunately, the same medicines that are being abused here are vital to patients. It’s a double edged blade* (Orlando-SU).

Increasing market share and generating profit were seen to be the impetus behind pharmaceutical companies’ development and promotion of medications with participants pointing to the excessive creation of a range of similar, but slightly different or rebranded pain relief medications.

*And I think that’s about the pharmaceuticals trying to grow their market, and that the ‘plus’s’ is one way of doing that and now with some restriction on that, they seem to be developing different formulations of you know, kind of quick release paracetemol, and re-absorption paracetemol and paracetemol mixed with ibuprofen, so I think that’s about market growing and the Nurofen Plus, Panadeine Plus is one way of doing it. And that means they are going to be more available to people* (Susan-SP).
Pharmaceutical companies may argue that they are responding to demand, yet participants in this study perceive their production to be excessive, and primarily in the interests of their own profits.

4.4.2.2 **The marketing and promotion of pharmaceuticals**

Participants perceived that creating the drugs was only one part of the issue. The second part was the intense and deliberate marketing seen to surround these products. Participants acknowledged that pharmaceutical companies put resources into the research, development and trialling of medications and that these investments needed to be recouped within a competitive market. Regardless, tensions ran high with service users such as Ursula becoming dependent on prescription medication. She was clear about the objective of these companies:

> You know, these drug companies are quite cunning, you know. They put a hell of a lot of, you know; it’s given a lot of thought, they know that’s addictive... A lot of thought has gone into getting people addicted and there is a lot of money involved. You know, they don’t put silly people in charge of getting these things out there and I think people have to be aware of that (Ursula-SU).

Hugo notes examples of this strategic marketing in relation to the recent release in New Zealand of both oxycodone and the buprenorphine/naloxone combination. He refers to oxycodone’s clever marketing as an acceptable alternative to morphine, its name suggesting a codeine rather than a morphine base, in addition to the belief that the company is blatantly ignoring its known abuse potential. Similarly, buprenorphine, the active opioid ingredient of Suboxone, previously released in New Zealand, under the brand name of Temgesic, is now undergoing a rebranding.

> Well, all I know is that Mondi-Pharma introduced oxycodone into New Zealand about, was it five or six years ago and they put a lot of energy into marketing it, as they did in Australia, and in US, and Canada. And it has been a drug of abuse for a long time. ...in 1980, there were problems with oxycodone oral tablets being misused, that’s 30 years ago! ...it’s a very clever name, oxycodone, so people

~ 92 ~
[including prescribers] think this is a type of codeine where in fact it is actually more potent than morphine...and part of the success is that it was more acceptable to patients, who of course knew about morphine and knew that if you got onto morphine, things were really serious...and [Suboxone] a long time ago, yes it was 13 years ago, I did try and say that just putting naloxone in does not solve this problem. But it has got a different name now. It’s the same drug, it is called buprenorphine. It has different dosages but it is the same drug! (Hugo-SP).

In addition to these strategic marketing approaches, Susan posits the capability of direct marketing by pharmaceutical companies nowadays, targeting not only prescribers, but also the general population through television commercials and direct mail:

_Nurofen Plus. So it had a big marketing programme around that...Yeah, yeah, and direct marketing. Pharmaceutical companies do direct marketing. They never used to be allowed to do that, to promote that perception that you can fix things with the pill_ (Susan-SP).

Pharmaceutical companies may indicate that they have their own ethics and morals that they adhere to, and Callum, a service provider, notes how “_there will be some that are a bit more unscrupulous than others and some that respond to the effects of the drugs more readily than others_”. As such, there is a perceived discrepancy in meeting a demand or responding to a need. The sale tactics and targeted marketing noted above align to this, largely, placing the responsibility of use on the user. The user is reliant on the information received, often from the pharmaceutical company itself, which in turn can distort the supply/demand relationship. As Olivia, a service user noted, “_if there was no supply there would be no demand, would there_”. Participants’ journeys reflected this relationship, with the availability and supply influencing the demand, with the long-term drug seeker sourcing whatever was available, the occasional non-dependent user believing they required stronger pain relief and the ‘naive’ user becoming dependent.
4.4.2.3 **Summary**

This theme has placed considerable focus on the pharmaceutical companies in terms of their ethical consideration and practices around the development, promotion, branding and marketing of opioids. Participants recognise that pharmaceutical companies are meeting a need and a demand, but a dichotomy is created when it is also indicated from the experiences of all participants that there is an ‘intentionality’ to growing market share and thus the promotion of medication use. Consequentially the vast and growing supply of opioids provides a considerable amount of what is available to both the ‘naive’ and the initiated user.

4.4.3 **Prescriptions as a primary source of adjunctive opioids**

Just as pharmaceutical companies were seen as featuring strongly in the supply chain of opioids, so too were prescribers. Participants drew the link between pharmaceutical products promoted to prescribers who in turn provide these to ‘patients’. Participants shared examples of how this supply chain generates or perpetuates misuse and/or provides a supply that is subsequently redistributed on the ‘street’. Participants talked of the relationships that they built with prescribers. They also told of prescribers varied motivations and approaches to prescribing, resulting at times in ‘aberrant’ behaviours amongst some practitioners. No particular prescribing group were exempt from this scrutiny, with opioids being available from GPs, hospital specialists and medical registrars. Participants also reflected on the guidelines that are available to encourage best prescribing practices, the roles that pharmacists have and the influence of national bodies such as the MoH and PHARMAC.

4.4.3.1 **Some prescribing practices could be described as irresponsible**

Service provider participants painted a picture of ‘aberrant’ prescribing across a number of professions, although service users discussed working to use this to their advantage. Service users frequently reported on GPs, as prescribers with whom they frequently had contact and being the practitioners to target. It was generally perceived that twenty plus years ago, a good ‘sob story’ would suffice in sourcing ‘medication’.
Yeah. Well, I have always been really lucky, I have always found drug doctors you might say, and they, they broke the law by writing for drug use, instead of writing for ailments that needed that particular drug, or whatever, or sleeping drug or whatever (Craig-SU).

However, it was felt that these GP relationships were changing, with participants reporting that ‘the friendly GP’ was less easily swayed. The detail of stories told was required to be more elaborate and referrals and information sharing was occurring with addiction services. As Nigel highlighted “Yeah, well, you’ve got to think about what they’re going to come back at you with to turn you down so you’ve got to work it out so you’ve closed up all the loopholes so they can’t say no” and he also noted how: “quite a lot of doctors and sometimes groups of chemists go up to the clinic for meetings about what are some of the things drug users will do to try to get one over on them” (Nigel-SU).

The actions of hospital doctors and specialists frequently frustrated participants. One service user, who was prescribed opioids for the management of pain, reflected on how easy it was to obtain opioids. Somewhat paradoxically, she was both relieved and angry at the prescribing that had occurred for her:

The surgeons, you could just get anything you want off them really, and I used to think, can I get anything off these guys because I am a good middle class white girl really, you know, I just really found it quite alarming that they would write a script out for anything on the one hand, but on the other hand, I was really grateful...(Nadine-SU)

Tristan (SP) reiterated the inappropriate prescribing. He believes much of it originates from the hospitals, from the specialist and/or the registrar, which in turn influences the practices of the GPs. His story is not about placing blame, but rather critiquing the system that perpetuates a narrow view of health care, limited in its considerations of longer term outcomes and complex presentations.

A lot of the discharge prescribing, discharge scripts, discharge summaries etc. are done by junior doctors, who aren’t sufficiently
aware of these sorts of issues. So I think there is a problem with hospitals in particular... I don’t think there is sufficient attention paid to the possibility of addiction and also the advice that is given there... So I think there is a bit of work to be done within hospitals around what medication should be prescribed... But equally there is probably, there does need to be more guidance for GPs as well... GPs would then be less reluctant to review the need for a script or question a script which came out authorised by a specialist (Tristan-SP).

4.4.3.2 The motivations for prescribing practices

Participants’ understandings about the motivations behind prescribing were another aspect that came through strongly in these stories. The challenges for prescribers in ‘getting it right’ did not go unnoticed by the participants, as a frustrated, yet sympathetic Nadine (SU) stated: “everyone’s so different. It must be hard to know what to give people”. What emerged through these stories though was that poor prescribing practices resulting in greater access to prescription opioids could generally be attributed to ‘ignorance’- prescribing out of naivety, ‘arrogance’- as the prescriber who knows best or ‘aroha’- prescribing out of compassion.

The ‘ignorance’, or naivety of prescribers was noted by both groups of participants, reflecting that despite the evidence out there, they just did not appear to know or consider the ramifications. Several participants reported that prescribers would either start or continue to prescribe substances, without consideration of the addictive potential of a substance, the history of the client or best prescribing practices. They did not appear to consider in their decision making, that prescribing can increase demand or that alternatives could be offered. Oxycodone is offered here as an example:

*But the thing with oxycodone is they would prescribe a very small amount of it and, depending on the situation, this is how the patient would usually get hooked and so you get some oxycodone and you take it as prescribed not knowing, but then when you stop taking it, you still feel terrible. So you go back into the doctor and you get a bit more. And that is where the doctors messed up. They kept on giving*
and they should have gone, Sorry, here’s some DHC or here’s some codeine (Orlando-SU).

Tristan’s (SP) concerns about the ramifications of ongoing prescribing or supplying of pain relief medication particularly through not well considered discharge summaries from hospital registrars have been reported previously. Susan, frustrated by the assumptions and generalisations made, highlights the naivety of prescribers who do not consider their role in the possibility of a distribution process:

I don’t know. And you see, doctors, they’re human like everybody else, they probably look at this nice lovely lady who comes in, oh, she’s lovely, or she’s not a drug dealer, or a drug user. But she probably aint, but she probably knows someone that’s gonna sell her misties or her drugs for her, you know it’s that naive view (Susan-SP).

In addition to the perceived ignorance, participants also experienced an almost ‘arrogant’ approach to prescribing. This also had a roll on effect to GP prescribing and led to safety and supply concerns. It was acknowledged, in the Wellington region at least, that there was some increased communication and improved practices occurring that reduced some of this. However, Callum (SP) was infuriated by the practice he saw predominantly occurring among private prescribers.

Part of the problem is that you get pain specialists and then you get primary clinicians that carry on the recommendations of pain specialists. And pain specialists prescribe for pain but they are not all that good about when that prescribing for pain actually becomes prescribing for dependence and pain... and they go, “oh, I am a pain specialist, I know what I am doing”. And they will continue to prescribe these really liberal regimes for people where basically they are picking up once every five days or every seven days but they are not consuming any of the opiates on site (Callum-SP).

The compassion or ‘aroha’ seen in prescribing practices was reported by many participants, the perception being that prescribers genuinely wanted to help, albeit
somewhat misguided: “because they were interested in helping out in that field” (Craig-SU); “no, they want to help. A lot of it is actually misguided wanting to help” (Orlando-SU); “and there is a thought that ‘if I [the GP] don’t do it, someone else will’... ‘And at least I can be the doctor prescribing it and look after them” (Callum-SP). Owen (SU) described his understanding of where that compassion comes from:

> It seems like odd behaviour. Maybe, I know for a fact now that one of the doctors had been an addict in his own time. Also one of the other doctors, had a, his son was an addict, which is actually quite common. At one stage, umm, the profession with the most drug addicts, that they knew of anyway, was either doctors or pharmacists... I think a lot of the doctors, I am sure they believed they were doing the right thing. I don’t know, whether they believed whatever story I told them, whether they knew I was an addict and thought they were helping with my addiction, I don’t know (Owen, SU).

It was evident that inappropriate prescribing practices are neither straightforward nor new. Ngaire has experienced this in her time working in the field: “It’s something that’s been done for years...bad practice and nice GP’s...just being continued on. Yeah. Same old problems that ever there were” (Ngaire-SP). What results is excessive or inappropriate prescribing, increasing the opportunities and availability for misuse, the complexities of which result in there being no one solution to curb this route of accessibility.

4.4.3.3 Guidelines exist, but are not well adhered to

A response to inappropriate prescribing, with a consequential effect on opioid availability, would be the provision of guidelines that set out best prescribing practices and precautions. Participants discussed a number of those that existed but reported that the problem with these was that they were not well followed. Tristan goes on to reflect on the use of the guidelines and the ramifications of this.

> I think the guidelines are out there. I don’t think they are particularly well followed. I don’t necessarily know why that is. There is not enough scrutiny. People are aware of the guidelines and probably
largely feel that they are following them, umm, and don’t give
sufficient possibility either to whether this is being diverted...they
aren’t ready enough to challenge [the client or the specialists]
(Tristan-SP).

This lack of knowledge or understanding of the guidelines was also noted by service users. They also experienced prescribers who were either not aware of, not up to date on, or did not follow the guidelines. Orlando (SU) reports that as a dependent user he is frequently more astute to the availability and abuse potential of emerging drugs some time before the prescriber is. This has implications on what he will ask for and the ‘story’ which he will use in order to obtain them.

4.4.3.4 The role of PHARMAC and Ministry of Health in the availability of opioids

The emphasis from service providers on the role of PHARMAC in the availability of opioids in New Zealand is worthy of reporting. They talked about financial decisions, funding preferences and the preferred medicines list for the subsidising and subsequent prescribing of medications for the relief of medical and mental health conditions. Participants acknowledged that there was a process and a rationale, but considered that it was not the best informed. An example of this is the limited funding of buprenorphine (marketed as Suboxone) which is available for the treatment of opioid dependence, but not for the management of chronic pain whereas Callum, a service provider, suggests it could have a ‘wider societal benefit’ with its combination of pain relief, lower misuse potential and minimal ‘street’ value. When this preference for funding results in a substance that has a long history of abuse potential, such as oxycodone being more available than that of buprenorphine, notably Suboxone, frustrations are apparent. Hugo discussed this focus on finances, rather than efficacy or consequences:

…it [oxycodone] was introduced here and I can’t remember much in
the way of warnings or concerns at that time at all...and then
PHARMAC get interested ‘cos of the costs, because at one stage it
was costing more than double morphine, so then they started to get
interested in cost containment and so they supported programmes to

~ 99 ~
reduce the prescribing of oxycodone, such as happened in [a] DHB (Hugo-SP).

Recognising PHARMAC’s influence over availability through prescribing, coupled with their current data collection systems, service provider participants appealed to PHARMAC and the MoH, as national bodies, to focus some resources on developing a national prescribing platform. They argued that this could inform both national prescribing practices and more localised practices. Owen, a service user, also recognised that a centralised computer system provided greater means for checks and balances and reduced the chances of “maybe, say 100 morphine pills that could go west and no-one really cared or it wouldn’t be noticed” and as Callum (SP) very passionately pointed out:

I think the Ministry of Health has a responsibility to our prescribing nationwide. No-one else can do it. The DHBs can’t do that, it is just ridiculous. I think the most important thing is that we have for all controlled substances, there needs to be a cloud prescribing system and we need online prescribing so PHARMAC can look, and Medicine Control can look at... The amount of money that PHARMAC can save in five years would more than pay for the setup of the electronic scripting or the cloud scripting, you know, and it gets rid of a lot of administration around restriction notices and around looking into GPs who are doing dodgy prescribing. You see it instantly, it, it defies belief that we don’t have electronic prescribing for dependence causing substances. Everyone else in the world does. Part of Australia do, South Africa does... (Callum-SP).

4.4.3.5 The role of the pharmacist in managing availability

Participants reflected on the historical role of a ‘friendly pharmacist’ assisting in the availability of opioids: “Yeah in the 80s. Chemists would sell it [opiate tincture]” (Nigel-SU)

But it was never gonna be easy. You still had to sign for it. Chemists weren’t meant to sell it. But there was this one chemist. We thought
that he had an understanding, that he knew what we were up to and like (Quinten-SU).

However, participants also noted the changing role of pharmacists as they faced increased regulatory requirements. There was a shift from the pharmacist as being seen as an independent practitioner involved in the compounding of medications from base materials, to practitioners who were being held accountable for their actions and able to provide a means of checks and balances in the distribution of prepared medications. As Hugo (SP) stated: “I think pharmacists are much better regulated and there is more risk to them now if they dispense it, if they are dispensing aberrantly”.

These pharmacy regulations and accountabilities were considered by participants to be directed at curbing the availability of methamphetamine and its precursors. The roll on effect this had on OTC medications was largely seen as a positive, due to the harms that users considered these medications caused: “they were quite loose about selling them [OTCs] and I don’t think there was the fear... P wasn’t around or anything like that, now they have taken the pseudoephedrine out of all the drugs, obviously it’s the only way to do it” (Ursula-SU).

Whilst the relationships and roles may have changed, there was a sense that users could still source a supply from pharmacists; it just needed to be considered more fully. Ursula, an OTC opioid user reflected that she needed to plan her actions a bit more, but that this did not actually stop her:

Well, it got to the point where you have to sign... You used to be able to buy it quite easily with whatever it was in and then the government, or somebody, brought in some restrictions here to start having to sign for it and I always had to remember which chemist I had been to, and which one had a book and which one had a computer (Ursula-SU).

4.4.3.6 Summary

This section has covered the prescribing and dispensing practices of the medical professions recognised as being major players in the supply chain of opioid availability. The participants identified the importance of forming relationships and also that
individual personalities and motivations come into play in this regard. Even when regulations and best practice education and guidelines are available to support prescribing and dispensing of medications for effective pain relief and substance dependence, whilst minimising abuse potential, they are not always adequately adhered to. It can be assumed that there is an overall intention of good in prescribing, however, a variety of reasons exist that potentially include a lack of skills, knowledge, competence or inappropriate emotive responses which mean that inappropriate prescribing or dispensing occurs and that a supply of opioids is continuously available for misuse or abuse.

4.4.4 New Zealand’s legislative and regulatory initiatives

This theme explores some of the contributory influences of legislative and regulatory policies and practices in the supply and availability of opioids. Police enforcement practices and the opportunities for border control as well as unregulated or unsanctioned market controls did not go unnoticed by participants. Neither did the contextualising of this discourse that recognises some of the idiosyncrasies of New Zealand as an island state: “Small country. Small market. Island. Good border control. Lots of sea, no warring countries on our borders” (Tristan-SP), with a pattern of substance use that is notably different to much of the rest of the world.

*I think we are different to everywhere else. And once again it is down to border control and supply. We still don’t see a lot of heroin or cocaine, we don’t have crack here which is huge over in Britain and other parts of the world. We don’t have heroin, well, we don’t have much of it* (Ngaire-SP).

4.4.4.1 The enforcement of legislation and regulations

The enforcement of legislation by police was considered in relation to opioid availability. Participants recognised that there were occasional arrests, and that these would swing the balance of supply by putting a dealer out of business for a while. From service users, this notably related to the enforcement of precursor substance possession used in the ‘cooking’ process rather than opioids specifically. Nathan for example
provides stories of how he or his friends would get raided and taken out of the action for a while, the consequence of this being that a source ends.

*I went into town and took my dog with me and I came back and the house was turned upside down, the police had come and raided us because they were onto the AA and AC... And then it's the old thing, and someone gets busted, and they nark, and it all gets shut down. Well, not all shut down, but people start getting five or six year sentences for cooking. Yeah* (Nathan-SU).

However, in general there was a sense that a blind eye was turned to the possession or supply of opioids, and that for the police, it wasn’t worth their while: “*I think the police would need to be particularly dumb - unless they have got an enormous rap sheet on the person, and a recent history of known opiate use-why would they waste their time*” (Susan-SP), and as Daniel commented in conjunction with his concern for the younger generation’s access to methamphetamine, and the associated behaviours, the focus of police attention and prosecution was typically methamphetamine, not opioids.

For the service providers, discourse was about the enforcement of regulations, sale restrictions and labelling. This was notably for OTCs and was again seen as a secondary consequence of the government policy that focuses on targeting methamphetamine production and use, although it was in essence seen as a positive move. Examples noted by the participants as having some influence in reducing access and availability included taking opioids out of the ‘line of sight’ to behind the counter, requiring signatures and thus accountability, ‘blacklisting’ and liaising with other services. From the service users perspective, whilst these actions had an effect on availability, there was a sense that much of it could be worked around to ensure that access was maintained. They recognised though that the bigger benefit was in the reduction of availability and sales that contributed to the creation of dependence amongst ‘naive’ users and the harmful effects of adjunctive anti-inflammatory use: “*basically, it stops, you know, the people that are not as clued up from damaging themselves*” (Orlando-SU).
4.4.2 The efficacy of border controls

Border controls and enforcement were perceived to have a more significant impact on opioid availability than police enforcement activities. Participants saw that the increase and the diversity of identification and tracking resources introduced to New Zealand have resulted in significant limitations on imports notably with substances such as heroin, particularly when compared to overseas availability.

Yeah, yeah. There is a lot more getting into Australia than what New Zealand does. Yeah, yeah... They [Australia] have put restrictions in place, but there are still more ways of getting it in. Yeah. There are too many people trying to make a quick buck. Mostly comes through importing...The [NZ] Customs had sort of got onto it, and thanks to Mr Asia and all that, the Customs had gotten onto it and really jumped on to it. They bought some machines from England, some X-ray machines, they started getting people from overseas like Taiwan, Thailand, and places like that and they started training dogs to sniff out the heroin and stuff and ummm, that was it really. Yeah, the border controls and the importation... (Craig-SU).

Although some personal inconvenience was reported by both service users and providers, this enforcement was seen as a positive thing and again, it was noted to be particularly so when it had an impact on substance availability such as methamphetamine. However, Susan, a service provider does refer to figures indicating that just a percentage of what is bought in to the country is captured at the border, assuming that for many importers, it remains a lucrative business.

4.4.3 Unsanctioned restrictions are localised and can make life difficult

An additional point made by both groups of participants related to restrictions placed on substances that are not necessarily part of sanctioned legislative or government regulations. One example of this that service users noted was the unnecessarily punitive approach they considered was taken to opioid substitution therapy. They recognised that the intention was to enforce controls and limit the opportunities for ‘street methadone’ availability, but considered the outcome as ‘labelling’ and targeted the stable user.
Another example was the overly restrictive approach of some pharmacists, perceived by service users to excessively enforce restrictions on the sale of some OTC medications such as Panadeine and Marezine, simply because they were known opioid users.

The most significant story that dominated this theme though refers to the unsanctioned restrictions that retailers themselves placed on purchase of stock and resale of poppy seeds. As the popularity and use of poppy seeds increased through the 1990s retailers were seen to get frustrated by the increase in clientele and opted to purchase seeds that were prewashed and as such, had minimal opioid content and/or to sell to specific client groups:

They cracked down on it because too many young people were getting into it. And blab blab blab blab telling everyone... So they cut it back by either heat or by washing the seed, I don’t know what they did but for a long time you couldn’t get the good seed... I know they were only buying washed ones and then selling to registered bakers, but now all of a sudden, it is available again (Nathan-SU).

Whilst availability remained, it was limited. Alternative supply sources could be found, although higher prices were paid and purchasing from what were considered to be unscrupulous retailers was required. As Owen highlighted “I saw them [a local dairy] in the local rag...saying that she wouldn’t sell glue to glue sniffers or something like that, and then selling these seeds...but she gets the good stuff” (Owen-SU). Participants perceived that the primary impact of this retailer action resulted in the significantly reduced availability of what both groups of participants deemed to be a cheap, legal, readily accessible and relatively harmless substance.

4.4.4.4 Summary

This theme has highlighted that influences cannot be seen in isolation, their very presence occurring within the context of New Zealand, a relatively geographically isolated nation. It has explored availability and access to opioids in terms of both the sanctioned activities of legislation and regulation enforcement and the self-imposed actions of retailers or suppliers. In essence, participants consider that the legislation and enforcement was ‘about right’, with a need to protect the young or naive user from
harmful substances. However, some consideration needs to be paid to the needs of dependent user. This includes approaches and attitudes towards OST; the impacts of stigma and discrimination and the ongoing access to opioids such as poppy seeds that are deemed to have benefits that outweigh the possible harms of the alternatives.

### 4.4.5 Users are creative, flexible people

The themes thus far have pointed to the availability of opioids through external sources: pharmaceutical companies, prescriptions and regulatory control. This theme shifts the focus slightly to explore the accessing of opioids by the actions and resources of the service users themselves. As with each of the themes there is some cross over, thus the resourcefulness of users may reflect the elaborate storytelling and relationship building already referred to with prescribers. Nonetheless, it is the emphasis on the creativity and flexibility of the users themselves here that is the focus.

#### 4.4.5.1 The ‘art’ of lying, cheating and manipulation

Service user participants were open in their telling of the need to lie or manipulate the system to obtain their opioids. For some it was about game playing, but with an underlying desire for control or a sense of achievement when a result was obtained. Craig laughingly reflected on the actions that he took to obtain a prescription. As someone living with a severe and chronic health condition, he played on the sentiments of the caring professions, spinning a yarn on his vulnerability: “So I pull that one out of the bag and get all sorts of drugs for just a little bit of play on words” (Craig-SU).

Nathan, frustrated by what he perceived as punitive and restrictive treatment from an addiction treatment service would ‘work’ his case manager and his understanding of the system in order ‘get one over them’: “you’ve got to think about what they’re going to come back at you with to turn you down so you’ve got to work it out, so you’ve closed up all the loopholes so they can’t say no” (Nathan-SU). Orlando, in addition to sourcing and playing with multiple identifications, also showed his passion and interest in telling how he would investigate and research an illness or complaint that would warrant an opioid. Thus for example his story was:
...if I go into a pharmacy and I say, ‘Look’, and let’s say I had an ID that wasn’t mine, and I go, ‘Panadeine Plus please’, ‘Ah, sorry, sir, why don’t you try some of this’. ‘No, no, Panadeine Plus is the only thing that works, I suffer from migraines and it’s the only thing that relieves the inter cranial pressure’. And they sort of go “whoa”, OK, so he has obviously spoken to his doctor, ‘alright, no problem, here you go’. As long as you have done a little bit of research (Orlando-SU).

Some of this creative story telling was simply about accessing opioids, but it was also about sourcing safe and legal supplies. Participants would frequently tell of the benefits and preferences of pharmaceutical products in which a metered dose was obtained, over ‘street’ substances where the quantities may be unknown. The elaborate stories accepted by prescribers, were often to ensure this level of safety.

I think a lot of the doctors, I am sure they believed they were doing the right thing. I don’t know, whether they believed whatever story I told them, whether they knew I was an addict and thought they were helping with my addiction, I don’t know... But I am of the mind that it is better to get safe pharmaceuticals rather than unknown quantities, quality, whatever, or however, you know (Owen-SU).

What was not eloquently reflected in the verbatim reports, although was evident when I reviewed my field notes and post interview reflections, was an underlying sense that this behaviour was not out of any malicious intent or desire to deceive. Rather, the story telling was the utilisation of a resource that the service users had, a creative ability to ‘weave a yarn’, to exaggerate a circumstance or to build a relationship. In so doing, they could support their ongoing opioid use in a manner that offered some degree of safety, or reduction in risk in what they used as well as some degree of empowerment and sense of control in what they sourced.

4.4.5.2 ‘Homebake’ and ‘cooks’ are declining

New Zealand has some notoriety for its ‘homebake’, traditionally manufactured from OTC and prescription painkillers containing codeine. When distinguished from simply
‘turning turtles’, a simple procedure of cooking up a morphine sulphate tablet, (a ‘mistie’), the service users considered ‘homebake’ to be a complex process, the skills of which are often gained in a similar way to an ‘apprenticeship’. It requires commitment, creativity and a certain type of person who then attains a level of respect from the using community. Craig recognised these attributes when describing one of his clients:

There are a few cooks in amongst that. I have got one, and he like builds cars and is very creative... He loves the, the [cooking], it is not just the injecting, it is that mechanism of turning codeine into morphine and turning that into an injectable... I can definitely see that kind of mechanical mind, ‘cos of the chemistry but it is kind of, it is industry as well. And I can understand that might be dying out because people my age or people younger are not really exposed to that mechanicalness (Craig-SP).

Service user participants reflected on the declining number of ‘cooks’ or ‘bakers’ and proffered a range of theories for this. As mentioned previously, participants talked for example of historical relationships with Otago medical students and their strong chemistry backgrounds who have now ‘drifted away from the scene’, matured or moved on in their careers. Legislative and enforcement changes placed many precursors as prohibited substances, thus reducing availability and creating higher penalties for those caught in the production processes and shifting the balance of risk. The availability of glassware has declined. ‘Recipes,’ whilst available on the internet, do not come with the teaching and sharing of skills that are intrinsic to a ‘good bake’, resulting in the finer detail and idiosyncrasies being lost and unsafe or unscrupulous practices taking place. Owen conveys many of these sentiments:

But I’ve I have known probably about five [cooks] and yeah, sort of, watched several cooks, with the intention of getting you know, starting to be a cook myself but a number of things happened, they changed the binding of the pills they were using, and several of the cooks got busted and went to prison so that was a bit of deterrent. Also you need enough, a certain amount of glassware and the chemical...most of the people that I knew that used to homebake, well some of them are dead,
and the other three stopped and basically threw their glass wear away ‘cos it was just incriminating... Once they got to their last year of college, of being a doctor, they kind of cut off all contact with us, but that’s fair enough you know... Yeah yeah and I don’t know if that is because there is more availability of other stuff or maybe the new generation just doesn’t have that kind of chemistry knowledge or sort of have the monkey on their back driving them to do it (Owen-SU).

Other stories that came through indicated that the demand for ‘homebake’ itself was declining, in essence because there are other readily available alternatives. The advent of poppy seeds offered a safe, cheap and stabilising alternative; methadone through treatment services was reported as stabilising many users and as Craig says with the availability and options of other pharmaceuticals: “Oxycontin trumps everything. Why would you bother with anything else if you can turn Oxycontin and bang it up?” (Craig-SP).

4.4.5.3 Deterrents, potentiators and precursors

The resourcefulness of users was evident through the stories. Users would always find some opioid that they could use and as formulations and/or availability changed, so too did their substance used. Some compromises had to occur in getting needs met, be it with reduced efficacy or increased side effects, but ultimately the ‘kiwi ingenuity’ appears to kick in. Daniel (SU) eloquently phrased it with: “Yes, we can make something out of shit” (Daniel-SU).

This resourcefulness was apparent in overcoming initiatives such as ADFs. Intended by pharmaceutical companies to reduce the availability or misuse of opioids, these ADFs include actions such as varying the route of administration, for example from patches or wafers, chemically combining ingredients, aversion additives such as thickening or clogging agents and the inclusion of antagonists. However, participants reported that these deterrents can be overcome. Thus patches were squeezed or dissolved to obtain the active substance; codeine dissolved and filtered; naloxone effects were endured for the benefits of longer term ‘stone’; capsules were split and substances were injected. Additionally, poppies were boiled down and the liquid evaporated; horrible tastes were
tolerated and plenty of water was drunk to keep the liver healthy. Orlando articulates the stories of determined and dependent service users highlighting the challenges these deterrents create and the consequential harms.

they are not deterrents, yeah. To an addict there is always a way, there is always a way... In general most people that get addicted are highly under-educated about these things, will do it anyway... And the more pharmaceuticals create a deterrent the more the users work to get one over on the pharmaceuticals... Yeah. It's the exact same as copyright protection on DVDs. It is literally exactly the same. They find a way to make it harder for people to pirate it. Give it a day, literally a day, and they have got a programme out there to bypass it...
Or you get, as I said, you have the ignorant group and they will just end up harming themselves drastically (Orlando-SU).

The reported use of potentiators by participants reflects another source of creativity and resourcefulness of users. These are substances used to enhance the effects of the opioid such as citric acid, acetyl chloride (AC) or grapefruit as well as OTC medications for example, cyclizine (“Marezine”), loperamide (“Imodium”) and promethazine hydrochloride (“Phenergan”). Access to them can be relatively straightforward. They can be purchased from a supermarket or pharmacy, although this seems to vary depending again on the relationship with the supplier.

I use Marezine and methadone. Mix it. That way it makes it a lot stronger and gives you more of a rush up when you shoot it up but you’ve got to filter it because there could be binders or stuff in the pills... But there are not many chemists in Wellington that will sell it just over-the-counter, even though it's not a restricted drug, it’s at their discretion and so most of them won’t sell it over-the-counter...
Yeah, they’ll sell you Phenergan but they’ll ask you why you want it but they won’t sell you Marezine anymore (Orlando-SU).

The declining availability of precursors has been discussed earlier. Service users, in their resourcefulness, however, are open to sourcing and using alternatives. Thus, they
report that they may settle for the use of substances such as white vinegar or lemon juice as an alternative to citric acid. The reported effect is that it is just “not the same” but that it is “enough to take the edge off” (Nicholas-SU).

4.4.5.4 Information sharing

Another story from service users that reflected their creativity was their adaptation to information sharing resources. It has already been noted that these participants reported that some of the apprenticeship type scenarios and tight communities of users are declining:

_I guess when you look way back at opiate use, it was very much like an apprenticeship in a way, you know, the elders taught the younger ones, and it came through. I don’t get a sense that that is happening so much anymore. There’s not those tight communities of drug users_ (Ngair-S-P).

Susan, also a service provider, highlighted networks such as needle exchanges as a source of information sharing and dissemination. However, it was the internet that many service user participants referred to. Their experiences indicated a need to gather information, access the experiences of others and be assured of anonymity. Thus Ursula, a service user, first hearing about poppy seed tea through an Narcotics Anonymous (NA) meeting, then went to the internet to find out more: “…through NA and just talking about it and I jumped on to the internet and researched it that way. I mean, you can find out anything on the internet “(Ursula-SU) and Orlando would source information about emerging pharmaceuticals to check if they were abusable. Although not clearly articulated in the verbatim of the participants, I got a sense that this was about seeking information in order to make informed choices, rather than the use of the internet to source supplies per se.

4.4.5.5 Summary

The above theme has reflected on the creativity, adaptability and resourcefulness of users. Much of this is in response to what is occurring more systemically and about the continued opportunities to source or access supplies. But it is also about information...
gathering and sharing that facilitates the safe and effective use of opioids for dependent users. Thus, stories abounded as to the attitude and aptitude of users, as survivors, intelligent and creative; but also mischievous and cunning as they enter relationships of one upmanship, game playing and challenges. They told of their adaptability, as sources or supplies waxed and waned; as new substances became available and old ones disappeared; ADFs and additives were adapted to, and new ways to enhance medication effects and avoid deterrents were tried. The internet was cited as a source of information for this.

4.5 Theme 3 - The impacts of emerging trends and availability

4.5.1 Introduction

This study set out to explore the emerging trends of opioid use, the influences of these trends, and the impacts that they had on the service user. Some general trends emerged although challenges in identifying specific trends through participants’ stories were noted. The participants’ stories of access and availability to opioids talked of specific pharmaceuticals, prescriptions, New Zealand regulatory and enforcement practices and the resourcefulness of individuals. The emerging descriptive data relating to the impacts of these trends and availability produced a theme that spoke of participants’ experiences that both caused and minimised harm. A simplistic view may see these concepts as contradictory, but the participants’ stories told of a complex interplay of harm and harm minimisation that produced a dynamic continuum. Participants’ experiences referred to the physical harms caused, particularly to the uninitiated users; the impacts of some medications and ADFs; the role of opioids in the dependence cycle and the impacts of legislation. For many, when identifying the potential harms there was also the reported potential for actions to be taken that could reduce or minimise the effects of opioid use, an interplay between the substance and the way it is used. Associated with this was also discourse around minimising the impacts of harmful use with some consideration of whose responsibility this was.
4.5.2 The harms of opioid use

The participants in this study were aware of the popular perception that opioids have a place in the medical management of pain and disease, but beyond that, they are deemed to be a substance of harm. Evidence abounds as to the risks associated with the use of illegal opioids, incidences of overdose, dangers associated with intravenous use, harms caused by contaminants and risk of dependence, many of which participants in this study had both experienced and/or observed. They reported on the risks and consequences of opioid use and associated injecting behaviour. Service users reflected on death, or near death experiences, typically attributed to the sourcing or trying out of a new substance. Thus for example when poppy tea, made from the boiling down of plant matter was tried intravenously in the 1980’s Nathan recalled how after a couple of friends died from its use “we stopped doing it ‘cos you can’t guess what the quantity, the strength of it is” (Nathan-SU). Orlando recalls his experience of trying the newly available substance - oxycodone: “I almost killed myself the first time I had that. I had a bottle of it and I drank the bottle in a day. And I lost it and I was so high” (Orlando-SU). Service user participants also told of how their injecting sites would get infected, how their veins were disappearing and how the additives or potentiators they used to enhance the effect of a substance could cause harms. These participants were, in the main, long-term users of opioids, well informed about the activities they engaged in and cognisant of the preventative measures they could take to minimise harm.

...safe as long as you know what you are doing, and generally that knowledge is passed down, you know it’s very traditional kind of thing... I have always been into cleaning out, so always, before hepatitis C was a big deal, before it was even known about, I was aware of Hep A and B and so, you know, you can get some dirty tastes, just by a bit of dirt in it, so it will always be like, bleaching an area and pouring boiling water over it, boiling spoons, all that kind of thing. So I, I think, as long as the person, someone new to the scene, as long as they are with someone who is responsible and been round for a while, they will be shown a way that is safe (Owen-SU).
This thread of experiences referring to the uninitiated user was commonplace. The concern here was not the availability of substances per se but for the “dumb arses” (Orlando-SU) that did not know what they were doing, for the damage that was occurring from the increasing number of available pharmaceuticals, combined with the lack of information or access to appropriate information through trusted networks or experienced users.

4.5.3 Some emergent trends generate harms greater than others

Opioids are frequently seen as a single substance that causes harm. However, it was evident from participants that many of the experiences are substance specific and that ‘not all opioids are created equal’. Service providers and users were clear that some substances had greater benefits over others. These substances could be described as those that are ‘clean’, with no contaminants or deterrents, are orally administrated, relatively cheap and with a reasonably long half-life. Despite individual preferences, descriptions from both groups of participants abounded with many well articulated statements in regards to the benefits and virtues of a number of these substances and their emergence as a trend.

Several participants reflected on the recent increase in the prescription opioid, oxycodone. Service provider participants consistently reported on the internationally documented increases in use, consequential adverse reactions and indications that New Zealand would see a similar effect if action was not taken to curb the use of oxycodone at this relatively early stage. Yet, they acknowledged at the time of interviews that their clinical experiences with this opioid were limited, in the main because users were often ‘hidden’ and/or not presenting to services. A service user shares her story of the complicating problems that she had associated with her prescribed oxycodone use:

...and that really fucks me off because there they were, pumping all those drugs into me for so long, it never occurred to me that it would deplete other minerals and crap in the body... And I look back now and I think I must have been, not spaced out but, softened. My capacity to remember stuff has definitely been affected, the stuff that was happening at the time I was on the drugs...and my resilience and
stuff would just have gone down. And other things round me would have started crashing... My relationship, that’s the other thing, and, you know, the stress of keeping all that stuff together, you just get worn down, don’t you (Nadine-SU).

Both groups of participants also reported on the increasing prevalence of OTC analgesics containing non-steroidal anti-inflammatories from about 2005. It was believed that the increased promotion and availability of these pain relief options created a concurrent increase in use and consequential adverse effects. Ursula, a service user noted that when these OTCs became readily available, she was actively encouraged to take them by the pharmacy to provide effective pain relief. They became a viable option for her to use on a daily basis, which she then used over and above recommended limits, consequently developing ‘three ulcers’. Hugo, a medical professional expresses his concerns:

...we also had evidence of increasing problems of over-the-counter codeine, and those problems weren’t just addiction but the consequences of taking large amounts of non-steroidal as well so these were the effect of gastric ulcers, renal disease, potassium problems... It wasn’t just the addiction to codeine per se, it was the consequences of the non-steroidal component, because all of these are combination tablets (Hugo-SP).

Responses were not conclusive on this though, with Tristan also a medical professional stating that the physical adverse effects were not that significant, both in terms of numbers presenting or severity of symptoms, and particularly when compared to some other opioid use. Furthermore, when OTCs were placed within a wider societal context that also considered harms from a social or legal perspective, OTCs were seen as a safer alternative to other emerging substances: “I see those things [Nurofen/ Panadeine plus] as, in a way are impossible to cook up, as a much less of problem than prescribed Oxycontin which is such a clean easily rectifiable chemical structure for injectability” (Callum-SP).
My take on the part is that some of the consequences [of OTC use] are comparatively low levels of harm, similar to poppy seed tea, a bit of gut upset, things like that and get frustrated with the cost but there aren’t the drivers in terms of negative consequences from use and that’s a little bit the same with Panadeine and Nurofen. Whilst we worry about people doing damage to kidneys and liver they seem to largely come through unscathed and therefore there not that need to, you know, there’s not the negative consequence necessarily driving it... (Tristan-SP).

Methadone, despite the perceived restrictions placed around it as noted earlier by service user participants, was still seen to have a stabilising effect if managed within an opioid treatment service: “that’s why the methadone programme is such a good thing. There’s all those users that no longer have to worry about how to earn money to get stoned, they can think about earning money for a bit of lifestyle and bit of diet instead” (Nathan-SU); “I always looked at methadone as being a bit of a cop out and a very last resort, and then I realised I was sort of heading on a path that I was going to end up in jail if I get, you know, I was doing a lot of shoplifting to get morphine pills and yeah, I didn’t like that at all” (Owen-SU).

Poppy seed tea which emerged in the early 1990s conversely was almost unanimously reported by both groups of participants as coming into the category of a harm minimising substance: “I mean the seeds could be an alternative and it’s not too costly so you don’t have to do crime to buy it, and it’s all clean, you know” (Nathan-SU); “If I had the opportunity I would still prefer a brew. A lot of people aren’t like that, they have the needle thing, but you get a much better stone, it lasts longer and it’s, you know, You don’t get an acute big buzz but it’s a long smooth buzz, isn’t it” (Nigel-SU); “You might easily argue that poppy seeds are a lot safer...so if people have stopped buying poppy seeds and replaced them with oxycodone by injection, that is a real bad thing” (Hugo-SP).

Ngaire summed up this continuum of harm to harm minimisation. Noting the complexities of substances and the way in which a substance is taken:
It’s all just dependence at the end of the day. It’s dependence. And in different ways they will be less harmful. One will be less harmful than another. Poppy seeds, is less harmful socially, primarily ‘cos of the cost and anything you take orally will be less harmful than medication or drugs that are being IV’d (Ngaire-SP).

4.5.4 The relationship between opioid availability and dependence

Many participants from both groups elaborated on this relationship with opioids and dependence. The journey or pathway to addiction or dependence was told in many of the stories of participants. Owen described his journey, not dissimilar to many heard in the addiction treatment field:

I tried giving up. I’d given up a lot of times, and, yeah, the first couple of times, I was shocked that I couldn’t keep... I promised myself that I would not use again, and, I’d kind of find ways around it - my birthday, it’s a really nice day, it’s a really shitty day, you know....I’m feeling good, I’m feeling bad (Owen-SU).

There is evidently a relationship between having access to an opioid and the risk of dependence, with a general perception that the greater the availability the greater the risk. Orlando a long-term opioid dependent service user was very clear about the dependence risk potential of oxycodone, but in simply seeking “a favourite”, he was unconcerned about this, rather, valuing its increased availability.

From a different perspective, Ngaire, a service provider believes that the promotion and marketing of some substances means that people will stumble across them, consequently risking dependence. She believes that taken initially to alleviate physical pain they are then used to alleviate a miscellany of other pains also. This reflects the experiences of Ursula who told of her increasing OTC use “not even really realising that I was actually making myself feel slightly high...like a thief in the night” (Ursula-SU).
Participants suggested that the causal relationship between availability and dependence was a complex picture influenced by the particular substance and the motives of the user. Tristan noted a dichotomy when comparing OTCs and poppy seeds, as emerging trends that were readily available in their time but with very different outcomes. He linked OTC availability to a consequential risk of inadvertent dependence, yet poppy seeds he saw as deterring further use of more harmful substances and offering users a means of stability in their dependence and/or self-managed withdrawal.

so if you promote them [OTCs] as being available, you are more likely to use them, and some of those people become addicted... [but] it's possible that if restrictions were put on [PST], they would more likely, they would progress onto using intravenous opiates or methadone... so my sense is if you put more restrictions on over-the-counter 'lot', then hopefully it would reduce, it would be likely to reduce the amount of people who subsequently develop more significant addictions. I am not convinced that is the case with the poppy seed tea people, I think they are a slightly different group (Tristan-SP).

As noted earlier, participants indicated that there is a constant supply of one substance or another, sourced to support an existing dependence, as a top up or as an adjunct to regular use. Availability of some substances increases the risk of dependence among some individuals and concern was expressed by participants for those people who inadvertently stumbled across opioids, risking dependence due to increased accessibility. Nevertheless, there was a sense that for others this same availability made the difference to quality of life and offered a source of pleasure and autonomy.

4.5.5 The impacts of abuse deterrent formulations (ADFs)

Another substance, or set of substances noted on the harm/harm reduction continuum was those that contained ADFs. Intended to minimise the abuse potential and associated harms, it is the stories of harms caused by these deterrents from their ongoing use or use by the ‘naive’ user that emerged in the stories of these participants. A selection of the
stories about deterrents and their impacts are provided below, reflecting some of the diversity of formulations that have been available over the years:

Actually, I think they tried [it with] methadone, the first lots of methadone they made extremely syrupy, and it rotted their teeth...Then the theory was that if it had the clogging agent, they would not inject. The reality was, they injected and got fibrotic arms so it became more of a risk (Ngaire-SP).

You know, they make these pills and they make them so that they are a lot less abusable, right. Well, when they decide just to dissolve the whole thing in a spoon and inject the whole thing anyway, they are still gonna get...but they are also going to get the horrible binder effects and things like that, and they will do it anyway... limbs amputated, thumbs and stuff like that (Orlando-SU).

We know that people will inject large doses of Suboxone and they will go through 20 minutes or an hour with terrible withdrawal, and then after that they are really high and we know that the anecdotal information coming through from the client group is that people continue to inject it (Callum-SP).

Whilst there is an indication of their deterrent effect for the wider population, the experiences of this study’s participants in the main were that ADFs are not effective in reducing use by opioid users. Susan, a service provider was very clear that the use of deterrents to reduce abuse potential was clearly not for the benefit of the opioid user: “...they’ll say we’ll put that in, that will stop them. But if they knew the client that wouldn’t bloody stop them” (Susan-SP). However, the sentiments on this theme were not unanimous. For some the inclusion of ADFs had some effect in deterring use, and some some formulations were preferable to others. Tristan, also a service provider, noted how the inclusion of clogging agents “probably did cut down on injecting benzos”; that “Suboxone seems better than Subutex”; “wafers is more ethical than pills” and that “being able to separate out the codeine from the paracetemol may be a harm reduction measure” (Tristan-SP). The discussion between Daniel and Craig, two
service users, highlighted the personal and contradictory experiences of individual preferences and particular substances when referring to the ADF of buprenorphine, introduced and marketed as Temgesic in the early 1980s.

*I thought it worked good because it stopped me shooting them up, when they put that gooey stuff in... they should have just stuck with them and left that gooey shit in* (Daniel-SU).

*Except people were still putting the gooey shit in and then getting crook on it. Yeah, well I did* (Craig-SU).

### 4.5.6 The impacts of regulations and enforcement

A number of service user participants indicated some level of criminal activity to support their access to opioids, either of a petty theft nature for financial gain, possession or as part of the distribution process. They recognised that by the simple fact that they used substances classed as illegal, their actions were identified as criminal. For some, this legal control had a deterrent effect, the risk of being caught or having a record for ‘baking’ or dealing limited their activities. Owen acknowledges that, as much as he would have liked to get into the role of ‘baking’, the fact that several of his peers who did so were incarcerated, or had their glassware found, resulted in him deciding that it was just too incriminating. Craig reports how he used to be actively involved in distribution when in Australia, but ultimately decided that the risks were too high.

*I was selling on the street and I got sick of running away from the cops and playing mouse with the cops and all that, and playing chicken with the cops and all that sort of garbo, and dodging the cameras and all sorts of rubbish, and so ummmm, I got a job* (Craig-SU).

From a wider population perspective, service users such as Nigel (SU) reported it was important to retain the deterrent effects of legislation such as the classification system that placed opioids as a class A: “*Definitely. Gotta still keep kids away from them*”. Although, Owen (SU) considered that the enforcement could be relaxed without
detriment to the public: “So I am all for [relaxed] legalisation. If you look at Amsterdam, Portugal I think they had the same amount of addicts there than before legalisation”.

Many of these service user participants reflected on the controls and restrictions in place around access to the medications or substances that they used or needed. They did not seek a blanket access to everything but rather, carefully considered the challenges of what and how to restrict. As Nathan noted:

*I don’t know. On one hand I want to get my drugs and on the other hand I know that it’s not good for too many people to have those drugs... It’s probably better that they don’t restrict the access but don’t make it so liberal that anyone can just go in and get it as well...*(Nathan-SU).

They advocated for legislation and policy that offered access to opioids, paraphernalia and safe supportive environments for recognised or ‘registered addicts’ so that they were not made criminals by nature of their dependence. They suggested several ‘schemes’ and criteria, such as minimum age and time using:

*Some sort of scheme where you are recognised as a drug user and you got a card, like a community service card that you can show at the chemist and buy certain things, not things like morphine or Valium but you know Marezine if you want it and stuff and Panadeine* (Orlando-SU).

With this they wanted to protect the wider population whilst reducing the stigmatising impact of restrictions that arose out of being identified as opioid users. They particularly pointed to the impact of restrictions placed on substances that have minimal harm compared to alternatives that can be more detrimental. Craig a service user for example noted how the informal restrictions placed on the sale of poppy seeds simply generated a need elsewhere and Tristan a service provider similarly reported that if you close down the supply of a substance that is cheap, legal and has shown to have a stabilising effect then alternatives are sought.
So it’s possible that if restrictions were put on [seed], they would be more likely to be, they would progress onto using intravenous opiates or methadone...do we reduce the availability to such an extent that New Zealand becomes a place where heroin is available as an alternative in terms of the market (Tristan-SP).

This led on to the concern expressed about the impact that regulatory control had on the opioid market. Participants believed that restrictions drove a ‘black market’ that in turn impacted on pricing, crime, unregulated control and consequential adversities. Ursula, a service user who had never engaged in any ‘criminal activity’ as such, noted how a ‘black market’ could be created.

Or they would get it off the black market, which is actually going to be worse, you know, for people like me, it would be worse... I am an addict like anybody else is an addict. It is just that, I have never been involved in crime or anything like that to get the drugs, because I have been able to buy it over-the-counter. But if somebody is in the heavy throws of addiction and they couldn’t get it then they would get it on the black market. Then they would be involved in crime and things like that (Ursula-SU).

4.5.7 Considered approaches to harm minimisation

It seems incongruent that the harms associated with opioid use have long reinforced the notion of the drug user as a risk taker and yet the experiences of participants are that many opioid users take a number of actions to avert these risks and harms. Both groups of participants told stories of practices that users engaged in to ensure that the maximum effect was attained with the minimum amount of harm from whatever substance was available.

Nigel, a service user explains how he worked to minimise the harm, yet still attain the effect, it being a carefully considered and executed exercise, working as best as he could with what he had:
Yeah- just used to rinse the OTC’s and get off the codeine. Couldn’t ever get rid of all the paracetemol though, Huh, Don’t know what damage it did to my liver. Would get 100 tabs and rinse them in water. The paracetemol just remained in the chalk and the codeine is water soluble so you just hoped that the clear stuff was OK and didn’t have too much in it (Nigel-SU).

Owen talks about the value of medication available from the pharmacy that comes as a known quantity, as a metered dose.

As I said before, over-the-counter from a chemist, when you know it comes from a chemist, it can still be unsafe because of the way you cook it... But on the whole it is a lot safer than a pack of powder that you don’t know the quantity or quality of (Owen-SU).

Ursula, also a service user, noted how, there were more ‘unknowns’ when she tried to access opioids overseas that generated risks she was not prepared to take. She used the term ‘quality control’ to assess and make decisions about what she was accessing.

Another approach was to ensure that substances were available or could be utilised as a ‘stop gap’. They were used as an alternative to, or in between opioids that might generate harm associated with cost or access, or to curb the debilitating effects of withdrawal. The use of poppy seed tea has already been noted for this role, but OTCs were also suggested for this: “I wonder if it [OTCs] was more, for a lot of people, more of a, just to get me through to the next hit type of thing, filling in the gaps” (Callum-SP).

This sub-theme primarily reports on the minimising of harm through substance use per se. However, a number of the service user participants also talked more generally about their self-care to minimise harm. For Ursula it was about drinking plenty of water to keep her liver flushed and functioning well; for Quinten it was about encouraging himself to eat, and to eat well and for Nathan it was successfully battling to give up cigarette smoking. Each of these experiences reflects the need and desire to keep well within the context of ongoing opioid use.
4.5.8 Participants reflections on the issue of responsibility

An interesting perspective that emerged from participants regarding the impacts or implications of trends and availability related to where they perceived the responsibility lay. Service user participants in the main took responsibility for their role in the sourcing, accessing and use of their opioids. However, participants also reflected on joint or combined responsibility to reduce harm.

Both participant groups pointed to the role of pharmaceutical companies. Examples of these companies promoting or distributing supplies and increasing availability have been noted previously. The ethics and practices of using ADFs have also been referred to. Additionally, the limited role of pharmaceutical companies in advising of the dependence potential of the substances that they promote is proffered as an example of questionable responsibility taking. Ursula, a service user, was adamant that if she had the information, about the addiction potential of OTCs then she would not have used them in the way that she did and Hugo stated:

companies would say ‘we are responsible’, we have always labelled our over-the-counter codeine as being taken in appropriate dosages and not mixed with alcohol, not using excessive dosages and they have always had warnings about if you have ulcers and so on, so they would claim that they give warnings about the dangers and appropriate dosage. What hasn’t gone on has been explicit about the addiction potential. But now we are required to do it because of concerns in UK, Australia, and New Zealand about increasing over-the-counter addicts (Hugo-SP).

Information sharing more generally was also perceived to minimise the potential for harm. Participants saw this as a responsibility that could be shared that ranged from the pharmaceutical companies appropriately disseminating information in their promotions, advertising and labelling, to awareness and safety education at schools or through the developing years, catching young people when they are both naive and intrigued.

There is a burden of responsibility placed on the medical practitioner in their role in prescribing opioids that can generate dependence and supply sources. The practices of a
number of prescribers have been noted as well as the frustration of guidelines not being adhered to. Service providers indicated that if pain relief was not promoted so heavily, if prescribing was carried out according to the guidelines and if pain management was taken into consideration with other factors such as dependence risks, then the need to manage opioid misuse and dependence would not be so great. As Craig stated: “it is so complex, there is quite a large number of our clients have... have been discharged from hospital with an opiate script and that script just seems to bump along. It’s the pathway of least resistance for everyone” (Craig-SP), and as Owen highlighted: “I think a lot of the doctors, I am sure they believed they were doing the right thing. I don’t know, whether they knew I was an addict and thought they were helping. I don’t know...” (Owen-SU).

In considering whose responsibility it is to minimise harm, particularly from a broader health system perspective, there is a sense that this is a national responsibility. As noted previously, service providers described perceived anomalies in PHARMAC spending. Beyond this, there was also a sense that if the management of pain was better considered and approaches other than prescribing were encouraged, then resources could be better allocated and that if opioid prescribing were more appropriate, the inadvertent misuse or consequential ‘street’ availability of opioids would not be so high. It was also suggested by service provider participants that a national electronic prescribing system, such as a cloud system successfully utilised overseas, be developed. They stated that this would not only reduce administrative tasks associated with prescribing, but would also provide an improved system for managing restriction notices and the ‘aberrant’ prescribing by doctors.

4.5.9 Summary

This theme has explored the impacts of trends and availability in terms of a dynamic interplay along a continuum of harm and harm minimisation. For some participants this is about the implications of opioid use generally, a journey of addiction, harms caused by specific drugs or the impacts of regulation and policy. There is a sense that service users know they are engaging in risk taking behaviours but will take actions to minimise harm. Both groups of participants talked of the stabilising effect of some opioids; that opioid users do not ‘ignorantly’ use substances known to cause harms; how information
can support safe, effective use and how providing a system that supports a legal supply can minimise harm. However, concern was expressed for the ‘naive’, uninitiated user who does not have the experience, the contacts, the relationships and the information to minimise the harms that are associated with drug use and the unintended consequences that may arise. The participants also considered whose responsibility it was to minimise harm, not in a move to shirk responsibility, but to share the burden, acknowledging that a multi-faceted approach may have the best outcomes and reduce the impacts of harms that opioids can generate.

In addressing the challenges of the impacts of availability and emergent trends from a harm and harm minimisation perspective Callum summed it up nicely when he highlighted that if everyone actually talked to each other, with the intent of being for the greater good, many of the issues would be obsolete.

Yeah. When you get this kind of, when you get a situation where the pharmaceutical company are talking to the prescribers, are talking to the clients, are talking with academics, who are talking to the Government – where everyone is talking together about it, one would hope that you are going to get better outcomes than a drug company who is talking to no-one and just looking at their profits; a prescribing doctor who is looking at his profits and is able to write out a script every 15 minutes and charge someone $200 bucks for it, and a client who is not talking to anyone and has honed in on their habit and their money (Callum-SP).

4.6 Concluding summary

The stories that emerge from this diverse and yet homogenous group of opioid users shows a fairly ‘standard’ pattern of opioid use (mainly methadone and morphine) interspersed with a range of adjunctive use that is set within some historical and sourcing parameters. There is an underlying sense that that there has always (throughout history) been something to use and abuse, it is just that it may be ‘a different something’.
Actions to reduce the supply and availability of opioids have been put in place, driven in the main by health, policy and legislative initiatives. However, supply sources continue, albeit that they change over time. In today’s market these are largely centred around pharmaceutical supplies available from OTC purchases or by prescription, which when combined with the adaptability and creativity of users provides an ongoing supply.

As a consequence of this supply and availability harms occur, as much by the very fact that opioid use is associated with risky behaviours, dependence and side effects. Concern is expressed by participants for the harms that impact the wider community and naive users. They also describe interventions and practices taken to minimise harm.

Regardless of the availability or in fact the implications for service users, what is evident is that trends, sources and supplies come and go. A percentage of the population will misuse opioids and some will become dependent. Some drugs are more, or less, harmful than others and users, as creative people can work to minimise the impacts of substance use. The impacts on all sectors of society need to be considered when reviewing emerging trends and supply policy. Programmes, treatment and education can be put in place at a number of levels and the responsibility to minimise harm can be shared. At the heart of this is that people will continue to use and continue to seek out some substance or another. Owen indicated that if the drugs were there then he would use them: “you know, when there is a large amount around, I take a large amount of them...when there’s not so many, I don’t take so many of them”, yet he also said that if one substance was removed from supply there would be another one that could be used to take its place. And as Nathan summed up:

I don’t know. On one hand I want to get my drugs and on the other hand I know that it’s not good for too many people to have those drugs. Some people are just going to do what they are going to do. No matter how much you educate them or lecture them and that. It’s probably better that they don’t restrict the access but don’t make it so liberal that anyone can just go in and get it as well (Nathan-SU).
Chapter 5 - Discussion

5.1 Introduction

In this final chapter, the findings of this thesis are discussed in relation to the extant literature. The overall aim of this study was to examine and gain a greater understanding of new and emerging opioid drug trends within New Zealand; the mechanisms that influence these trends; the availability of these substances and the impacts that this has, in particular on the opioid user. This discussion draws these threads together and provides responses to the research questions:

- What are substance users’ and clinicians’ experiences of patterns and trends of new and emerging opioids?
- What are the mechanisms that influence these trends and how does this effect availability?
- What are the impacts of this availability, in particular for opioid users?

Strengths and limitations of this study are offered in the later sections of this chapter as are some recommendations. These recommendations incorporate suggestions that can be adopted by treatment providers, prescribers and dispensers, policy influencers, national bodies and pharmaceutical companies. They consider the needs of the opioid dependent population as well as the wider population and ‘public good’. The chapter concludes with ideas for further research.

5.2 Objectives of this study

The aim of this study was to explore the experiences of a number of opioid users (service users) and clinicians (service providers), who have lived through, used and/or observed changing patterns of opioid use. The study was inspired by a previous piece of research I conducted that noted the increasing prevalence of PST, typically used by service users as an adjunct or alternative to other more harmful opioids, used to self-
manage withdrawal and/or maintain opioid use (Braye et al., 2007). With this understanding and some determination of equivalent dosing of morphine and methadone, the treatment service in which I worked was able to better understand and support clients presenting with PST use. Observing a subsequent decline in the availability and use of this opioid preparation, the question arose as to what impacts this decline had on clients and what, if anything, they using as alternatives? If this waxing and waning of availability of different opioids was a common occurrence, what influenced these trends and from where and how were adjunctive opioids sourced? With much anecdotal reporting but little research directly related to the New Zealand context, I saw value in pursuing this enquiry further, initially with the hope of providing better information to addiction treatment providers. As the findings emerged, I became aware that this information could also be used by a wider stakeholder group that included pharmaceutical companies, a broad range of health care providers and government and policy initiatives.

The research process has been described in detail in chapter three based on Denzin and Lincoln’s (2011) five interconnected phases. Phase one set the scene by placing myself, as the researcher at the heart of the study. Phase two described the theoretical paradigm, informing my decision to use a qualitative Husserlian phenomenological methodology. This provided a framework, or strategy of inquiry that prioritised learning about the lived experiences of participants and generated an in-depth understanding of participants’ perspectives of the research issues. Phase four addressed the method of data collection, carried out using in-depth interviews. Giorgis’ (1997) method of data analysis and interpretation, informed phase five and supported me in arriving at the descriptive data that acknowledged the individual experiences, stories and observations of opioid users and service providers.

5.3 Opioid use in context

There is much literature of both a fiction and non-fiction variety that refers to the use of opioids dating back to Neolithic times. This literature paints a picture of opioid use according to a time and place, its use, availability and impacts indicative of the longevity and diversity of opioid use. This study, set in New Zealand, in 2013/ 2014,
both compliments and expands on the extant literature, describing the diversity of opioid use, the changing patterns of availability and the implications of this, offering a perspective from lived experiences of opioid users and opioid treatment providers.

The New Zealand context is important to consider. The country itself is a relatively small, geographically isolated, island nation with an eclectic topography and climate. Its remoteness has contributed to it being one of the last land masses to be settled by humans and, as such, it has a relatively short human history. Its population is proportionately small, spread between a few cities and a number of rural towns and communities. It could be considered to have an effective publicly funded health care system, a criminal justice system that considers harm minimisation, and a progressive government. Opioid use in New Zealand does not feature strongly in the media, is not visible on the streets and does not hold a high profile within the criminal justice system. Yet, compared to other countries throughout the world, we have a relatively high level of opioid use among our population (UNODC, 2013); a pattern of opioid use dominated by pharmaceutical medications and minimal heroin (Robinson et al., 2011; Wilkins, Jawalkar & Parker, 2013); an overarching drug policy of harm minimisation (MCDP, 2007), and an ability to be creative and resourceful, an adaptability colloquially referred to as ‘kiwi ingenuity’.

Specific details and idiosyncrasies such as these are not always readily evident in the literature and leave some international literature with questionable relevance to the New Zealand context. Participants in this study have pointed to this uniqueness, some of which can simply be acknowledged as ‘the way it is around here’.

In the main, research on opioid users focuses on illicit opioid dependent users, with a notable increase in the literature of late that address the issue of pharmaceutical opioid misuse (Fischer et al., 2008; Sproule et al., 2009). Policy, regulations, guidelines and other relevant documents are typically written to reflect the needs of the general population or the specific cohorts of those who are substance dependent or require pain relief. However, it is evident from the service user participants in this study that there is an array of people who use or misuse opioids. Whilst the inclusion criteria for this study intentionally selected those with longevity of opioid use, in this small sample there was someone who had inadvertently become dependent through pain prescriptions; another
who sought pain medication to alleviate co-occurring physical symptoms and another to manage his co-existing mental health problems. Within this sample, there were individuals who began opioid use and injecting at a very early age and individuals who did not begin using until much later in life; some gave little consideration to the consequences of their opioid use whereas others had always taken precautions to minimise harm. There were individuals who made careers out of opioid use and those who had never carried out an illegal activity in their life. The stories are diverse and the experiences varied. They highlight that evidence, literature, research, policy, regulations and recommendations can provide a general insight, but cannot hope to adequately cater for each individual situation.

What became apparent through the recalled experiences of service user participants, the insights of service provider participants and my own readings and reflections was that whilst some generalisations can be made, the experiences of participants varied, influenced by their own experiences and journeys. Some overarching trends, influencers and implications were apparent, albeit complimented by the richness of insights into individual sources of supply and the personalised impacts this had on individual opioid user.

### 5.4 New Zealand trends

#### 5.4.1 The emergent trends

Historically and geographically, throughout the world, substances of abuse emerge and dissipate in waves and trends. Current indicators suggest that the naturally occurring substances derived from coca, opium and cannabis are being superseded by chemically produced ones (Babor, 2010; UNODC, 2013). Opioids themselves have a long history and broad international usage (Berridge & Edwards, 1981; Brownstein, 1993; London et al., 1990; Nencini, 1997; UNODC, 2013).

Anecdotal reporting of new and emerging opioids within the communities of opioid users and providers I was exposed to, led me to want to examine these trends in more detail, specifically exploring new and emerging opioid drug use. I was mindful that
some of these emerging trends reflected the use of adjunctive opioids, used over and above the staples of morphine and methadone. This was for a range of reasons, often associated with the opioid users desire to maintain a sense of control of their use. Participants in this study affirmed this perception.

The clear identification of a pattern of opioid use described in a quantifiable manner was neither possible, nor the intent of this study with its chosen methodology. What was recognised, was the dynamic nature of opioid use and stories of a diverse and yet homogenous group. By providing participants a way to recount their experiences a picture that is rich in detail is portrayed. These findings therefore provide an overview of some of the trends and contexts within which opioid use occurs and changes over time in New Zealand, influenced by multiple factors. It became evident that service users frequently discover, adapt to, utilise or respond to emergent accessibility and abuse potential of substances way before any treatment providers or regulatory practices are able to. What was apparent from the participants’ stories was that the range of opioids used were typically diverse; that use reflected what could be sourced or created at any given time and that as one substance disappeared another would take its place, a strong sense of ‘here today, gone tomorrow’ but that ‘there will always be something’. This created a general picture of trends that are in accord with the substance specific reporting of emerging opioids periodically reported on in some literature (Bedford et al., 1987; Braye et al., 2007; BPJ, 2011b; Robinson et al., 1993; Robinson et al., 2010).

These New Zealand trends can generally be described as follows:

- ongoing and localised seasonal availability and use of poppies
- the introduction of methadone maintenance treatment in the early 1970’s
- the decline and almost complete cessation of heroin importations in the late 1970’s that remains today
- the subsequent adaptation of morphine and codeine products to ‘homebake’ from the late 1970’s
- the accessibility of morphine and codeine compounds through the pharmacist
- poppy seed tea use emerging in the mid 1990s
- increased OTC analgesia emerging in early 2000, followed by restrictions in 2010
• the declining accessibility to both ‘cooks’ and precursor substances used in the preparation of ‘homebake’
• oxycodone availability from 2007
• re-emergence of buprenorphine, reintroduced and marketed as Suboxone in 2011

The trends identified in this study affirmed the anecdotal reporting and findings from other New Zealand studies (Bedford et al., 1987; Braye et al., 2007; BPJ, 2011b; Dunn, 2011, Robinson et al., 1993; Robinson et al., 2010; Wilkins et al., 2013).

5.4.2 Localised trends

From the participants’ accounts in this study carried out in the Wellington region, the localised nature of some drug use became apparent. This localisation has been previously observed by Wilkins and Sweetspur (2008) who provided some insights into costs and accessibility of opioids across the three main cities of New Zealand; identifying for example that, opioids in Wellington were both more expensive and harder to access than in Christchurch. Subsequent to this, the changing availability and purity of ‘street’ morphine in Christchurch was noted, as a consequence of changing prescribing, treatment and enforcement practices subsequent to the Christchurch earthquakes (Wilkins et al., 2013).

This localisation and susceptibility to change was reported by service user participants who described the South Island as consistently having a greater proliferation of opioids available than Wellington. They attributed this a combination of factors that included the favourable growing climate and rural landscape for poppies; the enthusiastic chemistry or medical students evolving through a local university; ‘favourable’ and empathic prescribers; the generosity and willingness to share amongst users themselves and that once a population or community of opioid users becomes established a subculture of users develops.

It is also possible that variation in treatment provision across the regions influences the way in which substances are used. Service users reported difficulty accessing, or a perceived punitive approach to opioid treatment in some areas of the South Island and
consequently did not use the service and/or relied on their own means of sourcing opioids for the self-management or opioid maintenance or substitution treatment. As such, there is understood to be a greater demand for ‘street’ opioids in the South Island which in turn, further impacts on the market and availability. These findings correlate to literature which indicates that treatment services must be both accessible and flexible to needs (Bell, 2000); that treatment availability must be both cost effective and have public health benefits (Sheerin et al., 2004) and that pharmaceutical opioids can offer an alternative quasi substitution treatment (Fischer et al., 2009; Robinson et al., 2011).

5.5 The influences of availability and the impacts

With the variability in trends and the understanding that there will always be something available, I was intent on exploring what influences these trends. As such, the discussion here turns to the issue of availability and what influences that availability. Much of the literature points to international treaties and controls, and regulatory or restrictive practices. These influencing factors are important and provide much of the broad, systemic picture of availability. These are also the factors highlighted by a number of the service provider participants. By way of contrast, the service user participants tended to focus on aspects closer to home, considering issues of availability for themselves and accessibility on a day to day basis, albeit, whilst still being mindful of the broader context.

Consideration on availability offers one part of a picture, but one which cannot be discussed without consideration of the impacts of that availability. Whilst this study set out to explore the availability and impacts as two separate objectives, they are inextricably linked. As such, the discussion in the following section considers the participants’ experiences and reflects on the literature, highlighting some of the main features relating to impacts of availability. Particular consideration is given to the perspective of harm minimisation.
5.5.1 The displacement effect

Displacement, a phenomenon deemed to be one of the unintended consequences arising from drug control policy and intervention, is one contributing factor to the availability of opioids. This is particularly so when localised differences are examined concurrent with a sense of an ongoing availability of one opioid substance or another.

Geographical displacement, occurring typically from a legislative or regulatory intervention in one particular area, creates a circumstance that encourages a substance or a population of users to move to another (Maher & Dixon, 2001). Participants’ examples of this included the clearing of poppies in some towns or regions; the move to a region where there is access to treatment; the move away from Dunedin as the population of ‘wayward’ medical students declined, or matured; the changing practices of a prescriber (either voluntarily or due to being ‘caught out’) or the move to a different pharmacist as one enforces a restriction or introduces a computer monitoring system.

Substance displacement occurs when the availability of a particular substance is controlled or restricted and users go on to source an alternative (Great Britain Home Office, 2013). Participants examples of this included the move to ‘homebake’ following the cessation of heroin availability; the use of OTCs after poppy seed suppliers engaged in voluntary restrictive practices; the cessation of a substance (for a few) following the inclusion of an ADF and the incarceration of a dealer or confiscation of ‘cookware’ that reduced a ‘street’ supply of ‘homebake’ and increased the demand for OST.

As a consequence of this geographical or substance displacement, service user participants reported that they would simply find an alternative opioid to use, adapting or altering their use, rather than use being displaced or deterred. The concern is that the alternative substances or the impacts of the displacement may be more harmful than the original substance or situation. A consideration for service users, is that the available alternatives can be used safely and/or with accessible harm reduction practices. It is important that following a displacement intervention greater harms are not generated across the spectrum of potential harms be it the opioid users morbidity, mortality, accessibility, criminalisation, stigmatisation or the wider society’s ‘public good’.
5.5.2  The primary sources of opioids

Both the existing literature and participants in this study acknowledge that the majority of opioids illicitly consumed in New Zealand come from pharmaceuticals, notably morphine, methadone and codeine (Robinson et al., 2013; Wilkins, Jawalkar & Parker, 2013) and in the main due to the limited availability of heroin (Robinson et al., 1993; Sellman et al., 1996). However, it is the increasing number and accessibility of pharmaceuticals that are available and used for illicit purposes that is worth scrutiny and the way in which they are promoted which raised concerns for participants. This has also been observed in the international literature (Cicero et al., 2011; Fountain et al., 2000; Maxwell, 2011).

5.5.2.1  Prescribed and dispensed opioids

Service user participants’ lived experiences made clear that they have always been able to access pharmaceutical opioids, typically through developing or maintaining a relationship with a particular pharmacist or prescriber. It was reported that these avenues had become more challenging, ‘a good sob story’ no longer sufficing. The literature points to an increased enforcement of regulations and restrictions and the provision of education and guidelines in the prescribing of opioids (BPJ, 2012b; MoH, 2014a; Sheridan & Strang, 2003). Awareness of the limited value of guidelines disseminated without a supportive implementation strategy has been noted (Grimshaw et al., 1995). Regulatory and guidance interventions should reduce the susceptibility of prescribing and dispensing professionals, however, they do not appear to have significantly deterred this access route, with service user participants talking of adjusting their tactics to get around the regulations. They disclosed that they simply needed to be more informed about the substance they were requesting, often sourcing information from the internet or product information, or they had to plan their approach to pharmacies, identifying those who used monitoring systems or had vigilant staff.

Service user and provider participants, talked of the availability of a diverse range of opioids, prescribed in the health care system, notably in hospitals, but also via GPs. Whilst the intent of prescribers is in the main to alleviate pain, participants perceived there is a naivety or ‘arrogance’ to the way some are prescribing. Service providers were frustrated by the approach that many hospital prescribers in particular took and
one service user caught in the ramifications of overzealous prescribing was infuriated by the attitude taken and the subsequent consequences she had to deal with. The literature reports that much opioid availability is through primary care (Sheridan & Butler, 2008) and hospital discharges (BPJ, 2012a; Clarke et al., 2014). Guidelines and educational material exists for these prescribing populations for both the relief of pain (Ventafridda, Saita, Rapamonti & DeConno, 1984) and the provision of OST (MoH, 2014a). With an international trend of increasing numbers of ‘other’ professionals able to prescribe opioids, there is a concurrent call for pharmacists to ensure that they adhere to their professionalism and codes of conduct (Pharmacy Council of New Zealand, 2011).

Prescribing opioids can be a complex task. Over prescribing for the management of pain, can create dependence (Compton, Darakjian & Miotto, 1998; Sees & Clark, 1993); the over availability of opioids can result in diverted opioids for illicit use (Bell, 2000; Fountain et al., 2000) and opioid analgesics are a leading cause of overdose deaths (Okie, 2010). Under prescribing or withholding effective treatment can equally generate harms, but can occur from a fear of causing harm, or being subject to medico-legal consequences, a response referred to as ‘opioid phobia’ (Finlay, 2012; Gallagher, 1998). Somewhat paradoxically, the availability of pharmaceutical, metered doses offers some safety and security in the knowledge of what is being consumed; has reduced impacts from injecting drug use and can be used to self-manage withdrawal symptoms (Degenhardt et al., 2008; Fischer et al., 2009; Robinson et al., 2011).

5.5.2.2 Pharmaceutical industry business

The ‘for medical and scientific purposes’ and reiterated in subsequent international treaties noted previously, repeatedly affirms the use of controlled substances ‘for medical and scientific purposes’ and for the ‘the relief of pain and suffering’ globally. However, international distribution is recognised as being biased with availability being significantly more prevalent in high-income countries (Bosnjak et al., 2011; UNODC, 2011). Concurrently, the availability of legitimately prescribed opioids has a direct effect on the availability of medications that are misused or abused (Cicero et al., 2011).
Many participants, both service user and provider participants, raised the development, promotion and marketing of pharmaceuticals as an issue. Pharmaceutical companies are a major player in the production of drugs, intertwined with extensive marketing strategies (Angell, 2004; Maxwell, 2011). They invest many resources in research, development, testing, clinical trials and the regulatory approval processes required before a drug is released on to the market. Investment must then be recouped in a competitive industry, through an array of sales and marketing strategies (Currie, 2005; Liang & MacKey, 2011a; Ventola, 2011). The service provider participants in particular were aware of these strategies, directed at both prescribers and the New Zealand general population, by means of ‘direct to the public advertising’. Whilst many service user participants reported sourcing pharmaceuticals as they became available, and were concerned that marketing might be influential to young or naive users, they did not talk about the impacts of this advertising in relation to their own use. They did however report that they used the product information or labelling notifications to inform themselves of the abuse potential of a substance.

Pharmaceutical companies may point to their professional codes of conduct and ethical practices (Wager, 2003), however the experiences of the service provider participants and a number of the service users in this study deem these companies to be ‘unscrupulous’ in their actions. Both participant groups pointed out that there is ‘intentionality’ about pharmaceutical companies growing their market share. This could be in the way they strategically select which drugs are resourced for development, the creation of biosimilars or generic formulations, the promotion of a product or ailment, or the consideration of naming and branding of a product. This ‘intentionality’, combined with tactics reported on in the literature (Clarke, 2014; Liang & MacKey, 2011a; Ventola, 2011) contributes to increasing the demand for pharmaceutical opioids, rather than simply meeting it. With much regulation targeted at reducing supply, and the provision of education and treatment endeavouring to reduce demand, it seems somewhat paradoxical that according to the participants in this study, the very suppliers of the substances that are abused and misused, can actually increase both the supply and the demand.

These pharmaceutical companies may point to their response in creating and developing ADFs, to counteract the increased availability of opioids whilst minimising their abuse
potential (Katz, 2008). However, participants in this study indicated another side to this story. Service user participants in particular described how they would adulterate substances to remove the deterrent, with the deterrent appearing to create a challenge to overcome rather than it being a deterrent. Furthermore, the consequences of ongoing use despite the ADFs are well documented (Katz, 2008; Webster, Bath & Medve, 2009). Again, from the perspective of these participants a balancing act is required that deters the use of a substance by the naive or new user, and does not cause further harm if it is abused. Service provider participants highlighted where this had been considered, such as the use of wafers as a preference over substances that can be injected; or the ethical approach taken by the pharmaceutical company Biodone, in which they reversed a decision regarding the availability of an ADF of methadone after it was seen to not deter injecting behaviour as intended and instead created further complications. Considerations such as these have been highlighted in recommendations to pharmaceutical companies to evaluate the impacts of the use of ADFs (Turk et al., 2012).

5.5.3 Legislative, policy and national agency responses

Working within New Zealand legislation and policies, multiple agencies are employed to respond to and encourage the minimisation of harm of substances, by supply control, demand reduction and problem limitation (MCDP, 2007). In essence, the current legislation and its enforcement are deemed a good thing by participants in this study. Service user participants specifically consider that the classification system as legislated in the Misuse of Drugs Act 1975, of heroin as a class A drug and other opioids as class B and C is appropriate to deter misuse by young or naive users, but that it does not excessively impact on accessibility for themselves. They recognise that a purpose is served in protecting many people and that legislation and enforcement are not so rigid that extensive unintended consequences occur, the risks of which have been noted internationally (UNODC, 2009). Service user participants considered that a ‘blind eye’ was often turned to criminalising opioid use or possession, and that the current focus is on the higher profile and more detrimental substances such as methamphetamine, and that the balance in mitigating harm is about right. These sentiments and focus on methamphetamine are congruent with the National Drug Policy 2007-12 (MCDP, 2007) and the Illicit Drug Strategy (NZ Police, 2009). An exception to this perceived balance
relates to precursor control. Service user participants noted an increased enforcement of regulations regarding the possession and importation of precursors used in opioid ‘cooking, in so doing creating challenges for the ‘cooks’ that impacted on their ability to produce ‘homebake’ as well as reducing the number of ‘cook’ prepared or able to continue ‘homebake’ production. Again, this appears to be a consequence of the drive to target methamphetamine precursors, as cited in the above documents and the Tackling Methamphetamine: an Action Plan (NZ Customs, 2013; Policy Advisory Group, 2010).

Despite this general acceptance, some participants considered that some of the regulatory requirements could be altered. The service users in particular wanted to see a mechanism that allowed or supported registered or recognised dependent users to be able to access opioids in a way that supported their dignity and autonomy and did not make them criminals or entrench the stigma that existed. The service provider participants wanted to see a change that increased access to treatment. It was believed that the aim of the National Drug Policy 2007-12 to “reduce the effects of harmful substances” (MCDP, 2007, p3) continues to be managed through supply control, and that a greater emphasis could be placed on alternative approaches that encompass demand reduction, including strategies that improve access to, and retention in treatment. A number of international policy and service provision initiatives are reported in the literature and referred to by some participants in this study. They reflect on the implications of more considered approaches to drug control, notably Portugal’s focus on intervention rather than detention (Hughes and Stevens, 2007) and the Canadian and Australian safe injecting site trials (Kimber et al., 2003; Wood et al., 2003). Participants suggested that this more relaxed approach could work favourably here, without detriment to the naive user or wider population.

The roles that PHARMAC and the MoH play in New Zealand in the availability and impacts of opioid use are also worthy of review. These organisations are perceived by service provider participants to be particularly influential in terms of what is available due to their subsidising and monitoring capability, and are considered to be in strong positions to directly counteract some of the activities of the ‘less scrupulous’ pharmaceutical companies. Participants discussed how PHARMAC should better consider the international literature and trends regarding the abuse potential of some substances, learning lessons rather than repeating mistakes regarding availability.
Oxycodone was offered as an example of this. The service provider participants also considered it important that support was given to the implementation of a more proactive, informed education and guidance package around appropriate prescribing of opioids and alternative pain relief medications. Furthermore, with the capability for national data collection, service provider participants in particular reported that the MoH could take responsibility for implementing a national real-time prescribing monitoring system. This would assist not only in minimising misuse, but also ensuring that prescribers do not become averse to prescribing for those who would benefit (Nicholas, Lee, Roche, 2011). Systems such as this have been effectively implemented internationally and shown to reduce the occurrence of the abuse of opioids (Green et al., 2012; Reifler et al., 2012). Addressing the challenges of the use of prescribing monitoring systems (Feldman, Williams, Coates & Knox, 2011) prior to implementation and ensuring a balance between adequate prescribing for pain and reduction in diversion (Strang et al., 2012) would be imperative to their effective utilisation. Basic principles of monitoring systems have been developed internationally for safe and effective implementation (Brushwood, 2003).

5.5.4 Opioid users resourcefulness

It became particularly apparent that the service user participants in this study are creative, flexible and resourceful individuals; that regardless of the initiatives that are put in place to reduce availability of opioids, they will find a way around the system. They recognise the importance and value in deterring the abuse of opioids and the detrimental effects that they can have, and as such are cognisant of the need to ensure that young or naive users are not inadvertently caught up in the cycle of dependence or caught out by harms that can be avoided. As a select group of long-term opioid users, in the main they engage in activities in an adaptive way that ensure their supply and use for themselves is attained in as harmless a way as possible. As such, when one substance is removed, they will seek another; they will use their contacts and resources to do this; they will seek information and adapt their practices; they will ‘lie and cheat’ in a creative and clever way to ensure their needs are met; or ‘game play’ to gain some control over the situation and they will adulterate substances to ensure they get the maximum gain with the minimum of harm. In doing so, they may source low cost metered doses, potentiators, legal opioid substances and/or remove contaminants.
Whilst these opioid users have fallen victim to addiction, in the main they are participants who have also taken control of their use, as and where that is feasible.

There is little research on the personal responsibility that substance users take to reduce harms of their opioid use. However, literature does exist on a number of the features of harm minimisation that opioid users actively engage in. There is a recognition of the value of OST in providing a legal alternative to ‘street’ opioids (Mattick et al., 2014; Nielsen et al., 2014); studies point to the accessibility and use of naloxone for personal or peer use to prevent overdose (Wright, Oldham, Francis & Jones, 2006); the utilisation and benefits of needle exchange programmes and safe injecting rooms is reported (Brunton, Henderson & McKay, 2004; Wood, Tyndall, Montaner & Kerr, 2006) and the preference for pharmaceutical opioids due to their metered dosing has been documented (Firestone & Fischer, 2008). It can be assumed that not all opioid users are simply passive consumers of these services and facilities and that many will engage in activities that support their ongoing use in as safe a manner as possible.

5.5.5 The indirect impacts of opioid availability

There are a number of additional experiences that the participants reported on whereby availability had a direct or indirect impact on them. These considerations were not specifically related to availability from one particular source or influence, but refer to the availability of opioids more generally.

The issue of dependence was raised by a number of participants. The majority of service users had actually accepted their plight relatively early on in their lives, each having tried to cease opioid use but not managing to maintain abstinence. Concern however was raised for those who had inadvertently become dependent on opioids, in the main through OTC or prescription use; or for the naive user who could inadvertently become dependent due to the ready access of some opioids. The relationship between opioid use and dependence is well documented (Compton, Dargakjian, & Miotto, 1998; Sees & Clark, 1993), notably following the relief of physical pain (Fishbain et al., 2008) but also for managing co-existing mental health problems (Chan, Dennis & Funk, 2008). However, it is the insidious way that this dependence takes over that the service user and service provider participants were concerned about, reporting that it was ‘like a
thief in the night’, occurring without warning and with no notification of the risks from warning labels. They reported that either the user is not adequately treated for pain or they cannot access adequate treatment for dependence. These are some of the considerations, as noted previously, that participants strongly suggested that prescribers and dispensers must be more attuned to, and parallel the sentiments expressed in the literature (McCormick, Bryant, Sheridan & Gonzalez, 2006; Sheridan & Strang, 2003; Sheridan, Wheeler & Walters, 2005).

Stigma was discussed by service users in particular. They recognised that opioid users are not seen favourably within the community and have a number of negative stereotypes attached to them. This was perceived as being associated with injecting drug use rather than the opioids per se and particularly affected those for whom their drug use was hidden from their families or who had families involved in their treatment or recovery. These sentiments are consistent with the literature and the indications of the origins and perpetuation of stigma (De Ponte, Bird & Wright, 2000; Peterson, Barnes & Duncan, 2008). Many service user participants contrasted their ‘comparatively harmless use’ to that of methamphetamine users and the damage that both the drug and the users of that substance caused. Participants across both groups indicated that much could be done to alleviate the stigma that was experienced and/or observed. Some of this could be managed by making prescription opioid users less of a ‘hidden’ population and ensuring that opioid prescribers and dispensers are aware of the impacts of prescription opioid use and misuse. Another perspective was about making opioids that have minimal harm associated with them more readily accessible; acknowledging that some users are dependent and require self-administered or prescribed medication to maintain their use in a safe way. The balance of getting OST right, in a way that considers dosing, restrictions, supervision, support, privileges and treatment regimes, whilst also providing a substance that is known to be diverted and has users striving to ‘get one over’ the system is a well documented challenge (Anstice, Strike & Brands, 2009; Ward, Hall & Mattick, 2009).

5.5.6 Summary

The points discussed above highlight a number of paradoxes as well as the complexities regarding availability and access to opioids and the implications of these. Consideration
of which sector(s) of the population are experiencing harm may be one of the core factors in this. However, it is further complicated when the range and diversity of opioid users are explored and the impacts of harm considered more broadly.

Legislation and policy in the main address opioid use by restrictions of supply to protect the wider society. They typically focus on illicit substances and not the extensive availability of pharmaceutical opioids which participants in this study had experienced. Regulations and restrictions are placed on a range of substances including those that have minimal impact. However, as these participants indicated, this may limit accessibility to those who use these substances within a harm reduction approach. Pharmaceutical companies have an obligation to develop and provide medication, yet as noted, are also part of a competitive industry. Pharmaceutical opioids whilst required to relieve pain, are over prescribed for pain; can create dependence and generate opportunities for diversion. Paradoxically, this availability of pharmaceutical opioids also offers opportunities for metered doses and quasi self-medication. These phenomena are described in both the literature and by participants in this study. Prescribers, in a role of treating in their field of knowledge may be caught by balancing this task with personal experience or attributes, resulting in what participants describe as prescribing out of ‘arrogance’, ‘ignorance’ or ‘aroha’. As we move into an environment of changing health care structures and the increased availability of pharmaceutical opioids, it is suggested that the “physicians, dentists, and nurse practitioners - rather than drug cartels and street dealers - play prominent roles in escalating drug use” (Perrone & Nelson, 2012, p2341). What is evident is that there is no one centre of responsibility for the reduction of supply, demand and harm of opioids, and as such, there is no one solution.

5.6 Highlighted examples of emergent trends, changing availability and its consequential impact

The objectives of this study were to identify trends and patterns of opioid use, the availability of these opioids and the impacts that this availability has had on opioid users in particular. This study whilst acknowledging the challenges in identifying patterns of use amongst a heterogeneous group has identified a number of emergent
trends. These trends can be associated with some individual influences of availability and some associated impacts on the opioid user. However, it has become apparent throughout this study and through reviewing the literature, that there is no one clearly identifiable cause and effect relationship. Rather, there is a complex interplay of multiple factors that are associated with the availability of a substance, the emergence of a trend and the impacts on the opioid user.

What follows are some highlighted examples of a number of those trends reported by participants in this study. Some of these trends have been reported on in previously published literature, typically through individual small sample populations or through grey literature and networking presentations. Similarly, supply sources and impacts have also been previously documented. These highlighted examples from recent years provide an opportunity to consider the relationship between the availability of an opioid, how access can change a trend and the impacts that this has on users.

The emergence of PST provides an interesting example of this. Reportedly appearing in the late 1990s and used as an adjunctive or alternative opioid to the more typically observed patterns of morphine and methadone use, PST offered a means of stabilisation and autonomy to users with few adverse consequences related to cost, legality or health issues (Braye et al., 2007; Harris, 2013). Participants reported its use until availability declined, understood to be due to frustrations from the retail industry of poppy seed users frequenting their premises. Self-imposed retail controls were put in place, removing what was in essence deemed to be a largely safe and innocuous substance. Users continue to source supplies through a few ‘unscrupulous’ retailers and/or have moved on to the use of an alternative opioid.

Subsequent to this, some literature and a number of service provider participants observed increased presentations to services of people using OTC analgesics containing codeine (McAvoy, Dobbin & Tobbin, 2011). Participants reported these as being promoted by pharmaceutical companies and readily sourced from retail outlets. The observed impacts of this were the potential for adverse physical effects; concern regarding the risk of dependence for the naive user and an increased sense of stigmatisation and labelling. These concerns have also been highlighted in the literature (Ferner & Beard, 2008; MacDonald et al., 1997; Robinson et al., 2010). As a response
to this, recommendations for restrictions were put forward both in New Zealand and overseas (McAvoy, Dobbin & Tobbin, 2011; Medsafe, 2010). Despite the subsequent restricted accessibility to OTC opioid availability in New Zealand that included ‘behind the counter sales’ and the registering of purchases, for some service users the substance was still readily available and simply required some adapted sourcing behaviours. For others though, this made the accessing of OTCs just ‘too hard’ or ‘not worth the effort’.

Concurrent to these emerging trends, service users also reported a decline in ‘homebake’, or more specifically a decline in the number of ‘bakers’ or ‘cooks’ that produce the ‘homebake’. The service users would emphasise here that they are referring to ‘homebake’ produced from codeine, rather than the more simple process of ‘turning turtles’ from a morphine sulphate tablet, a distinction that has been documented by Harris (2013). Service user participants suggested that an increased enforcement of regulations around precursor substances has resulted in the reduced accessibility and greater penalties for possession of these precursors. A number of known ‘bakers’ had been incarcerated and/or the risks were deemed too high. As such, the ‘bakers’ have declined in numbers. An indirect consequence of this that service users highlighted was the impact that this has on the ‘industry’. The decline in skilled and knowledgeable ‘cooks’ meant that there were no longer opportunities for ‘apprenticeships’ and the passing on of the ‘trade’ in the same way, in addition to the ‘new generation’ of users not learning the importance of safe practices. It was also acknowledged that due to the availability of alternative opioids, the intricacies of ‘baking’ were less required.

Subsequent to this, and as has occurred in other developed countries, New Zealand experienced the increasing availability of oxycodone, promoted extensively by the pharmaceutical industry (BPJ, 2009; BPJ, 2011a; BPJ, 2014; Dunn, 2011; Firestone & Fischer, 2008; Van Zee, 2009). Although few service provider participants had come across its use at the time of interviews, concern was high. A number of service users had used it and had become acutely aware of the associated risks and harms of its use. Since that time its abuse potential has been highlighted in the public media in New Zealand with assurances that actions are being taken to curb the availability of oxycodone through informing and educating prescribers (Chisolm, 2012; Television NZ, 2014).
5.7 Summary of discussion

The discussion thus far has reiterated the objectives of this study, namely to describe emergent trends of opioids; identify the influences of this availability and the implications from the perspective of opioid users and service providers and how this reflects the available literature. It is recognised that whilst some generalisations can be made, this thesis represents the views of the participants interviewed for this study.

Some emergent trends have been identified that support or expand on some of the small sample studies that have been published, highlighting the transiency and localisation of some trends. Participants in this study drew attention to the availability of opioids from a number of sources and the implications of this availability with particular consideration given to the impact of this in terms of minimising harm. They noted the influence of displacement and the effect that this has on supply sources and the adaptation to a new source. They reflected on the influence of some of the major players in opioid availability in New Zealand, notably the pharmaceutical companies and prescribers. They offered insights into a national perspective that considers the adherence to treaties, domestic legislation and policy and they provided some thoughts and insights regarding the influence and impacts of opioid users themselves as creative, flexible and resourceful individuals. The discussion concluded with a brief overview of some recent emergent trends in New Zealand that were identified by participants, the availability of these substances and the impacts that this has on users.

Finally, this research provides some interesting insights into the access and availability of opioids and the consequential impacts of this. It is evident that there is a move towards the availability of an increasing number of pharmaceutical medications. Concurrent with this is a need to ensure their continued availability for therapeutic use, but also to minimise the potential for misuse or abuse. There is an underlying message that actions should be taken to avoid naïve users getting hurt; however, access for dependent users should not be so restrictive that they resort to more harmful substances, harm being seen as having medical, social, legal and personal implications. There is a sense that dependent users will continue to source and access some opioid of abuse or another and that some substances are clearly deemed less harmful than others.
5.8 **Strengths and limitations**

This study has sought the experiences of two very different, albeit complementary participant groups. Service user participants have offered personal first hand perspectives, whilst service provider participants have reported on their observations and clinical experiences, at times offering a broader or more systemic view. Participants were selected for their experiences that allowed for an in-depth examination into emergent trends, their associated availability and impacts. Fitting with the qualitative method employed the study sample size was relatively small, participants were selected from one geographical area, targeted long-term opioid users or those with longevity of experience working in the field and did not include the experiences of non-opioid using populations. As such, there may be limitations to the generalisability of these findings and suggestions for further areas of research are offered below that include input from a wider stakeholder group.

This study offers many strengths, not least that it was carried out by a researcher who has a sound and extensive understanding of opioid drug use and users. This can offer benefits over a researcher who may not be so cognisant of the addiction field and its language, nuances and lifestyles. The years and opportunities gained from working alongside opioid users and clinicians in the past, offered me an understanding of the lives and experiences of these participants. As such, rapport was readily built, language and jargon was used that did not need to be explained and the context to situations, (be it for example of a particular substance, period in time, process of production) was mutually understood, without the requirement for lengthy explanations. This understanding reduced the risk of distraction from the essence of what was being said, providing me the opportunity to focus more fully on the experiences of participants. I also consider that this facilitated the ability to readily build rapport and trust. It assisted in putting service user participants at ease and offered benefits in alleviating concerns that they may have had regarding any content of their stories that may have incriminated or disadvantaged them (either legally or through treatment provision).

I was aware that eliciting stories from the service providers was at times challenging. I have worked alongside many of these professionals, sharing observations and experiences with them. The challenge was to encourage them to tell their stories rather
than them referring to my existing knowledge. The phrase ‘as you know’ was not uncommon from these participants. I was able to utilise a number of core counselling skills and reflections with these participants, but also to reiterate that I wanted to hear their stories in their own words, and not to presume my understandings or recollections.

As an experienced clinician I was readily able to use reflective practices and the core client centred attributes of ‘acceptance’ and ‘presence’ familiar to the clinical field (Corey, 2009). These are also invaluable to the phenomenological approach that encourages and allows the stories of participants to be told, and are not dissimilar to the notion of ‘bracketing’, that facilitates the process of being able to see the participant’s story for what it is, without assuming understanding. My clinical experiences and contacts offered me the opportunity to call on colleagues and peers to review my ‘hunches’ and ideas, ensuring that they reflected the participants’ stories and not my own. I was familiar with the utilisation of clinical support and supervision and as an extension of this I viewed academic supervision as an invaluable asset in the qualitative research journey.

With these advantages of clinical grounding, I was also cognisant of the need to act as a researcher in this study and was mindful of the potential for conflicting roles. My passion for clinical work is strong and as such I was aware that if an opportunity for intervention arose during an interview, in particular around safety or minimising harm, this was something I could not ignore. It could be argued that this could have compromised the phenomenological process, however, I do not believe that this was the case. On the couple of occasions that a harm reduction intervention appeared more paramount than following the interview process, I felt that I was being congruent and real in my relationship with the participants and ensuring that the professional ethics to which I adhere as a clinician were not being compromised. I had the participants’ best interests at heart and believe this was indicated in the ease with which participants shared their stories.

Whilst I strove to conduct interviews in an environment where we would not be interrupted, as is the nature of this participant group, interruptions did occur. These interruptions, primarily occurred among service users. They were from within participants own networks, their peer group, on their own grounds and did not appear to adversely impact on the interview process in any way. Furthermore, on two occasions
when I arrived at the allocated time and place for a service user interview, a second participant was there, choosing to be interviewed together. There was a risk with these interviews that one participant would dominate or could detract from the thoughts of the other. However, the nature of the relationships appeared to strengthen the discussion with the participants offering support to each other’s stories.

There is some disparity in the number of quotes used in the findings from each participant. Some of this is influenced by the variation in experiences, but it can also be attributed to the fact that some users were simply more articulate than others or they recounted stories that encapsulated the essence of the experiences of others. This does not negate the experiences of those who are quoted less frequently as their stories were integral to the creation of the whole; it simply highlights one of the limitations of capturing a verbatim piece of dialogue that can then be used subsequently to represent a picture or an essence of the stories.

The methodology of phenomenology used was effective in enabling the collation of a large amount of data that could be interpreted from individual stories to clusters of related information, offering rich descriptive findings. Direct quotes from participants were used to enhance the descriptions and illustrate key points. Whilst it is arguably not feasible nor appropriate to use a computer assisted qualitative data analysis software (CAQDAS) package within a phenomenological paradigm, (Bryman, 2008; Patton, 2002) NVivo was used as a means of storing, collating and clustering my data. I initially had concerns that the experiences of my participants would be reduced to a system of categorising comments and ‘nodes’, quantified more by the frequency of their use than their richness. However, these concerns were allayed by using the package as a system to organise and review my information, to systematically explore themes that emerged and to make connections that I may have missed by doing it manually. The comprehensiveness of the ‘node’ or theme allocation allowed me to place sections of the interviews under a number of themes, even if the link may initially have seemed tenuous. This assured me that data was not being ‘lost’ in the analysis stage and gave some additional assurance that I was uncovering the subtle connections and interplay of experiences. I was readily able to revisit not only my initial data in the transcript but also the accumulated data allowing me to review the emerging themes and build on my evidence over time.
I am cognisant that whilst I have followed a phenomenological methodology and consider this the most appropriate approach, I am mindful of my limitations in its use. Phenomenology is placed within the realms of a tradition, a philosophy, a research strategy a means of analysis and of interpretation. It comes in a number of forms, with different aspects emphasised and as such is open to variation and critique (Patton, 2002). Not least is its use by students (Hycner, 1985). Whilst I have made every effort to apply the traditions, most notably those of adopting a phenomenological attitude (Wertz, 2005); adhering to the principles of phenomenological reduction (bracketing); seeking and describing the essence of participants’ experiences (Giorgi, 1997), the recognition of its utility contingent on the subjectivity to interpretation cannot go unacknowledged.

This research raises important issues from the stories of service users and service providers, providing insights into trends of opioid use in New Zealand, the factors that influence those trends and the impacts that these have, predominantly on users. As with much research, this study has also highlighted areas where future research may be warranted. For example, the challenge of documenting trends that are fluid, localised or lost in recall may be better addressed through a longitudinal study; or insights acquired from a broader range of stakeholders, be they pharmaceutical companies, prescribers or policy advisors, who are integral to the issues of availability and access may have added to this story. These thoughts and considerations are noted below.

### 5.9 Recommendations

The participants in this study reported on a range of mechanisms, roles and responsibilities in relation to the availability of opioids and the impacts that this has had on them. For example, both service users and providers point to the role of pharmaceutical companies in considering the promotion and dependence potential of their opioid products. Prescribers and dispensers, as direct avenues to prescription opioids are implicated in the way that they initiate or continue to prescribe opioids. Policy, legislation and national bodies are encouraged to more broadly consider the impacts of initiatives from a harm reduction perspective and across a diverse range of population groups, and users themselves can take actions to be informed and proactive in reducing harms related to their ongoing use of opioids. There is no consensus on where the ultimate responsibility lies for the reduction of
harm, although it is clear that the emphasis cannot be focused on just one group or individual. Rather the solutions lie across a range of stakeholders.

Recommendations from this study could readily address the detail of these shared responsibilities and/or focus on the issue of availability, most dominantly seen as supply control. However, in light of the objectives and the findings of this study, it is more pertinent to consider recommendations from the perspective of minimising the impacts on users. As such, it is useful to reflect on the conceptual framework offered by Strang and colleagues (2012). Similarly used in harm reduction approaches for tobacco control, communicable disease and HIV prevention, this framework can be utilised to drive policy and influence interventions. It considers the needs of the wider ‘public good’ through mechanisms of supply or availability control as well as interventions at the primary and secondary level. It highlights the individual benefits that can be attained by supporting drug affected individuals, less by availability control and more by appropriate interventions that consider the impacts and the unintended consequences.

Figure 5: The effect of drug policy options on the public good and individuals, (Strang et al., 2012, p79)
As such the recommendations here will focus on the needs of the opioid using population, as placed here in the upper tiers of the triangle, with some reference made to the lower level tiers which may include the naive, non dependent user and the wider population.

5.9.1 Considerations for the opioid dependent population

Recognition must be given to the fact that restricting the supply of opioids may have ‘unintended consequences’ for opioid users. Lifestyle and wellbeing implications; accessibility, including pricing, dosing and formulations; criminalisation; stigma and discrimination and the use of opioid substances that may be more harmful than a previously unrestricted one can all adversely affect the opioid user.

The availability of ‘metered’ doses and access to options such as poppy seeds should be considered as harm reduction alternatives to some ‘street opioids’ or unknown supplies.

Abuse deterrent formulation development and promotion must consider the needs of all stakeholders. The increased risk potential from the ongoing use of opioids available in ADFs must be carefully weighed up against the desire to minimise the potential for abuse and diversion of prescription drugs.

There should be increased accessibility for opioid users to evidenced based harm reduction information. Support and interventions such as needle exchange programmes, primary and secondary health care, opioid substitution treatment and peer support systems must be facilitated.

Treatment providers (prescribers, pharmacists and specialist care) must consider, manage and advocate for the needs of the opioid dependent population. As with any population group, opioid users strive for autonomy, the ability to make choices and to maintain a sense of control in their lives. Service delivery models should be implemented that extend beyond pharmacotherapy provision; encourage professional development; embrace a culture of client/patient empowerment and consider wider perceptions of recovery concurrent with the utilisation and promotion of the peer workforce.
5.9.2 Wider population recommendations - ‘the public good’

Prescribers must consider the risk of abuse, misuse and dependence with naive or uninitiated users. Monitoring of prescribed opioids, treatment outcomes and alternative pain management options should be part of treatment planning.

Training, monitoring of prescribing behaviours and accurate information regarding evidence based practice should be offered and disseminated across all prescribers of opioids and by multiple methods. Examples include the promotion of guidelines; electronic ‘pop-ups’, reminders and memos; clinical care pathways; continuing medical education (CME); networking opportunities such as through National Association of Opioid Treatment Providers (NAOTP) meeting attendance; specific workshops such as management of pain and opioid use; and through existing forum such as hospital ‘Grand Rounds’.

Services and interventions for the ‘atypical’ or ‘hidden population’ of prescribed opioid users or those who have become inadvertently dependent, must be made more visible and accessible. This should occur at a primary, secondary and specialist level. Supporting understanding of this population group can be promoted through education opportunities as noted above, as well as information pamphlets, pharmacy interventions and open dialogue with prescribers.

The development of a national prescribing and monitoring system would greatly facilitate national coordination of opioid prescribing, encourage best practice prescribing and reduce administrative prescribing tasks.

As in other countries, regulations regarding direct to public advertising in New Zealand should be in place. Pharmaceutical companies should cease aggressive advertising and marketing, including information dissemination which promotes both the demand and the over prescribing of opioids.
5.10 Further areas for research

This study has provided an insight into the trends of opioid use in New Zealand, the factors that influence these trends and the impacts that these have, predominantly on opioid drug users. As with much research, this study has highlighted areas where future investigations may be warranted. As is noted by Halcolm (cited in Patton, 2002, p431) “analysis finally makes clear what would have been most important to study, if only we had known beforehand”.

Further research is required into the individual factors that influence access and use of opioids. It was suggested by participants that some users are ‘just meant to be’ and that they were almost destined to become dependent, whereas others reported that they ‘fell in to it’ as a consequence of availability. To explore this variation in initiation may offer additional insights into mechanisms that support ongoing access for some, but create reduced access for others.

As noted earlier documenting trends offers challenges, in part due to recall, but also because some trends are regionalised, localised or may affect only a small cohort of users. A longitudinal study may address this, offering a broader picture. However, as has been noted, substance users frequently hear of, create or adapt to an emerging substance some time before the service providers or researchers hear of it or see it. As such, collaboration with peer researchers and service providers such as needle exchange programmes that are closer to the day-to-day action and/or offer an entirely non-judgemental perspective may offer benefits.

Two participant groups were sought for this study. However, throughout the course of the research it became evident that there were a number of other key stakeholders that could complement the picture. To add value to the research findings, the responses or perspectives of additional participant groups could be sought. This would notably include pharmaceutical companies; pharmacists and prescribers including pain specialists, medical registrars and GPs; the MoH and/or relevant Crown entities, such as PHARMAC and Medsafe and the regulatory and legislative decision makers; and service users from a wider geographical spread or with a different range of experiences to long-term dependent opioid users.
This study has focused on the use, availability and impacts of opioid drug use. Some reference has been made by participants to other substances, notably methamphetamine, but also other amphetamine-type stimulants, benzodiazepines and cannabis. A study such as this, exploring the trends, availability and impacts of these broad categories of substances could also be of interest.

The perspectives of participants were at times homogenous and at other times diverse. In conclusion it is interesting to consider the contrasting views of two service users, who provided their perspectives on future of opioid use and as such the potential for future service provision or research:

So opiates aren’t going to die out. That's why it comes in waves... and as those [pharmaceuticals] are made less available, they will go back to the roots, you know... natural...then something else will come up (Orlando-SU).

...and it’s only the old, old guys like us, and when we die there is going to be no more... And then you will be out of a job! Yah! [laugh] (Daniel-SU).

5.11 Closing thoughts

“There has never been a time, place or culture where some psychoactive drug has not been used, and it’s highly unlikely that there ever will be”.

(Ryder, Salmon & Walker, 2006)
References


Bannwarth, B. (2012). Will abuse-deterrent formulations of opioid analgesics be successful in achieving their purpose?. *Drugs, 72*(13), 1713-1723. doi: 10.2165/11635860-000000000-00000


Best Practice Journal (BPJ) 44. (May 2012a). Update on oxycodone: what can primary care do about the problem?. BPACNZ.

Best Practice Journal (BPJ) 49. (December 2012b). Strong opioids for pain management in adults in palliative care. BPACNZ.

Best Practice Journal (BPJ) 36. (June, 2011a). Oxycodone use still increasing. BPACNZ.

Best Practice Journal (BPJ) 36. (June, 2011b). The fear of enabling; misuse of prescription medicines. BPACNZ.

Best Practice Journal (BPJ) 62. (July, 2014). Oxycodone: how did we get here and how do we fix it? BPACNZ.


Buchanan, J., & Young, L. (2000). The War on Drugs-a war on drug users?. Drugs: Education, Prevention, and Policy, 7(4), 409-422. doi:10.1080/dep.7.4.409.422


Customs and Excise Act 1996 (NZ). No 27.


~ 178 ~


~ 181 ~


~ 185 ~


~ 193 ~


~ 199 ~


~ 202 ~


Appendices

Appendix 1 - Ngai Tahu Consultation Committee support letter

Appendix 2 - Wellington Regional Ethics Committee approval letter

Appendix 3 - Purposive sampling questions

Appendix 4 - Information sheet of consumers/service user participants

Appendix 5 - Information sheet for clinicians/service provider participants

Appendix 6 - Consent form for consumers/service user participants

Appendix 7 - Consent form for clinicians/service provider participants

Appendix 8 - Question guide for consumers

Appendix 9 - Question guide for clinicians

Appendix 10 - Glossary of terms

Appendix 11 - Glossary of opioids, opioid precursors and potentiators
04/10/2011 - 50
Tuesday, 04 October 2011

Dr Schroder
Psychological Medicine
Christchurch

Tēnā koe Dr Schroder

Title: Consumer and clinician perceptions of changing patterns of opioid use in New Zealand: Influences and implications.

The Ngāi Tahu Research Consultation Committee (The Committee) met on Tuesday, 04 October 2011 to discuss your research proposition.

By way of introduction, this response from the Committee is provided as part of the Memorandum of Understanding between Te Rūnanga o Ngāi Tahu and the University. In the statement of principles of the memorandum, it states "Ngāi Tahu acknowledges that the consultation process outlined in this policy provides no power of veto by Ngāi Tahu to research undertaken at the University of Otago". As such, this response is not "approval" or "mandate" for the research, rather it is a mandated response from a Ngāi Tahu appointed committee. This process is part of a number of requirements for researchers to undertake and does not cover other issues relating to ethics, including methodology; they are separate requirements with other committees, for example the Human Ethics Committee, etc.

Within the context of the Policy for Research Consultation with Māori, the Committee base consultation on that defined by Justice McGechan:

"Consultation does not mean negotiation or agreement. It means: setting out a proposal not fully decided upon, adequately informing a party about relevant information upon which the proposal is based; listening to what the others have to say with an open mind (in that there is room to be persuaded against the proposal); undertaking that task in a genuine and not cosmetic manner. Reaching a decision that may or may not alter the original proposal."

The Committee considers the research to be of importance to Māori health.

As this study involves human participants, the Committee strongly encourage that ethnicity data be collected as part of the research project. That is the questions on self-identified ethnicity and descent, these questions are contained in the 2006 census.

The Committee suggests dissemination of the research findings to Māori health organisations regarding this study.

We wish you every success in your research and the Committee also requests a copy of the research findings.

The Ngāi Tahu Research Consultation Committee has membership from:

Te Rūnanga o Ōākou Incorporated
Kīhī Horonko Rūnaka ki Pukekoenuki
Te Rūnanga o Moeraki
This letter of suggestion, recommendation and advice is current for an 18 month period from Tuesday, 04 October 2011 to 04 April 2013.

The recommendations and suggestions above are provided on your proposal submitted through the consultation website process. These recommendations and suggestions do not necessarily relate to ethical issues with the research, including methodology. Other committees may also provide feedback in these areas.

Nāhaku noa, nā

Mark Brunton
Kaiākawaenga Rangahau Māori
Facilitator Research Māori
Research Division
Te Whare Wānanga o Otago
Ph: +64 3 479 8738
email: mark.brunton@otago.ac.nz
Web: www.otago.ac.nz
Appendix 2 - Wellington Regional Ethics Committee
approval letter

9 February 2012

Klare Braye
Matua Raki
117a Severn Street
Island Bay
Wellington

Dear Ms Braye

Ethics ref: CEN/12/EXP/004 (please quote in all correspondence)
Study title: Consumer and clinician perceptions of changing patterns of opioid
general use in New Zealand: influences and implications

Thank you for your email letter dated the 19 December 2011 enclosing documentation relating
to the above named study. This documentation has been reviewed and approved by the
Chairperson of the Central Regional Ethics Committee under delegated authority.

Approved Documents

- Expedited Review Application signed and dated 12 December 2011 by Klare
  Braye

Please do not hesitate to contact me should you have any queries.

Yours sincerely

[Signature]

Administrator
Central Regional Ethics Committee

Central Regional Ethics Committee
Office of the Ministry of Health
PO Box 5013
1 The Terrace
Wellington
Phone: (04) 816 2433
Email: central_ethicscommittee@moh.govt.nz
Appendix 3 - Purposive sampling questions

**Purposive Sampling Inclusion Questions**

**Perceptions of changing patterns of opioid use in New Zealand: Influences and implications**

Due to the nature of obtaining a sample a purposive sample a range of questions may be asked in order to establish the suitability of the potential participant. Note that not all questions may be required to be asked based on the characteristics of the sample already obtained to date. Questions need not be asked in this order or precisely in this way—they are a guide only.

How long have you been using opiates or opioids?

Have you ever used poppy seed tea?  Yes  No

Have you ever used over the counter (OTC) opioid analgesics?  Yes  No

Are you aware of this research project that is being carried out on changing patterns of opioid use in New Zealand?  Yes  No

Are you happy to meet with a researcher to discuss your use and access to these substances?  Yes  No

From which service/agency did you find out about this study?  

Name (for purposes of contact only):

-------------------------------------------------------------------------------------------------------------
Contact (for purposes of contact only): ..............................................................................

Age: ..............................................................................

Gender: ..............................................................................

Ethnicity: ..............................................................................

Has written consent been obtained?  Yes  No
Appendix 4 - Information sheet of consumers/service user participants

National Addiction Centre
(Aotearoa New Zealand)

Consumer Information Sheet

Perceptions of changing patterns of opioid use in New Zealand: Influences and implications

Principal Investigator: Klare Bray, c/o University of Otago/Matua Raki, Wellington.
Ph 499340, 0275 799 094
Supervisors: Ria Schroder - National Addiction Centre, Ph. 03 3640480
Daryle Deering - National Addiction Centre, Ph. 03 3640480

Introduction
You are invited to take part in a study exploring the changing patterns of opioid use. This will involve an interview in which we would like to hear about your ideas about the availability and use of opioids in New Zealand. It is anticipated that this will take about an hour- or more if you wish. Your participation is entirely voluntary (your choice). You do not have to take part in this study and if you chose not to it will in no way affect any future care or treatment. If you do agree to take part, you are free to withdraw from the study at any time, without having to give a reason. Similarly, this will not affect any future care or treatment. You may have a friend, family or whanau support to help you understand the risks and/or benefits of this study and any other explanation you require.

About the study
New Zealand has a somewhat unique history of opioid use characterised by limited availability of heroin, a scene dominated by pharmaceuticals, the considerable use of poppies and their seeds and most recently the use of over the counter medications. Many of these patterns have been clinically observed and anecdotally reported on but to date there have been no systematic studies looking in to this. With your assistance we would like to explore these changing patterns and the impetus behind them, in addition we would like to gain some insight in to the impact that this has on users. We anticipate that this will inform consumers and treatment providers in relation to harm reduction strategies and best treatment practices. It may also advise decision makers in their processes of putting controls and restrictions on certain substances.

Participation
Approximately ten participants will be selected for this study using an approach that aims to get a sample of users, with a significant history of opioid use-both in terms of time using (at least 10 years) and use of a range of opioids. You may be asked a number of questions initially to ensure your suitability before making a time to meet with the interviewer. This interview can take place either at the place that you found out about this study, or one that is more convenient for you. The interview will last approximately an hour although you are welcome to more time or another session if you wish. You do not have to answer all the questions and you may stop the interview at any time. The interview will be recorded for the purpose of ensuring that what you say is accurately documented. These recordings and documentation will be stored, separate from any contact details or other information that may identify you for a period of ten years. (This is on line with normal research procedures).
Family/whanau support persons are welcome to support you at the interview. Whilst we
cannot pay you for your participation we would like to offer you a $20 koha voucher for your
involvement.

Benefits and Risks
This information will provide a fuller picture of the changing patterns of opioid use in
New Zealand, including the gaining an understanding of the responses and behaviours of
opioid users as the availability of substances changes. This study will also give you an
opportunity to share your stories of substance use, substance availability and the challenges
that this presents.

There are no identified risks in participating in this study. Confidentiality is assured and
acknowledgement of the sensitive nature of illicit opioid use is understood. Klare, the
researcher/interviewer has a long history of supporting consumers in their alcohol and drug
journeys although she is not currently working in a service in which you a client/clinician
relationship would occur. If you indicate or she detects any level of distress or unease you
can stop the interview with no consequences to yourself. Furthermore Klare can make the
appropriate referrals or support you to attend a supportive agency.

Results
Data collected from yourself and other participants will be collated in a report of
which you may request a copy on completion of the study (note that this may take some
time). This information may also be presented to conferences and clinical meetings to
support the delivery of treatment to opioid users.

Confidentiality
Whilst some personal information is initially collected, this is for the purposes of
arranging interviews and follow up only. No material that could personally identify you will
be used in this, or any subsequent reporting.

Statement of Approval
This study has received ethical approval from the Central Region Ethics Committee,
ethics reference number........................ and is supported through the University of
Otago. If you have any concerns about your rights as a participant in this study you may
wish to contact them at (04) 496 2405 or central_ethicscommittee@mch.govt.nz

If you have any other questions or concerns or would like further information about
this study please feel free to talk with either, the person who gave you this information
sheet, your counsellor/individual clinician if you have one or the Principal Investigator- Ria
Schroder or Klare Bray- the person carrying out this study.

If you have any queries or concerns regarding your rights as a participant in this study, you
may wish to contact an independent health and disability advocate: This is a free service
provided under the Health and Disability Commissioner Act. Telephone (NZ wide) 0800
555 050. Free Fax (NZ wide): 0800 2787 7678 (0800 2 SUPPORT). Email:
advocacy@ hdc.org.nz

~ 218 ~
Appendix 5 - Information sheet for clinicians/service provider participants

National Addiction Centre
(Aotearoa New Zealand)

Clinician Information Sheet

Perceptions of changing patterns of opioid use in New Zealand:
Influences and implications

Principal Investigator: Klare Braye, c/o University of Otago/Matua Rakii, Wellington.
Ph 4999340, 0275 799 094
Supervisors: Ria Schroder - National Addiction Centre. Ph. 03 3640480
Daryle Deering - National Addiction Centre. Ph. 03 3640480

Introduction
You are invited to take part in a study exploring the changing patterns of opioid use. As an experienced clinician who has observed the trends of opioid use over the last five or more years we would like to hear about your experiences and observations of opioid use trends, your perceptions of what has influenced this and the impact that you believe this has on opioid users. It is anticipated that this will take about an hour, but you are welcome to more time if you wish. Your participation is entirely voluntary. You do not have to take part in this study and if you chose not to it will in no way affect your future employment. If you do agree to take part, you are free to withdraw from the study/interview at any time, without having to give a reason.

About the study
New Zealand has a somewhat unique history of opioid use characterised by limited availability of heroin, a scene dominated by pharmaceuticals, the considerable use of poppies and their seeds and most recently the use of over the counter medications. Many of these patterns have been clinically observed and anecdotally reported on but to date there have been no systematic studies looking in to this. With you assistance we would like to explore these changing patterns and the impetus behind them, in addition we would like to gain some insight in to the impact that this has on users. We anticipate that this will inform consumers and treatment providers in relation to harm reduction strategies and best treatment practices. It may also advise decision makers in their processes of putting controls and restictions on certain substances.

Participation
Approximately ten consumer and five clinician participants will be selected for this study using an approach that aims to get a sample of users with a significant history of opioid use and clinicians with significant experience working with opioid users. You have been approached for this reason. The interview will last approximately an hour. You do not have to answer all the questions and you may stop the interview at any time. The interview will be recorded for the purpose of ensuring that what you say is accurately documented. These recordings and documentation will be separated from any contact details or other information that may identify you and stored for a period of ten years. This interview can take place at your place of work, the place of work of the interviewer or at a venue that is more convenient for you.
Benefits and Risks

This information will provide a fuller picture of the changing patterns of opicid use in New Zealand, including gaining an understanding of the responses and behaviours of opioid users as the availability of substances changes. This study will also give you an opportunity to share your insights and observations from a perspective of respected experience and good clinical grounding.

There are no identified risks in participating in this study. Confidentiality is assured and acknowledgement of the sensitive nature of illicit opioid use is understood. Klare, the researcher/interviewer has a long history of working within the addiction field and is aware of the importance of confidentiality the role of harm minimisation and the value of research that supports clinical practice.

Results

Data collected from yourself and other participants will be collated in a report of which you may request a copy on completion of the study (note that this may take some time). This information may also be presented to conferences and clinical meetings to support the delivery of treatment to opioid users.

Confidentiality

Whilst some personal information is initially collected, this is for the purposes of arranging interviews and follow up only. No material that could personally identify you will be used in this, or any subsequent reporting.

Statement of Approval

This study has received ethical approval from the Central Region Ethics Committee, ethics reference number CEN/12/EXP/004 and is supported through the University of Otago. If you have any concerns about your rights as a participant in this study you may wish to contact them at (04) 496 2405 or central_ethicscommittee@moh.govt.nz

If you have any other questions or concerns or would like further information about this study please feel free to talk with either, the Principal Investigator- Ria Schroder or Klare Braye- the person carrying out this study, your manager or colleagues.

If you have any queries or concerns regarding your rights as a participant in this study, you may wish to contact your professional organisation or you can contact an independent health and disability advocate. This is a free service provided under the Health and Disability Commissioner Act. Telephone (NZ wide) 0800 555 050. Free Fax (NZ wide): 0800 2787 7678 (0800 2 SUPPORT) Email (NZ wide): advocacy@hdc.org.nz

Clinician Information Sheet  v2  December 2011
Appendix 6 - Consent form for consumers/service user participants

National Addiction Centre
(Aotearoa New Zealand)

Consent form - Consumers

Perceptions of changing patterns of opioid use in New Zealand: Influences and implications

I have read and I understand the information sheet dated 18.11.11 for volunteers taking part in this. I have had the opportunity to discuss this study. I am satisfied with the answers I have been given.

I have had the opportunity to use whanau support or a friend to help me ask questions and understand the study.

I understand that taking part in the study is voluntary (my choice) and that I may withdraw from the study at any time and that this will in no way affect my future or continuing health care.

I understand that this interview will be audio recorded for the purpose of transcription.

I understand that my participation in this study is confidential and that no material that could identify me will be used in any reports on this study.

I have had time to consider whether to take part in this study.

I know who to contact if I experience any distress as a result of participating in this study.

I know who to contact if I have any further questions about participation in this study.

I (full name) .......................................................... hereby consent to take part in this survey.

Date: ...........................................................

Signature: ................................................................

Full name of Researcher: ...........................................................

Project explained by: ................................................................

Project role: ............................................................................

Signature: ..............................................................................

Date: ..............................................................................

I would like a copy of the report of the findings of this study when they are produced (note that this may take a lengthy period of time)?

Yes

No

Address/email for a copy of the report of the findings if requested: ...........................................................
Appendix 7 - Consent form for clinicians/service provider participants

National Addiction Centre
(Aotearoa New Zealand)

Consent form - Clinicians

Perceptions of changing patterns of opioid use in New Zealand: Influences and implications

I have read and I understand the information sheet dated 18.11.11 for volunteers taking part in this. I have had the opportunity to discuss this study. I am satisfied with the answers I have been given.

I have had the opportunity to use whanau support or a friend to help me ask questions and understand the study.

I understand that taking part in the study is voluntary (my choice) and that I may withdraw from the study at any time and that this will in no way affect my employment.

I understand that my participation in this study is confidential and that no material that could identify me will be used in any reports on this study.

I understand that this interview will be audio recorded for the purpose of transcription.

I have had time to consider whether to take part in this study.

I know who to contact if I experience any distress as a result of participating in this study.

I know who to contact if I have any further questions about participation in this study.

I (full name)……………………………………...hereby consent to take part in this survey.
Date: ……………………………………………………..
Signature: ……………………………………………..

Full name of Researcher: ………………………………
Project explained by: ……………………………………
Project role: ……………………………………………
Signature: ………………………………………………..
Date: ……………………………………………………..

I would like a copy of the report of the findings of this study when they are produced (note that this may take a lengthy period of time)? Yes No

Address/email for a copy of the report of the findings if requested: ……………………………………………………………………………………..
Appendix 8 - Question guide for consumers

Consumer Interview Guide

Mihi, Introductions (it may be necessary to refer to confidentiality here), Welcome
Introduce myself: klare Braye, currently completing study through Otago University, spent many years working with clients in mental health and addictions services, both here and overseas. Etc...(as required/appropriate)

Clarify and reiterate consent process, confidentiality and withdrawal options:

Have you had a chance to read the information sheet and discuss any issues you have? Do you have any further questions? Do you know who to contact if you do?

And have you had a chance to talk this through with whanau, friends, etc and time to consider whether to participate?

Do you understand that taking part in the study is entirely voluntary, and that you may withdraw, not answer any questions or cease the interview at any time. And that this will in no way affect any future treatment?

Do you understand that the information that you share about yourself and your experiences is confidential, within the research team. That we are recording your responses for collection purposes only and that any information you provide will be collated to produce a research report.

Please, let me reiterate, if you are not happy with where this interview is going, if you do not want to answer any questions, if you want to stop for any reason or experience any distress that you let me know – we can stop the interview and make sure that you get what you need.

Questions/Guide

So, what I am looking to explore is your experiences of any changing patterns of opioids, what you consider may have influenced and what impact this has had on your use.

I don’t have many specific questions as such, just a number of areas that I would like to explore. So as I am interested in hearing about your history of opioid use, perhaps you can start with how it began for you?
Possible use of a timeline to facilitate the documentation and ordering for the consumer
Pending age/history etc, possible referral back to the 1980’s, Mr Asia, etc
If it doesn’t not come up clearly within a time line or history, ascertain history of PST and/or OTC use:
  - First use, regular use, current use
  - Quantities at these times, (increase/decreases etc)
  - Interventions/treatments for this use
  - Reason for use (withdrawal, stabilisation, to get high etc)
  - Source of substances
  - Impact of use (adverse effects, legality, sourcing etc
What is your understanding around safety and efficacy of different opioids?
Can you tell me what your drug of choice would be and why?
  - alternative drug of choice-for alternative reason
Can you tell me about your experiences of accessing these substances?
  - What prompted your use
  - How easy was it to access/source/supply
  - Any observable change in access/availability
  - In what way has this impacted on your use
What you know or understand about any early restrictions of opiates such as heroin?
  - What about PST?
  - OTC’s?
  - Other opioids?
If you were a parent/school teacher/politician/shop keeper what might you suggest around access, availability and restrictions?

Conclusion
Summing up, clarifications
Reiterate the process from here: including the opportunity for follow up and how to make contact prn; subsequent interviews; collation and writing up process; access to final report etc
Appendix 9 - Question guide for clinicians

Clinician Interview Guide

Mihi, Introductions (it may be necessary to refer to confidentiality here), Welcome
Introduce myself: Klare Braye, currently completing study through Otago
University, spent many years working with clients in mental health and
addictions services, both here and overseas. Etc...(as required/appropriate)
Clarify and reiterate consent process, confidentiality and withdrawal options:
Have you had a chance to read the information sheet and discuss any issues
you have? Do you have any further questions? Do you know who
you do?
And have you had a chance to talk this through with whanau, friends, etc and
time to consider whether to participate?
Do you understand that taking part in the study is entirely voluntary, and that
you may withdraw, not answer any questions or cease the interview at any
time. And that this will in no way affect any future treatment?
Do you understand that the information that you share about yourself and your
experiences is confidential, within the research team. That we are recording
your responses for collection purposes only and that any information you
provide will be collated to produce a research report.
Please, let me reiterate, if you are not happy with where this interview is going,
if you do not want to answer any questions, if you want to stop for any reason
or experience any distress that you let me know – we can stop the interview
and make sure that you get what you need.

Questions/Guide
So, what I am looking to explore is your experiences of any changing patterns of opioids,
what you consider may have influenced and what impact this has had on your use.
I don’t have many specific questions as such, just a number of areas that I would like to explore. So as I am interested in hearing about your experiences of working with clients with opioid use, about possible trends or patterns of various substance use, what you think may influence this and what impact that you see this having on your clients.

Perhaps you can start with the various opioid substances you have come across
Possible use of a timeline to facilitate the documentation and historical ordering
Pending age /history etc, possible referral back to the 1980’s, Mr Asia, etc
What do you see as the impact of each of these substances?
Tell me your thoughts about the level of harm or harm reduction as a consequence of these substances
What is your understanding around safety and efficacy of different opioids?
Can you tell me about what you see as a preferred drug of choice and why?
alternative drug of choice-for alternative reason
Can you tell me about your perceptions or experiences of observing clients accessing these substances?
How easy was it to access/source/supply
Any observable change in access/availability
In what way has this impacted on clients use?
What you know or understand about any early restrictions of opiates such as heroin?
What about PST?
OTC’s?
Other opioids?
If you were a parent/school teacher/politician/shop keeper what might you suggest around access, availability and restrictions?

Conclusion
Summing up, clarifications
Reiterate the process from here: including the opportunity for follow up and how to make contact prn; subsequent interviews; collation and writing up process; access to final report etc
Appendix 10 - Glossary of terms

Abuse - a term that has meanings vary from the international context in which abuse refers to the ‘consumption of a controlled substance’ (UNODCP, 2000) to a diagnostic definition of ‘a maladaptive pattern of substance use leading to clinically significant distress or impairment’ (APA, 2000). Also defined as ‘the use of an illegal drug or the intentional self-administration of a medication for a nonmedical use’ (Webster, St Marie, McCarberg, Passik, Panchal & Voth, 2011).

Abuse deterrent formulation (ADF) - a drug product to which a pharmacologically active ingredient has been added or a physical barrier has been introduced to deter its abuse.

Adjunctive drugs - drugs that are used over and above, or in addition to the recognised staples of opioid dependence (ie morphine and methadone). They are the substances that are typically more susceptible to fluctuating availability and are thus frequently used as concurrent or additional opioids of abuse.

Analgesic - a substance that reduces pain.

Antagonist - a substance that counteracts the effects of another agent. Pharmacologically, an antagonist interacts with a receptor to inhibit the action of agents (agonists) that produce specific physiological or behavioural effects mediated by that receptor (WHO, 2014).

Aroha - love, compassion, empathy. (MoH, 2008) Let’s get real: real skills for people working in mental health and addiction.

Black market - this refers to the buying or selling of goods, typically drugs, in violation of price or regulation.

Client - an individual, family member, family, whānau, group or community that is receiving an addiction-related intervention, treatment or support service. This term is
used interchangeably with the following: tangata whai ora, consumer, service user, tangata kaupapa, whānau, patient.

Co-existing problems (CEP) - a non diagnostic term that describes the concurrence of problems, frequently referred to incorporates mental health and addiction (i.e. alcohol and other drug and problem gambling) but can also include physical health, disability, etc.

‘Cooks’ (bakers, cooking) - these are the recognised individuals who have a role in the production of illicit drugs, notably turning morphine or homebake.

Dependence - a diagnostic term indicating a ‘maladaptive pattern of substance use, leading to clinically significant impairment or distress’ (APA, 2000) manifested by a cluster of cognitive or behavioural of physiological effects.

Diversion - the giving or selling of a controlled substances, typically a prescription medicine substance from legitimate distribution and dispensing channels to others for subsequent misuse.

Homebake - a heroin like substance manufactured from over-the-counter or prescription painkillers containing codeine or morphine sulphate tablets.

Illicit substance - a substance of use that is either illegal or not prescribed to a particular person, i.e. Obtained illegally.

Managed withdrawal (detoxification) - management of the symptoms of withdrawal occurring upon cessation of a substance to which an individual is dependent. May also be referred to as detoxification or ‘detox’.

Medsafe - New Zealand’s Medicines and Medical Devices Safety Authority. A business unit of the Ministry of Health and is the authority responsible for the regulation of therapeutic products in New Zealand.

‘Mistie’ - slang term for morphine sulphate tablet.
Misuse - use of a substance in ways other than those intended. Sometimes also called problematic opioid use.

Opiates - the natural alkaloids found in the resin of the opium poppy (Papaver somniferum). Opiates may be considered to be ‘natural’ substances and not manufactured by chemical synthesis. Common opiates include morphine and codeine, both made directly from poppy plants.

Opioid - the term opioid is used to refer to ALL opium-like substances (including opiates and opioids). Their derivatives are naturally occurring, partially or fully manufactured via chemical synthesis, i.e. synthetic or partially synthetic.

Opiophobia - a fear of using or prescribing opioids in the treatment of pain. Appropriate prescribing is impeded due to concerns regarding clinical, regulatory and medico-legal potential risk factors (Bennet & Carr, 2002).

Opioid substitution treatment (OST) (may also be referred to as opioid treatment service) - a treatment that offers opioid substitution medications such as methadone and buprenorphine as part of the package of care. It may also be referred to as methadone maintenance.

Over-the-counter (OTC) medicines - medicines that are available for purchase without a prescription.

Participant (interviewee) - the term participant is used to indicate the active participation of an individual who was interviewed for this study.

Patient - a medical term indicating a person under medical care or treatment.

PHARMAC - New Zealand’s Pharmaceutical Management Agency. A Crown entity established by the New Zealand Public Health and Disability Act 2000 and directly accountable to the Minister of Health.

Pharmaceutical - a drug or medication that has been formulated and tested for use in humans, intended for the treatment or prevention of disease.
Potentiator - a substance that is used to enhance the effects of a psychoactive substance.

Practitioner - an addiction professional who is qualified and competent to provide intervention and/or treatment independently, albeit while part of a team and/or supervision structure, within the addiction sector. May be used interchangeably with the term clinician.

Precursor - a chemical substance used in the manufacturing process of a psychoactive substance (UNODCP, 2000).

‘Recipe’- a colloquial term referring to the process and ingredients involved in the alteration of an opioid.

Recovery - living well in the presence or absence of mental illness or addiction and the losses that can be associated with it (MoH, 2008).

‘Script’ - an abbreviation of prescription.

Service Provider (clinician, practitioner, professional) - a professional working with addiction, qualified and competent to provide intervention, treatment and/or advice within the addiction sector. This term is used in preference to clinical labels, acknowledging that not all service provider participants in this study currently work in a clinical setting, although they all have an integral role in the provision of services.

Service user (client, consumer, tangata whai ora) - a person who uses addiction services. Preferences for terminology for this population vary. This term is used to acknowledge the participants use of a service, either currently or historically.

‘Street’ opioid - the sourcing of an opioid obtained through illegal means.

Substance - any drug with pleasant psychoactive effects and addiction potential, including alcohol, illegal drugs, and prescription drugs.

Trend - indicates the movement of an event or a shift in the occurrence of opioid availability or use.
‘Turning turtles ’- a process of altering by means of heat, a morphine sulphate tablet in to an injectable form.

Withdrawal - characteristic syndrome produced by abrupt cessation of a drug.
Appendix 11 - Glossary of opioids, opioid precursors and potentiators

The following is a list of opioids, opioid precursors and potentiators noted in this study. Substances are in the main listed by their generic name, followed by any brand names in brackets and slang names in italics. If a substance (generic, brand name or slang) has not been referred to in this document it will not be included in this glossary.

Acetic anhydride – a colourless, flammable and toxic liquid used legitimately in the manufacture of cellulose acetate, some industrial chemicals, pharmaceuticals and cosmetics. It is also used in the conversion of morphine to heroin ‘homebake’.

Buprenorphine (Suboxone, Subutex, Temgesic) - partial opioid agonist used to treat moderate to severe pain and opioid dependence. Naloxone, an opioid antagonist may be included in the preparation as an abuse deterrent formulation, e.g. Suboxone.

Codeine - opioid analgesic used to treat moderate to severe pain. Codeine is available as a single product, in combination with paracetemol and/or ibuprofen and in cough syrups.

Cyclizine (Marezine) - an antihistamine drug used to treat nausea, vomiting and dizziness. It is also an opioid receptor agonist. Cyclizine can be combined with methadone to increase the psychoactive effects.

Fentanyl (Duragesic) - opioid analgesic used to treat chronic breakthrough pain, commonly used in cancer patients, post operatively and also for short duration analgesia in anaesthesia.

Ibuprofen (Nurofen) - a non steroidal anti-inflammatory drug. Ibuprofen and codeine (Nurofen Plus) is a combination pain relief which produces an anti-inflammatory and analgesic effect.
Heroin - an opioid analgesic found naturally in the opium poppy.

Homebake (hillbilly heroin) - produced by ‘turning’ codeine so that it forms a morphine/diamorphine mix.

Methadone - synthetic opioid analgesic used to treat opioid dependence and severe pain.

Loperamide (Diastop, Imodium) - used for the treatment of diarrhoea. High doses have shown to create morphine type physical dependence in monkeys and anecdotally, it has an effect in staving off withdrawals of opioids.

Morphine (MS Contin, Oramorph, Kapanol, m-Eslon, RA Morph) (misties, MST) - Opioid analgesic used to treat severe pain. May also be collegially referred to as ‘misties’.

Naloxone - a pure opioid antagonist used to counter the effects of opioid overdose. Available in combination formulations with buprenorphine to treat opioid dependence or pain relief in those at risk of opioid abuse.

Naltrexone - opioid receptor antagonist used in the management of alcohol and opioid dependence. Not to be confused with naloxone.

Opium Tincture (OT), (Camphorated opium, Laudanum, Omnopon, Gees linctus, Paregoric) - historically, opium tincture has been used in many ailments and compositions and the generic and trade names are often used interchangeably.

Oxycodone (OxyContin, OxyNorm) - Opioid analgesic used to treat moderate to severe pain.

Paracetemol – (Panadol) a mild analgesic widely used in over-the-counter pain relief. Parecetemol and codeine (Panadeine, Panadeine Plus) are available as a combination preparation producing a stronger analgesic effect.

Promethazine hydrochloride (Phenergan) - a long acting antihistamine, with sedative effects. It can be used to potentiate and/or reduce the side-effects of opioid.
Papaver somniferum - the opium poppy.

Poppy seed tea - a decoction made from the soaking or boiling of poppy seeds.

Pethidine - opioid analgesic used to treat moderate to severe pain.

Tramadol - Centrally acting synthetic opioid-like analgesic used to treat moderate to severe pain.