

**A SYSTEMS PERSPECTIVE OF BUPRENORPHINE PATIENTS'  
EXPERIENCES IN AN OPIOID TREATMENT PROGRAM**

by

Laura B. Monico

A dissertation submitted to the Faculty of the University of Delaware in partial fulfillment of the requirements for the degree of Doctor of Philosophy in Sociology

Spring 2016

© 2016 Laura B. Monico  
All Rights Reserved

ProQuest Number: 10157829

All rights reserved

INFORMATION TO ALL USERS

The quality of this reproduction is dependent upon the quality of the copy submitted.

In the unlikely event that the author did not send a complete manuscript and there are missing pages, these will be noted. Also, if material had to be removed, a note will indicate the deletion.



ProQuest 10157829

Published by ProQuest LLC (2016). Copyright of the Dissertation is held by the Author.

All rights reserved.

This work is protected against unauthorized copying under Title 17, United States Code  
Microform Edition © ProQuest LLC.

ProQuest LLC.  
789 East Eisenhower Parkway  
P.O. Box 1346  
Ann Arbor, MI 48106 - 1346

**A SYSTEMS PERSPECTIVE OF BUPRENORPHINE PATIENTS'  
EXPERIENCES IN AN OPIOID TREATMENT PROGRAM**

by

Laura B. Monico

Approved: \_\_\_\_\_  
Kirk Williams, Ph.D.  
Chair of the Department of Sociology and Criminal Justice

Approved: \_\_\_\_\_  
George H. Watson, Ph.D.  
Dean of the College of Arts and Sciences

Approved: \_\_\_\_\_  
Ann L. Ardis, Ph.D.  
Senior Vice Provost for Graduate and Professional Education

I certify that I have read this dissertation and that in my opinion it meets the academic and professional standard required by the University as a dissertation for the degree of Doctor of Philosophy.

Signed:

---

Ronet Bachman, Ph.D.  
Professor in charge of dissertation

I certify that I have read this dissertation and that in my opinion it meets the academic and professional standard required by the University as a dissertation for the degree of Doctor of Philosophy.

Signed:

---

Susan Miller, Ph.D.  
Member of dissertation committee

I certify that I have read this dissertation and that in my opinion it meets the academic and professional standard required by the University as a dissertation for the degree of Doctor of Philosophy.

Signed:

---

Christy Visher, Ph.D.  
Member of dissertation committee

I certify that I have read this dissertation and that in my opinion it meets the academic and professional standard required by the University as a dissertation for the degree of Doctor of Philosophy.

Signed:

---

Shannon Gwin Mitchell, Ph.D.  
Member of dissertation committee

## ACKNOWLEDGMENTS

This dissertation is dedicated to the staff and patients at Walk A New Street treatment center, who let me into their lives during the course of my ethnographic data collection in ways that profoundly shaped who I am as a person and scholar. I will carry these stories and experiences with me through every stage of my life and career. Thank you.

Dr. Ronet Bachman, who has laughed, cried, and advised me through a Master's thesis, doctoral dissertation, and every stage of graduate school in between. Thank you for your patience and guidance through all of the challenges and successes that have presented themselves along the way. Cheers.

Dr. Shannon Gwin Mitchell, who has offered me countless opportunities to expand my knowledge, experience, and skills. You were an unexpected, but pivotal mentor over the last six years, and continue to offer me direction and guidance as I move into the next stage of my career at Friends.

My dissertation committee, Dr. Christy A. Visher and Dr. Susan Miller, for your continued support and feedback throughout this process.

My professional friends and colleagues who have all contributed to my development along way: Dr. Larry Daily, Dr. Stephanie Slocum Shaffer, Dr. Anne Bowler, Dr. Rosalie Rolon Dow, Dr. Daniel O'Connell, Judi Buchanan, Dr. Holly Swan, Nicole Smolter, Kristen Hefner, Dr. Robert Schwartz, Dr. Jerome Jaffe, Dr. Jan Gryczynski, and Dr. Sharon Kelly.

My parents, Yadi and Charles, for their continued support each year. My friends for their love and understanding each and every day.

To my daughters, Jasmine and Dakota, for always providing comic relief, a welcome distraction, and reminding me to never take myself too seriously. To my partner, Margie, for standing by me through each difficult step along the path, and providing me support, advice, and patience at every turn - we made it.

## TABLE OF CONTENTS

LIST OF TABLES .....	viii
LIST OF FIGURES .....	ix
ABSTRACT .....	x

### Chapter

1	INTRODUCTION .....	1
	Social History of Opioid Addiction.....	4
	Pharmacotherapy for Opioid Use Disorder .....	6
	Buprenorphine .....	9
	Research Aims.....	11
	Organization of Chapters.....	11
2	LITERATURE REVIEW .....	12
	Bronfenbrenner’s Ecological Systems Model .....	13
	Microsystem .....	14
	Mesosystem .....	18
	Exosystem.....	21
	Macrosystem.....	24
	Chronosystem .....	29
	Conclusion .....	31
3	METHODOLOGY .....	34
	Data Collection Planning and Pilot Project .....	34
	Sampling and Recruitment .....	35
	Data Collection: Semi-Structured Interviews.....	40
	Human Subjects.....	40
	Data Collection.....	41
	Sample Characteristics .....	42
	Patient Demographics.....	42
	Opioid History Characteristics .....	43
	Treatment and Buprenorphine Characteristics .....	45
	Data Analysis.....	45
	Analytic Strategy and Coding Scheme.....	47
4	MESOSYSTEM AND CHRONOSYSTEM .....	51

Chronosystem .....	51
The Rise of Prescription Opioids and Heroin.....	52
Macrosystem.....	62
Sick Role .....	62
Exemption from Social Roles by Buprenorphine Patients .....	64
Balancing Sick Role Obligations and Privileges for Buprenorphine Patients .....	74
Conclusion.....	76
5 EXOSYSTEM .....	78
Treatment Center Policies .....	78
Priority Intake Policies .....	79
Patient Medication Choice: Buprenorphine or Methadone .....	83
Medicaid .....	91
Availability of Non-Prescribed Buprenorphine.....	102
Conclusion.....	110
6 MESOSYSTEM .....	113
Office-Based Opioid Treatment: Buprenorphine by Prescription.....	114
Role Strain In and Out of Treatment .....	129
Conclusion.....	139
7 MICROSYSTEM .....	142
Transitioning to Heroin and Intravenous Use .....	143
Transitioning to Heroin .....	143
Route of Administration and Transitioning to Heroin .....	148
Transitioning to Intravenous Use .....	150
Negative Effects of Intravenous Heroin Use.....	154
“World of Mouth” During Treatment.....	158
Information Exchanged About Treatment Entry .....	158
Information Exchanged During Treatment .....	162
Conclusion.....	166

8	DISCUSSION AND CONCLUSION .....	168
	Ecological Systems Framework Findings .....	170
	Chronosystem .....	170
	Macrosystem.....	170
	Exosystem.....	172
	Mesosystem .....	174
	Microsystem .....	177
	Conclusion.....	178
	Policy Recommendations .....	180
	Study Limitations .....	181
	Future Research .....	182
	REFERENCES .....	184
	Appendix	
A	INTERVIEW GUIDE .....	199
B	CONSENT FORM .....	203
C	PARTICIPANT CHARACTERISTICS.....	205
D	CODE LIST .....	208

## LIST OF TABLES

Table 1	Ecological Model Examples.....	15
Table 2	Sampling Plan of Buprenorphine Patients.....	37
Table 3	WANS Buprenorphine Program Demographics.....	37
Table 4	Sample Characteristics (n=20).....	44
Table 5	Respondent characteristics who initiated opioid use with Prescription.....	60

## LIST OF FIGURES

Figure 1	Bronfenbrenner’s ecological systems model.....	14
Figure 2	Comparison of national overdose deaths – Prescription opioid pain relievers and heroin.....	56
Figure 3	Opioid prescription dispensed by U.S. retail pharmacies.....	57
Figure 4	Increasing trend of heroin use after the introduction of abuse-deterrent formulation of OxyContin (dashed vertical line).....	58

## **ABSTRACT**

There is a significant gap between the treatment need of individuals in the United States with opioid use disorders and the treatment capacity to offer methadone or buprenorphine-based pharmacotherapy. This dissertation utilizes an ecological systems framework to explore buprenorphine patients' experiences in an opioid treatment program, and discover potential barriers to patients' treatment entry and engagement. Data comes from semi-structured qualitative interviews (n=20) with buprenorphine patients receiving daily medication doses in an opioid treatment program modality. Findings indicate a continued paradigmatic division between the criminalization and medicalization of opioid use disorders that filters down through ecological systems levels to create policy inconsistencies and individual treatment entry and engagement barriers. These findings contribute to existing research that has sought to understand the opioid treatment gap from the perspective of physicians and treatment organizations, by including patient perspectives of barriers limiting accessibility to buprenorphine. The results of this research project encourage the development of innovative strategies and interventions to improve the accessibility of buprenorphine in a treatment system that significantly improved its availability in recent years.

## Chapter 1

### INTRODUCTION

*“Buprenorphine represents a major step forward in the treatment of opiate addiction. It allows physicians to treat patients for this disease in the same manner that other people are treated for such other chronic illnesses as diabetes or high blood pressure. Office-based buprenorphine increases the availability of therapy by offering patients greater flexibility in treatment scheduling and integration with the mainstream public for their health services.”*

*-Nora Volkow, M.D., Director of the National Institute on Drug Abuse*

Both the mass media and government officials have brought continuing attention to the growing number of patients entering drug treatment facilities who have physical dependencies on heroin and pharmaceutical medications intended for pain relief (such as Oxycodone, Percocet, Fentanyl, and Dilaudid) (Wesson and Smith 2010). While people with opioid dependencies (which include both narcotic prescription pain relievers and heroin) have access to the same treatment modalities as people addicted to other types of drugs, opioid users also have the opportunity to utilize pharmacotherapy. Today, the most widespread opioid pharmacotherapies include methadone, which the Food and Drug Administration (FDA) approved for treating opioid addiction in 1972; and buprenorphine, which was approved for the same purpose three decades later in 2002 (Rettig and Yarmolinsky 1995; Mann 2004).

A recent report generated by researchers from the FDA, the Substance Abuse and Mental Health Services Administration (SAMHSA), and the Centers for Disease Control

and Prevention (CDCP), found that there continues to be a significant discrepancy between the need for pharmacotherapy for opioid use disorders and the capacity for pharmacotherapy programs to provide care (Jones et al. 2015). Although previous studies have attempted to understand the under-utilization of buprenorphine by other actors, such as prescribing physicians (Netherland et al. 2009) and treatment programs (Knudsen et al. 2006b; Knudsen et al. 2009; Ducharme et al. 2009; Savage et al. 2012; Friedmann et al. 2012), little is known about the impact of this treatment gap on patient experiences.

Rapid growth in opioid dependence compels health care providers and researchers to develop multiple, effective treatment options for addicted users. The slow shift toward the medicalization of addiction has promoted innovative approaches to drug abuse treatment, including pharmacotherapies for opioid and alcohol dependence. Successful substance abuse treatment depends on more than the existence of physiologically effective medications, however. The most promising innovations also attend to how treatment programs dispense medications and monitor their use, as well as how patients perceive their involvement in such programs.

Research suggests that while methadone and buprenorphine treatments are similarly effective in the treatment of opiate addictions (Johnson et al. 2000; Marsch, Bickel, Badger, and Jacobs 2005), the provision of these medications to patients varies. As a patient population, individuals taking buprenorphine-based medication for opioid dependence have been largely unstudied. Beyond clinical trials of the medication, there is a paucity of research examining how using buprenorphine structures the everyday lives

of patients. Although the literature thoroughly addresses other well-known pharmacotherapies (such as Methadone), buprenorphine's unique properties have resulted in national and local regulations and dispensing procedures that distinguish this patient population from those participating in other forms of drug treatment. Because the personal, familial, and social experiences of this unique treatment population are largely unknown, this case study seeks to understand the unique experience of buprenorphine patients as they negotiate treating their opioid-dependence using prescribed medication within a cultural context that stresses completely drug-free recovery as ideal.

This dissertation combines participant observation and in-depth interviews to examine how buprenorphine patients negotiate the experience of treating their opioid-dependence with a prescription medication, and how the opioid treatment gap impacts patient experience. Specifically, the aims of this study are:

To understand how opioid-dependent patients experience and manage the process of engaging in a buprenorphine treatment program, and

How chrono-, macro-, exo-, and meso-level systems interact to create and structure buprenorphine patients' experiences.

## **Social History of Opioid Addiction**

Opioid addiction in the United States first gained widespread attention just after the end of the Civil War, when opioids had been widely dispensed to injured soldiers to relieve chronic and acute pain derived from war injuries. During the latter half of the 19<sup>th</sup> century, non-medical opioids were mostly confined to opium smoking among recent Chinese immigrants and members of society's urban underclass (White 1998). By the late 19<sup>th</sup> century, however, opioid addiction was most prevalent among middle- and upper-middle class White women due to the widespread practice of prescribing opiates for menstrual and menopausal pain, as well as general relief from 'female troubles' (Brecher and Editors 1972). Because the face of opioid addiction during this time was generally iatrogenic, confined to wounded war veterans and women, and did not present any major social problems, addiction-related issues were mostly handled with sympathy and tolerance (Courtwright 2001).

However, the face of opioid addiction began to shift once again during the early part of the 20<sup>th</sup> century with the rise of industrialization, the prescription of heroin as a cough suppressant, and the advent of the hypodermic form of drug administration (Courtwright 2001). European immigrants, especially young men struggling to find employment and housing in urban tenements and ghettos, found themselves chasing the euphoric effects of opioids and engaging in criminal behavior to obtain the drug (Courtwright 2001). As drug-related crime began to rise, the sympathy and tolerance previously shown toward veterans and women was replaced with disapproval and discrimination, and treatment efforts were quickly replaced by law enforcement approaches (Brecher and Editors 1972).

During World War II, the number of people in the United States addicted to opioids greatly declined, partly due to the heightened security around national borders and port cities. The years following the war brought major demographic shifts as White Americans left urban areas and Hispanic and African-American people moved to neighborhoods within cities where opioid addiction was already prevalent (Courtwright 2001; Courtwright et al. 1989). This shift continued over the next few decades, and the racial tensions of the 1950s reinforced public fears about poor, drug-addicted minorities living in urban centers (Courtwright et al. 1989).

While opioid addiction remained prevalent in poor urban areas during the 1960s and 70s, there was also a marked increase in middle-class White Americans' use of opioids. Once again, veterans were disproportionately affected when military personnel traveling to and from Vietnam were exposed to the illicit drugs readily available in Southeast Asia as well as the legally prescribed medications dispensed for severe injuries (Brecher and Editors 1972; Courtwright 2001). Historians estimate that by the 1980s, as many as 500,000 opioid addicted people were living in the United States, which generated greater attention to opioid addiction by medical, social, and political leaders (Courtwright et al. 1989; Courtwright 2001). By the end of the 1990s, this number had reached about 900,000, with nearly 20 percent of them attempting to seek treatment at any given time (Office of National Drug Control Policy 2003). Rates of addiction to prescription drugs and related emergency room visits doubled during the ten year period between 1992 and 2001 (Substance Abuse and Mental Health Services Administration 2004, 2003). Prescription drug abuse fast became the center of attention as both a gateway drug to other substances and a major contributor to growth in the opioid addiction rate.

## **Pharmacotherapy for Opioid Use Disorder**

During the early 20<sup>th</sup> century, when popular opinion held that recent immigrants were the primary cause for the rise in opioid addiction, the United States Congress passed the Harrison Narcotic Act of 1914 as a way to regulate the distribution and manufacture of opioid- and coca-based medications (Courtwright 2001; Courtwright et al. 1989). Although the principle concern at that time was the rising crime associated with urban opioid addiction, the Harrison Act did not address issues of criminality. It only required that physicians, pharmacists, and manufacturers be licensed, maintain sufficient prescription records, and pay fees to the Department of Treasury. The Harrison Act still allowed physicians to prescribe opioids to patients in the “course of professional practice only” (30 Stat. 786 [1914]), which the Department of Treasury later interpreted as a prohibition against prescribing opioids to patients to maintain their addictions. As the Department of Treasury saw it, addiction was not considered a disease, and therefore patients requesting opioids to maintain their addictions were not, in fact, patients at all. This was the first major legal barrier for using medication-based treatments for opioid addiction - one that would be upheld by the Supreme Court in 1919.

By the mid-to-late 1960s, the rates of death, criminality, and disease transmission associated with opioid addiction in New York City reached record highs. Heroin overdose became the leading cause of death for adults ages 15 to 35, Hepatitis B transmissions were steadily increasing due to the prevalence of hypodermic needle use among illicit opioid addicts, and drug-related crimes were causing severe overcrowding in the city’s jail system. Further complicating the situation in the jails, city authorities lacked access to an effective maintenance or detoxification method to

ease dependence withdrawal symptoms among those incarcerated, a long-term consequence of the Harrison Act (Inciardi 1994; Joseph and Dole 1970).

In 1958, a joint committee of the American Medical Association and the American Bar Association issued a formal recommendation for the formation of an experimental outpatient treatment facility that would prescribe opioids to treat addiction (Brecher and Editors 1972). By 1962, Dr. Vincent Dole, after receiving a grant to study the feasibility of opioid maintenance therapy, along with Dr. Marie Nyswander, began their research to find a suitable opioid to treat this unique population of drug users. Methadone, a long-acting opioid that could also be administered orally, appeared to be the best candidate. Unlike morphine, oxycodone, heroin, and codeine, methadone did not impair patients' pro-social behavior with sedation, or require multiple administrations per day, hypodermic administration, and increased dosage to achieve stability (White 1998; Dole 1980, 1988; Brecher and Editors 1972).

The success of Dole and Nyswander's research prompted an evaluative study in 1965 by Dr. Frances Rowe Gearing, which found: a 77 percent retention in treatment over six years; an overall improvement in employment, school enrollment, and homemaker status; and a 75 percent desistence rate from crime (all participants had criminal arrest records). This research prompted a major public health initiative to be publically funded by the United States federal government, which would expand methadone maintenance treatment (MMT) nationwide, under the leadership of Dr. Jerome Jaffe (Joseph and Dole 1970).

Unfortunately, over the next few decades, MMT faced major scrutiny and doubt among clinicians, as well as a growing public perception that methadone clinics enable addicts to continue drug-seeking behavior. MMT patients are now more likely

to enter MMT with higher rates of mental illness, poly-substance use, lack of employment, and homelessness than they were in the 1960s and 1970s (Joseph et al. 2000). The crack/cocaine epidemic of the 1980s increased the prevalence of MMT patients entering treatment with addictions to other drugs, and the erosion of affordable housing and unskilled manufacturing and factory jobs contributed to less stable home and work environments among opioid-addicted populations. This has resulted in MMT clinics facing the challenge of treating a general population of opioid addicts that have been the least successful in any type of treatment, including early positive outcome studies during methadone's evaluation period.

These socio-historical factors have reduced the overall efficacy of MMT and resulted in many programs' failure to follow medically sound dosing protocols (suggested at 80-120mg but averaging around 60mg) (D'Aunno 1999) for fear that MMT patients are trying to get high (Joseph et al. 2000). Even though previous research is clear that dosing levels are one of the single most important factors for positive MMT outcomes (Joseph et al 2000), some programs reduce patient dosages as a way to reduce potential avenues for diversion among MMT take-home patients. Additionally, public perception of the urban, minority, poor face of MMT has contributed to a NIMBY ("Not In My BackYard") community resistance that prevents the opening of new methadone clinics based on fears of loitering and drug sales around the properties (Joseph et al. 2000).

The overall reduction in MMT efficacy and the inability to open MMT clinics wherever needed ultimately leads to a gap between the number of opioid dependent individuals seeking treatment and the number of MMT treatment slots. The American Society of Addiction Medicine estimates that by 2000, MMT was only able to treat approximately one-fourth of the 800,000 opioid dependent people in the

United States (2004). In response to this treatment gap, Congress passed the Drug Addiction Treatment Act of 2000 (DATA 2000), which radically changed patient and physician options for pharmacotherapy treatment of opioid dependence.

### **Buprenorphine**

DATA 2000 effectively allowed physicians to acquire a separate waiver from the Drug Enforcement Agency (DEA) to prescribe Schedule III, IV, and V opioid medications for the purposes of maintenance or detoxification treatment. Methadone, a Schedule II substance classified as having a high potential for abuse but some accepted medical use, can only be prescribed by physicians in specialized clinics because of its medical properties as a full opiate agonist. Buprenorphine on the other hand, approved by the Food and Drug Administration in 2002 for the treatment of opioid dependence, was scheduled under Schedule III by the DEA thereby allowing it to be prescribed outside of a traditional MMT or Opioid Treatment Program (OTP) (SAMHSA 2005). Unlike methadone, buprenorphine is a partial agonist, meaning that although it still produces some euphoric effects in users, it does not produce the level of these effects at the same rate as methadone or heroin (SAMHSA 2005). Buprenorphine also has a “ceiling effect”, which at even moderate doses does not increase euphoric effects with increased dosage (SAMHSA 2005). Further, at higher doses, buprenorphine can effectively block the effects of full opioid agonists, if a buprenorphine patient were to ingest heroin or oxycodone on top of their prescribed buprenorphine (SAMHSA 2005). Finally, buprenorphine is also available as a cocktail medication with naloxone (packaged as Suboxone®, which precipitates withdrawal in users attempting to use the medication intravenously (SAMHSA 2005).

Coupled with the passage of DATA 2000, these characteristics of the medication created the opportunity for pharmacotherapy for opioid dependence to be expanded into office-based settings rather than specialized clinics. By expanding to these settings, the opioid treatment infrastructure in the United States opened up the possibility of narrowing the treatment gap created by methadone. By using the SAMHSA buprenorphine physician and treatment locator, as of this writing (August 28, 2013), there are currently 14,435 active physicians nationwide with a current DEA waiver to prescribe buprenorphine, as well as 1,831 treatment programs currently offering buprenorphine as a treatment modality. Given that each of these physicians are allowed by law to have a maximum of 30 buprenorphine patients on their case load at any given time (although additional waivers are available to have as many as 100), the development of buprenorphine as an office-based opioid treatment modality opened up 433,050 new pharmacotherapy slots – not including the 1,831 treatment programs.

Given the striking differences in pharmaceutical characteristics and dispensing regulations between buprenorphine and methadone, it is quite likely that the patient experience of taking buprenorphine to treat opioid dependence also varies considerably. These differences distinguish buprenorphine patients as a unique population from those participating in other forms of drug treatment, including other well-known pharmacotherapies (such as methadone). Nearly a decade after buprenorphine's initial FDA approval, researchers have yet to gain a comprehensive understanding of how all of these systemic differences shape individual patient experiences. Of further interest is how buprenorphine patients negotiate treatment for opioid-dependence using a prescribed medication within a cultural context that stresses completely drug-free recovery as the ideal.

## **Research Aims**

Through in-depth interviews with buprenorphine patients in an outpatient treatment setting, this dissertation project aims to understand:

the experiences of buprenorphine patients as they negotiate treating their opioid dependence through pharmacotherapy;

how elements of the ecological systems in which they *directly* participate shape their experiences of taking buprenorphine;

how elements of the ecological systems in which they *do not directly* participate shape their experiences of taking buprenorphine; and

the barriers and possible solutions to buprenorphine patients' successful negotiation of pharmacotherapy for opioid dependence.

## **Organization of Chapters**

The remainder of the manuscript is organized into eight chapters, two of which appear in this proposal. Chapter two includes a review of the relevant buprenorphine literature and an overview of the conceptual framework guiding the study – Bronfenbrenner's Ecological Systems Model. As a guiding framework, the literature presented in chapter two is organized into five subsections corresponding to the micro-, meso-, exo-, macro-, and chronosystems of Bronfenbrenner's model. Chapter three includes a detailed discussion of the study's methodology, including the data, sampling and recruitment strategies; human subjects concerns; data collection techniques; and the data analysis strategy. Once the data collection and analyses are complete, chapters four, five, and six will present the most salient thematic and conceptual findings based on the framework discussed in chapter two. The final chapter will offer concluding remarks with an emphasis on recommendations for policy, practice, and research.

## **Chapter 2**

### **LITERATURE REVIEW**

Understanding individual behavior and experience only through associations with individual-level characteristics provides a narrow, incomplete view of how and why people behave the way that they do. Focusing only on individual-level characteristics fails to capture the dynamic complexity or full contextual reality that creates lived experience, which, in turn, serves as the structure within which individuals make decisions. A social ecology approach situates the individual in a series of systems and processes, each moving further away from an individual's control, that are interrelated and constantly working to shape the reality within which an individual lives. An ecological approach is systems-oriented; it defines research objectives in terms of structures and processes “that give insight into the dynamic interaction of individuals with their environment across time and space” (Lounsbury and Mitchell 2009:213).

Although there is a long history of utilizing a systems approach in community health research (Kelley 1966; Goodman et al. 1996; Glass and McAtee 2006; Huang et al. 2009; Trickett 2009; Kloos and Shah 2009), there is a paucity of studies utilizing this approach to understand pharmacotherapy, especially buprenorphine. This study seeks to fill this gap in the literature by using qualitative methods to gather data on multiple system levels that situate buprenorphine patients' experiences in a structured social world. This chapter presents an overview of the specific ecological systems model to be used in this study and summarizes the buprenorphine literature that corresponds to each system level.

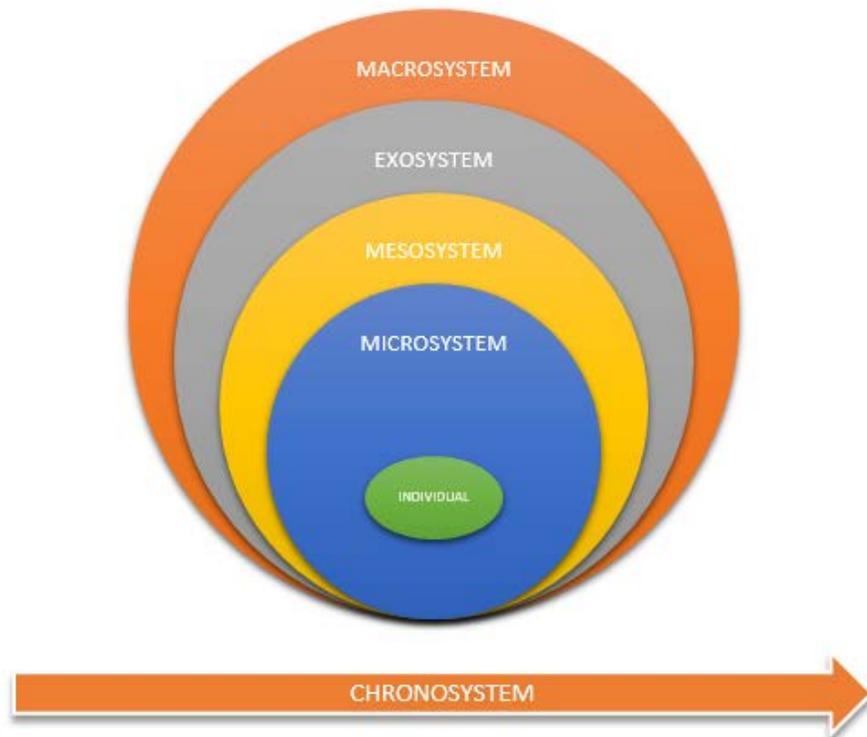
## **Bronfenbrenner's Ecological Systems Model**

Urie Bronfenbrenner (1977, 1979, 1989, 1999), a developmental psychologist, developed an ecological systems model to explain how a child's development is affected by their environment. Looking beyond the traditional environmental models of developmental psychology, Bronfenbrenner incorporated systems other than those in which the child is directly involved. He conceptualized an ecological model that fully integrates macro-level phenomenon, such as cultural practices, norms, and policies, as trickling down through a series of subsystems that directly influence a child's development. There are five interacting levels in this model: microsystem, mesosystem, exosystem, macrosystem, and chronosystem.

These levels are conceptualized as a series of concentric circles that form around the individual at the center (see Figure 1). Each level is fully dependent on the surrounding systems, and all of the systems are constantly interacting with one another. Adopting a perspective more characteristic of sociology, Bronfenbrenner argued that psychologists needed to "look beyond single settings to the relations between them" (Bronfenbrenner 1979:3). He also theorized that individual development is highly influenced by settings in which the individual does not directly take part. These settings have an indirect influence on the individual because they act *through* the settings in which the individual does actively participate.

While Bronfenbrenner's model was initially conceptualized to apply to child development, its larger sociological impact is in the recognition of interdependent settings and the subsequent impact on the individual. By placing the individual at the center of the model, Bronfenbrenner allows researchers to gradually zoom out to societal level phenomenon, all the while breaking down how social attitudes come to affect individual experience.

Figure 1 Bronfenbrenner's Ecological Systems Model



### **Microsystem**

As the model moves outward from the individual, the system in which the individual most directly participates is the microsystem. This system is made up of environmental settings in which the individual directly experiences and creates their everyday reality (Perkins 1994). Individuals participate directly in the microsystem,

and experience much of their face-to-face interaction within these arenas (Ihinger-Tallman and Cooney 2005).

In this study, the individual buprenorphine patient rests at the center of the concentric circles. While actively engaged in treatment, the microsystem for these individuals involves the individual and group counseling sessions in which they participate, as well as employment and family settings (See Table 1). These spaces are the primary settings in which the individual patient has the most direct interaction with others, directly contributing to their personal experience of treatment. As Ihinger-Tallman and Cooney (2005) note, the most important aspect of these settings “is the extent to which they promote or hinder growth and development and how much they contribute to the needs and goals of individuals” (18).

*Table 1 Ecological Model Examples*

	<b>Microsystem</b>	<b>Mesosystem</b>	<b>Exosystem</b>	<b>Macrosystem</b>	<b>Chronosystem</b>
<b>General Examples</b>	-School -Home/Family -Work -Church	- Work and family - School and work	- Law enforcement -School board -Government	-Ideology -Gender expectations -Media	-Changes over the life course
<b>Study Examples</b>	-Counselors -Group Meetings -Medical staff	- 12-step community and treatment center - Criminal justice and treatment center - Family and treatment center	-Vendor offering buprenorphine - Treatment center policies - State Medicaid	- Pharmacotherapy ideology -Medicalization of drug treatment - Criminalization of drug abuse	-Development of new pharmacotherapy medications - Time spent using buprenorphine

At the microlevel, most of the literature on buprenorphine focuses on individual characteristics that facilitate treatment retention and positive treatment program outcomes (Neumann et al. 2013; Haddad et al. 2013; Fiellin et al. 2013; Moore et al. 2012; Fiellin et al. 2008; Moore et al. 2007; Fiellin et al. 2006; Stein et al. 2005). Among the individual characteristics most notable for treatment retention and completion are: age younger than 35, female, not single, twelve-step meeting attendance, engagement in individual counseling, previous physical injury, and non-poly-substance users (Neumann et al. 2013; Haddad et al. 2013; Fiellin et al. 2013; Moore et al. 2012; Fiellin et al. 2006; Stein et al. 2005). Approximately one-third of individuals engaged in buprenorphine maintenance treatment are retained after six-months (Neumann et al. 2013; Fiellin et al. 2008; Fiellin et al. 2006; Moore et al. 2007).

Other studies that focus on the individual characteristics of buprenorphine patients have chosen to examine factors associated with enrolling in a buprenorphine program (Mitchell et al. 2012). Because buprenorphine is a relatively new medication, many of these studies investigate the decision to enter a buprenorphine versus a methadone program (Mitchell et al. 2012; Gryczynski et al. 2013). In one notable study, buprenorphine patients explained their decision to enter a buprenorphine program as a decision *against* entering a methadone program (Gryczynski et al 2013). These participants viewed buprenorphine as a helpful medication, while conceiving of methadone as a harmful narcotic (Gryczynski et al 2013). Two of the major reasons cited for difference in beliefs about these medications were personal experience with one of the medications, and being familiar with a common street narrative about the negative effects of methadone shared by family, friends, and neighborhood acquaintances (Gryczynski et al. 2013). Although the focus of the latter study was on

individual decision-making, the microlevel influences of the individual's social network played a key role in helping the individuals determine which medication was more desirable for them.

Other studies that move beyond individual level characteristics to examine other elements of the micro system focus on counselor attitudes toward buprenorphine patients and the prescription of buprenorphine from a professional perspective (Reickmann et al. 2011; Reickmann et al. 2007). These studies stress the importance of positive counselor attitudes toward buprenorphine because of the direct impact the counselor's views have on the likelihood of a patient being referred to buprenorphine treatment. These studies also suggest that client demand and population served help positively influence counselor attitudes (Reickmann et al. 2011). In treatment centers with a large population of heroin-dependent patients, especially where the patients are knowledgeable about pharmacotherapy availability, counselors are more likely to develop a positive attitude toward buprenorphine and be more willing to refer their patients to buprenorphine treatment (Reickmann et al. 2011). These studies suggest that the microlevel dynamics of the counselor-patient relationship can have a profound impact on whether an opioid-dependent individual has access to buprenorphine treatment.

Although these studies highlight the centrality of microsystem dynamics, they are limited to how these dynamics play out primarily within the context of the patients' treatment center experiences. This study seeks to incorporate a greater understanding of other important microsystem factors, including the arenas of family and employment.

## Mesosystem

Bronfenbrenner conceptualizes the mesosystem as the location where the various microsystems intersect for an individual (Bronfenbrenner 1979). What Bronfenbrenner emphasizes most about this system is that “the interconnections [between microsystem settings] can be as decisive for development as events taking place within a given setting” (Bronfenbrenner 1979:3). For optimal development, it is essential that each of the separate settings within the microsystem involve compatible expectations for individual behavior. If these settings “fail to reinforce each other... problems may arise,” as the individual will feel role strain concerning behavioral expectations (Ihinger-Tallman and Cooney 2005:19).

Within the drug treatment center, patients in buprenorphine programs are uniquely accountable to a greater number of microsystem actors than are patients in abstinence-based programs, or programs generally known as “drug-free” because patients refrain from using any substances at all. While all treatment center patients may feel some role strain concerning the expectations from support group members, counselors, employers, family, and friends, buprenorphine patients are also systematically involved with various medical staff because their medication is a DEA controlled substance. Therefore, in addition to managing “outside” roles, such as work and family, they also have to negotiate relationships *between* their counselors and medical staff, as well manage their own relationships with counselors and medical staff. Beyond this, many buprenorphine patients also need to negotiate their medication use with other patients in an abstinence-based program because buprenorphine is allowed to be distributed in the office-based settings of “drug-free” sites within the larger treatment organization,.

Direct interaction with this increased number of microsystem components presents more of an opportunity for buprenorphine patients to experience role strain – the conflicting expectations within a role. For example, many patients moving through abstinence-based programs do not view individuals who take maintenance medications such as buprenorphine as actually being “clean” (Mitchell et al. 2010). Because pharmacotherapies keep the individual physically dependent on opioids and also present some opportunity to feel a synthetic euphoria, “drug-free” outpatient program patients and staff sometimes have a difficult time sympathizing with them during group sessions. Therefore, while some counselors and medical staff encourage their patients’ use of maintenance medications, other patients and staff with whom they are attempting to establish rapport may not accept or condone their choice to use pharmacotherapies (Mitchell et al. 2010).

Similarly, role strain may occur for buprenorphine patients as they attempt to engage in both outpatient treatment counseling and community twelve-step meetings (Rieckmann et al. 2011). Because twelve-step treatment ideology is typically abstinence-based, buprenorphine treatments are often viewed as merely substituting one drug for another (Schroeder 2005; McDowell & Cocke 2006; White & Kurtz 2005). When two of the recovering person’s key microsystem components, community 12-step groups and the buprenorphine treatment program, are at odds on this issue, the individual is forced to negotiate the tension inherent in these treatment environments (Monico et al. 2015a).

Other studies have focused on the microsystem level interactions between the treatment and criminal justice systems for criminally-involved patients. Although there has been considerable research conducted on the inclusion of buprenorphine programs in prison facilities (Garcia et al., 2007; Kinlock, Gordon, & Schwartz, 2011;

Magura et al., 2009; Springer, Chen, & Altice, 2010), only a handful of studies have reported on buprenorphine treatment enrollment with individuals involved in community corrections, such as probation and parole (Cropsey et al., 2011; Mitchell et al. 2014). Both Cropsey and colleagues (2011) and Mitchell and colleagues (2014) found buprenorphine to be highly effective in promoting abstinence from illicit opioid use among probationers and parolees. However, there has been virtually no research published that pertains to understanding the individual-level consequences of the outcomes from interactions between the treatment and criminal justice microsystems.

A final mesolevel system area that has received some limited research attention is the interaction between the buprenorphine patient's family and treatment microsystems. One particular study of the integration of buprenorphine and Network Therapy (NT) in an office-based setting (Galanter 2004) found that employing family members and/or friends to support treatment compliance was particularly successful strategy to use with opioid-dependent patients. A patient's social environment and personal relationships are integral in structuring the process of recovery, and social environments in particular have been found to be highly salient predictors of long-term treatment outcomes (Galanter 2004; Longabaugh 2003). Research that focuses on understanding the best way to fully incorporate the family into the treatment microsystem have produced important results for clinicians and practitioners. Extending this understanding to how the family and treatment microsystems exist organically, without the implementation of a psychosocial intervention, is equally important. This study will help inform these mesolevel areas of the literature (twelve-step, family, and criminal justice interactions), as well as extend the literature to explicitly include other microsystems, such as employment.

## **Exosystem**

Continuing to move further from the individual, the next level in the ecological model is the exosystem. As Bronfenbrenner (1973) explains, this field “evokes a hypothesis that the person’s development is profoundly affected by events occurring in settings in which the person is not even present” (3). Within this system, the individual does not directly take part in the settings. Although it is possible that other people from the individual’s microsystems directly take part in the exosystem, the important distinction is that the target *individual* does not directly participate. However, regardless of the individual’s level of involvement, he or she is still affected by the decisions and expectations that derive from this system.

The exosystem in this study includes the larger treatment center organization, social institutions such as the criminal justice system, and all levels of government. Although no one person from the individual’s social network may be directly involved in these larger institutions, they nevertheless have an impact on expectations for behavior and possible pathways for individual development. In this study, the exosystem is largely represented by decisions and policies being made by program managers, chief executive officers, and the board of directors within complex organizations. While these individuals could have contact with individual buprenorphine patients, the patients themselves do not take part in meetings where administrators interpret laws, develop policies, and draft protocols for the patients’ buprenorphine treatment program.

One of the first exosystem decisions that filter down through the individual’s mesosystem and microsystem to structure lived experience is whether or not a particular vendor (either a treatment center or a prescribing physician) makes the choice to offer buprenorphine pharmacotherapy as a treatment option. Patients may be

treated with buprenorphine in one of three settings, each with its own set of procedural guidelines and regulations, including: 1) opioid-treatment programs that already dispense methadone, 2) private physician's offices, and 3) specialty treatment centers that do not usually provide pharmacotherapy (Knudsen et al. 2006). Generally, already-existing opioid treatment programs are more likely than specialty treatment centers, or "drug-free" treatment centers, to offer buprenorphine (Koch et al. 2006). Other organizational characteristics that promote the adoption of buprenorphine pharmacotherapy include being a larger treatment center, being in "good standing" in accreditation status, having detoxification services available, currently using naltrexone as a treatment, having access to physician resources, and serving a larger percentage of opioid clients (Knudsen et al. 2006).

In order for a private physician to begin prescribing buprenorphine, the doctor must either complete an eight-hour training (which is now available online) or hold a certificate in addiction medicine (Netherland et al. 2009). Despite numerous studies indicating the safety and efficacy of buprenorphine (Fiellin & O'Connor 2002; Fiellin et al. 2002; Gibson et al. 2003; O'Connor et al. 1998; O'Connor & Samet 1996), office-based prescription of buprenorphine by physicians was not quickly adopted (Knudsen et al. 2006a; Knudsen et al. 2006b; Join Together 2003; Stanton et al. 2006). According to recent research, there are several factors affecting physician willingness to prescribe buprenorphine to their opioid-dependent patients, including limited staff training on buprenorphine maintenance, degree of patient access to counseling and alternate treatment, length of regular visits, and concerns about pain medication (Netherland et al. 2009). This study also revealed that differences in physician willingness to prescribe buprenorphine depends on overall buprenorphine experience, with more experienced providers being less concerned with aspects of induction,

access to expert consultation, mental health service availability, and clinical guidelines; yet more concerned with insurance reimbursement for substance abuse related visits (Netherland et al. 2009).

A 2007 article in *Behavioral Healthcare* confirms these concerns in their report about a survey given to buprenorphine-waivered physicians who noted that managed care companies did not effectively reimburse them for the amount of time it takes to effectively provide treatment to buprenorphine patients (Nemecek). The survey reveals that because managed care coverage was inadequate, physicians were requiring patients to make cash payments to cover the additional expenses of treatment, rather than billing insurance companies for buprenorphine-related office visits (Nemecek 2007). Over time, this structural barrier to the provision of buprenorphine in the patients' exosystem resulted in a majority of buprenorphine patients nationwide being white, employed, and relatively affluent (Mitchell et al. 2012; Stanton et al. 2006). By 2006, because of the increased expense related to providing buprenorphine, even organized treatment programs became 60 percent more likely to offer buprenorphine to their patients if they had at least one managed care contract (Ducharme et al. 2008).

Researchers have attempted to draw attention to this disparity in access by noting the absolute centrality of incorporating buprenorphine into state Medicaid formularies (Ducharme et al. 2008). In states where coverage for buprenorphine is available through state Medicaid plans, the likelihood of programs offering buprenorphine as a treatment modality is significantly higher than in states where such coverage is not offered (Ducharme et al. 2008). This finding strongly suggests that if states do not provide this reliable source of payment for a significant number of opioid-dependent clients entering treatment, programs (especially those located in

non-profit agencies) are seriously limited in the variety of treatment modalities they can offer (Ducharme et al. 2008). Regardless of the evidence-based support for buprenorphine as a sound treatment option, programs are much less likely to adopt it if clients are unable to afford the medication.

While they do not specifically assume a systems perspective, these studies begin to link changes within social systems in which the individual buprenorphine patient does not directly participate with the expansion or constriction of patient choices. If treatment programs and physicians do not offer buprenorphine as a treatment modality, the opioid-dependent individual cannot choose it as a treatment option. These same results occur if the opioid-dependent individual is unable to independently afford buprenorphine maintenance treatment or does not have access to sufficient private insurance or comprehensive Medicaid coverage. Such research helps reveal the extent to which exosystem structures and systematic changes influence buprenorphine patient experiences. This study seeks to further inform these areas of the literature as well as incorporate additional features of the buprenorphine patients' exosystem.

### **Macrosystem**

Beyond the exosystem is the macrosystem, which “encompasses social, cultural, and subcultural components such as ideologies, values, attitudes, and norms that shape the society” (Ihinger-Tallman and Cooney 2005:19). It is within this macrosystem that the other systems operate, and it is largely because of this system that many of the other systems are structured in these ways Bronfenbrenner (1979) states, “it is as if within each society or subculture there existed a blue print for the organization of every type of setting” (4). Sociologists are quite familiar with the

“blue print” that societal norms and values can create and attentive to how changes at this level can affect individual behavior.

In the case of drug treatment in the United States, most macrolevel influences have come from a fairly consistent paradigmatic tug-of-war between the *criminalization* and the *medicalization* of drug addiction. Medicalization is widely accepted as being “the process through which phenomena that previously existed outside of medical jurisdiction become constructed and handled through a medical perspective” (Conrad 2005 and 2007 in Anderson et al. 2010). Throughout most of United States history, drug addiction was perceived as a medical problem to be treated under the jurisdiction of medical professionals. A shift occurred in 1914, however, when Congress passed the *Harrison Narcotics Act*, resulting in the criminalization of drug use and addiction and the redefinition of this health problem as a socially deviant behavior (Brecher 1972; Musto 1999; Courtwright 2001). The criminalization of drug addiction continued through the tenure of Harry J. Anslinger, head of the U.S. Bureau of Narcotics, who believed that drug addiction could be alleviated with increased penalties for drug users, dealers, and traffickers, especially those involved in the heroin trade. The process of demonizing the individuals involved in the sale and purchase of narcotics became a key element of federal drug policy (Musto 1987; Courtwright 1992; Jaffe and O’Keeffe 2003). This increasingly accepted view also presented addiction and dependence on opioids as an incurable disorder that condemned the user to a life of degeneracy (Musto 1987; Courtwright 1992; Jaffe and O’Keeffe 2003).

Legislation like this set the foundation for what would become a long battle between the criminalization and medicalization of drug addiction. Given the lack of agreement on the root cause of drug addiction, it has been very difficult for individual,

organizational, and legislative stakeholders to compromise on ways to treat it.

Although early research from Dole and Nyswander provided promising results for treating opioid dependence with methadone, there was still significant concern during the 1970s about accidental overdose and diversion of the drug to illicit street sales (Jaffe et al. 2003). This led various agencies of the federal government, namely the United States Department of Health and Human Services (HHS) and the Drug Enforcement Agency (DEA), to maintain dual oversight of the methadone program in the U.S. However, several official reports published namely by the Institute of Medicine (IOM), have criticized this exaggerated regulation for overemphasizing the potential dangers of methadone diversion, creating unnecessary paperwork for methadone treatment agencies, constraining clinical judgment in treatment matters, reducing overall access to methadone treatment, and prematurely discontinuing active treatment patients (Rettig and Yarmolinsky 1995; Jaffe and O’Keeffe 2003).

Despite these constraints, buprenorphine had undergone several successful clinical trials by the 1990s that supported its use for treating opioid dependence. With its partial agonist properties, supporters could refute one of the major claims that had kept maintenance treatment confined to a ‘closed-system’ – a sharp decrease in the lethality of diverted medication (Jaffe and O’Keeffe 2003). Still, buprenorphine’s chemical properties were not deemed safe enough to allow for the implementation of an open access system to maintenance treatment. In addition to the criminalization versus medicalization debate, another macrolevel disjuncture occurred between the promotion of social welfare and the capitalistic, profit motivations of the pharmaceutical company responsible for the development of buprenorphine, Reckitt Benckiser.

Buprenorphine was actually discovered in 1966 in the labs of Reckitt and Coleman in Hull, England (Campbell and Lovell 2012). Reckitt pharmaceutical company partnered with both the Addiction Research Center (ARC) and the Committee on Problems of Drug Dependence (CPDD) during the 1980s, and research done throughout the 1970s and 1980s supported buprenorphine's use in the treatment of opioid dependence. Still, it took almost 40 years after its initial discovery for the FDA to approve buprenorphine for this purpose (Campbell and Lovell 2012).

Understanding that analgesic medications generally produced larger profit margins, Reckitt Benckiser originally planned to further develop buprenorphine for its pain killing properties. During the 1980s, Reckitt Benckiser contracted out the commercialization of buprenorphine to multiple companies worldwide, and the company virtually abandoned their ethical drug development programs (Campbell and Lovell 2012). The company, like many pharmaceutical companies then and now, was concerned about entering the addiction therapeutics arena for fear that their medications would be perceived "tainted" by prescribers and pain patients if those same medications were also used to treat addictions (Campbell and Lovell 2012:134). Reckitt Benckiser moved forward with the analgesic arm of buprenorphine marketability, but off-market use to treat opioid addiction in France forced the previously unscheduled (by the International Narcotics Control Board (INCB)) buprenorphine molecule to be moved, first, to the Psychotropic Convention, and then, to the more restrictive Single Convention of the INCB scheduling (similar to the DEA schedule of drugs) (Campbell and Lovell 2012). Throughout the 1980s, this process resulted in a 50 percent decline in buprenorphine sales (Campbell and Lovell 2012).

By 1994, NIDA had successfully convinced Reckitt Benckiser to remove the "For Sale" sign on buprenorphine and bring the distribution rights back to the United

States, but only after committing to co-funding the process to ease the financial burden on the company (Campbell and Lovell 2012). Public statements by Reckitt Benckiser negotiators reveal that the company was convinced to include the use of buprenorphine for addiction treatment because of a sense of social responsibility to drug addicts (Campbell and Lovell 2012). In the end, public contributions to buprenorphine development through grants and contracts totaled in the millions, and Reckitt Benckiser was still able to gain exclusive marketing rights to buprenorphine for seven years after the product's launch (Campbell and Lovell 2012). The company maintained these exclusive rights over the sublingual tablet until October 2009 (because initial FDA approval was granted in 2002), when it developed a similar seven year exclusivity over a sublingual film in 2010. These commitments by federal government agencies contributed to buprenorphine-based products accounting for 23 percent of Reckitt Benckiser's revenues by 2010 (Campbell and Lovell 2012).

Balancing ideologies between the federal government's position on promoting social welfare and the pharmaceutical company's capitalist drive for increased profits has had a profound influence on the infrastructure, development, and accessibility of buprenorphine in the United States. Similar influences have been noted in this section when balancing ideologies between the criminalization and medicalization of drug addiction. Federal government agencies, pharmaceutical companies, treatment organizations, and research centers are all part of the individual's exosystem, which helps to structure the subsequent systems in which the individual most directly participates and creates lived experiences. But each of these exosystem players is also manifesting larger macrosystem ideologies that shape and determine their behavior. Even at this level, agencies, companies, organizations, and centers are all still players and active agents, but ideological elements of the macrosystem act to structure these

players and define the terms within which the rest of the subsequent systems participate.

### **Chronosystem**

The final system in the ecological model is the chronosystem, which accounts for the saliency of change over time. Ihinger-Tallman and Cooney (2005) note that “this component of the ecological perspective describes the dynamic, ever-changing aspect of social systems” (20). Bronfenbrenner (1994) originally conceptualized this system as rooted in the individual and corresponding to changes in chronological age over the life course. However, over the last few decades, this system has been expanded to include general changes over time in the micro-, meso-, exo-, and macrosystems (Bronfenbrenner 1994). It is important to note that the chronosystem encompasses both change *and* consistency over time, not only in the characteristics of the individual, but also in the person’s surrounding environment (Bronfenbrenner 1994).

Overall, lifecourse influences for opioid-dependent patients who engage in buprenorphine treatment are positive compared with those individuals who do not receive any pharmacotherapy (Gibson et al. 2008). In a ten-year longitudinal study of opioid-dependent participants, Gibson and colleagues (2008) found that increased exposure to opioid treatment lasting longer than seven days reduced the risk of mortality in their participants. Additionally, patients that engaged in buprenorphine treatment are also less likely to engage in criminal activity while enrolled in their treatment program. These outcomes were enhanced with patients who remained engaged in treatment for more than two years (Buker et al. 2011). Similarly, a longitudinal study of almost 4,000 opioid dependent individuals found that

participants treated with buprenorphine experienced greater improvement in social life, education, and toxicological conditions than those treated with methadone or exclusively psychosocial treatments (Curcio et al. 2011).

Moving beyond the individual to exosystem related events, researchers are able to utilize trend data to understand the association between institutional level changes and individual outcomes on a large scale. In Baltimore, Maryland, for example, drug overdose related deaths rose an alarming 426 percent between 1990 and 1997, more than any other of the 26 major cities in the U.S. Between 1995 and 1999, the heroin purity in this area also increased dramatically, resulting in an all-time high of 312 heroin-related overdose deaths in 1999. While the number of patients enrolling in methadone programs increased substantially during this time (1998-2004), these increases were not associated with reductions in the growing number of heroin-related overdose deaths. However, in 2006, the city of Baltimore expanded the provision of buprenorphine through formerly drug-free outpatient clinics (Schwartz et al. 2013). With this institutional change, research demonstrates that increases in the availability of buprenorphine contributed to substantial increases in buprenorphine enrollment, which was directly correlated with a dramatic decrease in heroin-related overdose deaths (reaching a low of 106 in 2008) (Schwartz et al. 2013).

Due in part to the relative newness of buprenorphine's availability to patients, the literature pertaining to the chronosystem is underdeveloped. As buprenorphine continues to gain support as an evidence-based practice in community health and addiction research, more studies will undoubtedly seek to reveal longitudinal outcomes and fully understand life course elements. This study may contribute to such understanding because patient interviews and participant observation will likely illuminate how time takes on its most salient influences.

## Conclusion

At the microsystem level, the literature surrounding buprenorphine treatment has primarily centered on individual patient characteristics, how individual patients choose to enroll in a buprenorphine program, and how counselor attitudes shape the individual's microsystem dynamics. Because of the relative newness of buprenorphine for treating opioid-dependence, a great deal of this micro-system literature has been solely focused on individual level treatment outcomes. While this is an important area of inquiry, it unfortunately does not provide insight into dynamics at the microsystem level beyond the individual patient. The absence of family and environmental influences is notable, and these aspects will be intentionally considered in this study.

At the mesosystem level, the main focus has been interactions among the 12-step community, the criminal justice system, and family dynamics with the individual's treatment center microsystem. Although not explicitly stated in any of the buprenorphine literature reviewed, negative individual experiences and outcomes are often associated with *role strain* that occurs at this level because of the differences in expectations from each of the individual's microsystem components. Understanding the effect of role strain at the meso-level with individual experiences of buprenorphine treatment will be a main area of inquiry in this dissertation, and this focus provides a unique contribution to the literature.

At the exosystem level, the literature on buprenorphine has examined issues related to treatment center characteristics and the decision to offer buprenorphine, physician attitudes toward offering buprenorphine, managed care insurance reimbursement for buprenorphine treatment, and the importance of state Medicaid systems including buprenorphine in their coverage. This study will expand on this

knowledge by integrating a systemic understanding of how these institutions actively shape meso- and microsystem dynamics, as well as reveal how they are shaped by macrosystem ideologies.

The four macrosystem ideologies that have primarily shaped the integration of buprenorphine as a viable treatment for opioid dependence can be described as two sets of opposing forces: 1) criminalization versus medicalization, and 2) social welfare versus capitalist interests. Criminalization versus medicalization concerns how drug addiction has been framed throughout U.S. history. It is a salient contemporary debate that continues to influence how the infrastructure of treatment is maintained. Social welfare versus capitalist interests relates to institutional forces that have been central to producing, developing, and providing buprenorphine to opioid-dependent patients. Because macrosystem dynamics are not directly observable, this study will integrate the literature in this area as contextual background data and attempt to reveal how other observable phenomenon are linked to these societal mechanisms.

Finally, elements of the chronosystem have been largely absent from the buprenorphine literature, despite a few attempts at integrating a longitudinal approach to individual level change over time, as well as institutional change over time using trend data. Because of the ultimate focus on individual buprenorphine experience, this study seeks to inform the literature by also including elements such as tapering schedules, changes in treatment expectations, and attitudes toward buprenorphine treatment – all over time.

Because of the dynamic nature of substance abuse treatment, it is necessary to look beyond the individual and into their environments for explanations of behavior, experience, and development. Incorporating “the dimensions of space, context, and time become important features of this approach to understanding” the experience of

patients in buprenorphine programs (Ihinger-Tallman and Cooney 2005:20). Single system theories are not sufficient for revealing the intricate dynamics that develop between the individual and the organization, and between the organization and society. The ecological systems perspective allows for this kind of complexity, while also contributing to the larger sociological concern of harmonizing social structure and individual experience. This perspective allows for structure and agency to be related indirectly via community and organizational networks while continuing to emphasize the interdependency and importance of each and every level.

## **Chapter 3**

### **METHODOLOGY**

The research aims for this study render qualitative data collection the most appropriate methodology. Because this study examines how different levels of social systems help shape patient experiences within a contemporary situation over which the researcher has little control, a case-study design is most appropriate (Yin 1994). Additionally, because the data collection focuses on a sub-unit of individual patients within a larger case (the treatment center), the more specific approach would be an embedded case study design (Yin 1994). Since this study is largely exploratory, Bronfenbrenner's ecological systems model provided a useful conceptual structure for organizing and guiding data collection.

#### **Data Collection Planning and Pilot Project**

The first goal of the study is to understand how buprenorphine patients experience and manage the process of participating in an opioid pharmacotherapy treatment program. In-depth, semi-structured interviews were used to investigate the unit of analysis – individuals receiving buprenorphine – which allowed for a nuanced understanding of individual experience, belief, and attitude (Berg 2009). A semi-structured interview guide helped ensure that the data collected were relevant to the research question, while also allowing new themes to emerge that may have been unanticipated and not included in the prepared guide (Kvale and Brinkman 2009).

The second goal of the study was to understand how the different ecological systems surrounding the individual buprenorphine patient create and structure individual experiences. Although a pre-constructed interview guide was useful for probing respondents about some of the areas in the micro-, meso-, and exosystems,

data drawn from a pilot participant observation project were also used to supplement information relevant to aspects of the exo-, macro-, and chronosystems in which respondents do not directly participate. Additionally, pilot participant observation of treatment center settings and buprenorphine focus groups also provided valuable contextual information for creating an interview guide that was as efficient and comprehensive as possible, as well as offering opportunities to engage in unstructured, conversational-style interviews with treatment center staff.

Pilot data collection for this study began during fall 2010, when the only technique being used was participant observation. From 2010 to 2015, the researcher was immersed in the culture of the treatment organization and became well-acquainted with staff members who are associated with the buprenorphine program. Through this ethnographic approach, a great deal of observational data was collected that facilitated a better understanding of the macro-level context within which buprenorphine is used as a treatment modality, as well as the exo-level functioning of the treatment center as an organization. The pilot data collection will be described in further detail throughout this chapter. Although in-depth interviews with buprenorphine participants were the primary focus of data analysis, observational field notes collected during the entire course of the study are integrated into the discussion to better contextualize respondents' narratives.

### **Sampling and Recruitment**

Using what Crabtree and Miller (1992) describe as critical case sampling, an outpatient treatment center that included buprenorphine maintenance therapy as a treatment modality – Walk a New Street (WANS) – was sampled from among a few potential programs in the area. Because this study seeks to generate theory that may

have wider implications for buprenorphine programs across the country, the characteristics of the site are consequential. When using critical case sampling, it is especially important to select cases because they are particularly information-rich and revealing (Crabtree and Miller 1992).

The organizational culture and structural features of WANS provide the context within which patients experience the process of participating in a pharmacotherapy program, as well as the sampling frame from which the respondents were selected. WANS is a large bureaucratic organization that occupies several different physical sites throughout the state. Buprenorphine patients receive their initial dose of medication and subsequent daily doses at a program site that is medically equipped to manage patients experiencing the initial onset of withdrawal symptoms. The site from which buprenorphine patients were recruited for this study is located in an area that made it feasible for the researcher to go there on a regular basis.

In an effort to reach a wider patient base, WANS accepts all forms of payment, including out-of-pocket cash payments, private insurance, and Medicaid. While this is beneficial to the researcher for accessing a wider variety of patients, it may ultimately limit generalizations because not all drug treatment centers accept all forms of payment, which directly impacts the composition of different organizations' patient populations. Having such variation in payment method does, however, provide greater patient diversity from which to sample the second unit of analysis – buprenorphine program patients.

Because the aims of this study emphasize understanding how the various levels of the ecological system structure buprenorphine patient experiences, buprenorphine patients were directly sampled from within the WANS program. To allow for

flexibility in sampling based on the data collected while interviewing, a theoretical sampling approach was used (Crabtree and Miller 1992). This approach is also consistent with taking into consideration the demographically significant attributes of gender and racial-ethnic identity as initial criterion for ensuring sample diversity (King and Horrocks 2010) (See Table 2).

*Table 2 Sampling Plan of Buprenorphine Patients*

	White (%)	African-Am/Latino (%)	TOTAL (%)
Men	7 (35)	6 (30)	13 (65)
Women	6 (30)	1 (5)	7 (35)
TOTAL	13 (65)	7 (35)	20

*Table 3 WANS Buprenorphine Program Demographics Since the Program's Inception*

	White (%)	African-Am/Latino (%)	TOTAL
Men	348 (47)	116 (16)	464 (63)
Women	231 (31)	44 (6)	275 (37)
TOTAL	579 (78)	160 (22)	739

The sampling frame for this study (see Table 1) was drawn to reflect the demographics of the larger WANS population, and included 20 buprenorphine participants. Full patient demographic information was gathered from WANS administrative staff prior to collecting interview data (see Table 3). Due to limitations imposed by the way WANS compiles aggregate patient data, as well as limitations resulting from excluding methadone patients from the output data, only gender and racial/ethnic information for buprenorphine patients who have ever been enrolled in

the program (since inception in 2010) are available. The total number (739) reflects all of the buprenorphine program individual patients who received at least one dose of buprenorphine since 2010. Repeat enrollments by the same individual were removed from the aggregate report.

To qualify to participate in this study, patients had to be English proficient and receive daily doses of buprenorphine from the WANS OTP. Meeting the latter criteria automatically involves meeting the additional, embedded criteria of being 18 years old or over and being opioid dependent. The researcher established access to WANS during the pilot project, when she spent over 400 hours becoming ethnographically involved with the patients, staff, and setting of the WANS OTP and drug-free programs. Before these observations and interactions could occur, the researcher was required to sign a confidentiality agreement with WANS that held her to the same confidentiality restrictions as other WANS staff members. Because of the level of trust and involvement established between the researcher and staff at all levels of the WANS organization, the researcher was allowed to directly recruit participants from within the OTP site.

After coordinating an arrangement that would be most convenient for WANS staff and patients, the program manager allowed the researcher open access to the dosing area and several offices on the second floor of the building where interviews could be completed and recorded with privacy. Buprenorphine patients were easily identifiable in the dosing area because they are only able to receive medication from the third dosing window, all the way on the right. Methadone patients, on the other hand, are able to receive medication at any of the three dosing windows. Once a buprenorphine patient approached the third window, they were given their dose of Subutex formulation as a tablet, which they could have either in full tablet form or

crushed into powder. Buprenorphine patients are not allowed to leave the dosing area until the security staff member checks inside of the mouth to ensure all of the medication has dissolved. Some patients choose to receive their buprenorphine crushed because the powder dissolves faster.

Once a patient receive the dose, he is able to sit in the dosing area in one of the four chairs situated against a far wall with a water cooler in between them. During the recruitment and data collection stage, the researcher sat in one of those chairs and talked with the security staff and other patients. When a buprenorphine patient would receive a dose and sit down in one of these chairs to wait for the medication to dissolve, the researcher would approach her and ask about participating in the study. Given that the vast majority of patients at WANS OTP were methadone patients, buprenorphine patients came into the dosing area at a much slower rate. Methadone patients sometimes stand in a long line of nearly 50 to 60 patients, whereas there would rarely be a time when more than two buprenorphine patients are waiting for their dose, and sometimes 30 to 40 minutes will pass without a single buprenorphine patient entering the clinic. Overall, only eight potential patients refused participation in the study, citing primarily the inability to stay longer than the dosing time due to issues with transportation.

This recruitment process required several gatekeepers' assistance for the researcher to gain direct access to patients in the dosing area, including vouching for the researcher with potential participants (Morrill, Buller, Buller, and Larkey 1999; Lofland and Lofland 1995). The program manager was the initial gatekeeper who granted the researcher access to the dosing area and vouched for the researcher to the security staff. In turn, the security staff also acted as gatekeepers who vouched for the

researcher to potential participants who may have been unsure about my presence in this otherwise closed medical space.

### **Data Collection: Semi-Structured Interviews**

#### *Human Subjects*

Each interview followed the informed consent document and process approved by the University of Delaware Institutional Review Board (IRB). Because of the medical nature of clinical treatment sites, they are considered closed settings (Lofland and Lofland 1995). Buprenorphine patients engaged in treatment have a reasonable expectation of privacy when they are receiving counseling and treatment, and the researcher's presence does pose some risk to their confidentiality (Lofland and Lofland 1995). Although patients receiving drug treatment services are not considered a "protected population," there are medical regulations that guarantee privacy to those receiving medications (See The Health Insurance Portability and Accountability Act of 1996). Thus, while the researcher was granted access to various areas of the OTP site, the researcher was not granted access to any medical records or specific information regarding patients' meetings with nurses and physicians.

As part of the IRB approval process, a formal consent form was drafted for patients who agreed to participate in the in-depth interviews. This consent form contained standard statements concerning the purpose of the study, patient eligibility, procedures, risks and protections, benefits, and the right to withdrawal (see Appendix B). After reviewing the consent form with the patient, the researcher collected the signed copies and maintained the documents in a secure location. Each participant was also given a blank consent form to retain for their records, which included the contact

information for the researcher, the dissertation chairperson, and the University of Delaware IRB. All participants were assigned pseudonym, and only the pseudonym was used in field notes, interview transcripts, and manuscript preparation. The researcher is the only person who has the ability to link the pseudonym with the respondents' real identities, further protecting confidentiality. The list of real names and linked pseudonyms is kept in only one location, a password-protected computer file that only the researcher can access. Interview transcripts and field notes are kept in a locked file cabinet (for data that appears in printed form) or password-protected electronic files.

#### *Data Collection*

After giving a brief explanation of the study and what participation would entail, the patient had the option to decline or to agree and accompany the researcher to an office upstairs to ask questions about the study and review the consent document. Once the interview was complete, the researcher walked the participant downstairs to the lobby to exit the building. If the participant was interested in participating but was unable to do the interview that day, the researcher and participant scheduled the interview during the dosing time on a different day.

Although the researcher utilized a prepared interview guide that established questions and probes related to the aims of the study, all interviews were semi-structured because the participants were able to guide the interview in other directions they believed to be important to their experiences in the buprenorphine program. This allowed for unanticipated themes and previously unidentified concepts to emerge when considered important by the patients themselves. This also promotes

empowering patients to be active participants in the data collection process (Charmaz 2006).

Because the researcher had already spent several years in the field attending buprenorphine group sessions, understanding how the buprenorphine program at WANS was structured, and learning about other patients' experiences using buprenorphine, there was no specific pilot phase implemented for the interview guide. However, as interviews were completed, the researcher added additional probes to some existing questions on the guide that earlier participants had identified as central to their experiences. The final interview guide (see Appendix A) included open-ended questions targeting patients' background and demographics, substance use history relating primarily to opioid use, treatment history and experience, problems seeking buprenorphine treatment, friends and family responses to buprenorphine treatment, employment responses to buprenorphine treatment, criminal justice responses to buprenorphine treatment, individual plans to taper off buprenorphine, and advice to others who might seek buprenorphine treatment.

### *Sample Characteristics*

#### ***Patient Demographics***

Twenty buprenorphine patients were interviewed for this study. Table 4 identifies the characteristics of all members of the sample, and a more detailed table including characteristics for each individual patient appears in Appendix C.

Ensuring that a sample contain racial, ethnic, and gender diversity directly maximizes the range of experience in the population of interest (Weiss 1994). The gender distribution among all buprenorphine patients who have ever received dosing

at WANS is 63 percent men and 36 percent women; the racial distribution is 82 percent White and 18 percent African American; and the ethnic distribution is 4 percent Hispanic and 96 percent non-Hispanic. The initial sampling plan was achieved through active, targeted recruitment, and the final sample very closely resembles that of the larger population of buprenorphine patients at this clinic.

The final sample of 20 patients included 13 males (7 White, 4 African-American, and 2 Latino), and 7 females (6 White and 1 Latina). The age range for this sample was 23 to 62 years old, with a median age of 35 and an average age of 38. The sample contained 9 employed individuals (8 full-time and 1 part-time), 8 participants who were unemployed, and 3 participants who collected disability. Because participants were recruited from a daily-dosing OTP in the early morning, consideration was given to ensuring adequate representation of employment status. Of the 8 individuals who refused participation in the study, half were unable to stay longer to complete an interview because it would cause them to be late for work. The remaining four people who refused cited transportation issues; mainly, that they had a friend or relative who gave them a ride and was waiting while they received their dose.

### ***Opioid History Characteristics***

Of the 20 respondents in this sample, 15 initiated their opioid use with prescription opioid pain relievers. This included participants who received a prescription directly from a physician, as well as participants who used these pills illicitly. The remaining 5 participants initiated opioid use through direct exposure to

heroin. A majority (n=17) reported having used non-prescribed buprenorphine on the street before entering treatment, while a minority of participants (n=13) were naïve about buprenorphine before coming to WANS.

*Table 4 Sample Characteristics (n=20)*

<b>Demographics</b>	<b>N</b>	<b>Opioid History</b>	<b>N</b>	<b>Treatment/ Buprenorphine</b>	<b>N</b>
<i>Gender</i>		<i>Initiated opioid use</i>		<i>Current Dose</i>	
Male	13	Prescription Pills	15	4mg	1
Female	7	Heroin	5	8mg	3
				12mg	10
<i>Race</i>		<i>Diverted Bup Use</i>		14mg	1
White	13	Yes	17	16mg	2
AA/Latino	7	No	3	20mg	3
<i>Ethnicity</i>		<i>Years of Opioid Use</i>		<i>Time in Treatment</i>	
Hispanic	3	<5	5	<1mo	6
Non-Hispanic	17	5-9	8	<6mo	8
		10-14	4	<1yr	2
<i>Age</i>		15-19	3	2yrs or less	4
20-29	3			<i>Insurance</i>	
30-39	11			State-funded	13
40-49	2			Private	3
50-59	2			Uninsured	4
60-69	2				
<i>Employment</i>					
Full-time	8				
Part-time	1				
Unemployed	8				
Disability	3				

The sample was diverse in its representation of opioid use histories, with the greatest number of participants (n=8) having used opioids for between 5 and 9 years. Many of the other participants fell just outside of this range, with 5 participants having used opioids for less than 5 years, and 4 participants having used them for between 10

and 14 years. A small minority (n=3) reported using opioids for between 15 and 19 years.

### ***Treatment and Buprenorphine Characteristics***

Half of the respondents in this sample (n=10) were prescribed a daily dose of 12 mg of buprenorphine. Six of them received a daily dose higher than 12 mg (up to as high as 20 mg daily), while 4 respondents received a daily dose lower than 12 mg (as low as 4 mg daily).

None of the respondents had been engaged in this episode of treatment for more than 2 years. Six respondents reported having been at WANS for less than 1 month, 8 respondents for more than 1 month but less than 6 months, and 2 respondents for between 6 and 12 months. The remaining 4 respondents reported having been in treatment at WANS for longer than 1 year.

There was also some diversity in insurance coverage, though most of the respondents were enrolled in state-funded plans such as Medicaid or Medicare (n=13). Three of the respondents were covered by private insurance, and 4 participants were uninsured at the time of the interview but were working with WANS' staff to acquire Medicaid coverage.

### ***Data Analysis***

Interviews ranged from 27 to 132 minutes, with a majority of the interviews lasting about 45 minutes. All of the interviewees agreed to have their interviews audio recorded and transcribed for analysis. After the audio interview files were downloaded to the researcher's personal laptop, the file containing the audio files was password protected. The researcher did not use specialized transcription software, relying

instead on Windows Media Player with adjustable playback speeds to transcribe the audio files manually into Microsoft Word documents. The interview transcripts were also placed into a password protected file on the researcher's personal laptop and given file names reflecting pertinent interview information (e.g. Patient1\_place of interview\_date of interview). When all of the interviews were fully transcribed, a hermeneutic unit (HU) was created for the study in Atlas.ti, a qualitative analysis software program.

Throughout the analysis process, common strategies for managing and understanding qualitative data were employed, including simultaneous data analysis and data collection (Corbin and Strauss 2008). This concurrent analysis and collection in the management of qualitative data allows for previously collected data to inform ongoing data collection, enhancing the opportunity for complete themes to emerge that are grounded and rooted in initial pieces of data (Corbin and Strauss 2008). While this process was employed to bolster confidence in data saturation, it was also supplementary to the pilot data collection and initial analyses that informed the construction of the interview guide.

During the pilot study, the researcher filled four small journals with observation notes from the 400-plus hours of ethnographic participation in the WANS organization. The data contained in these notebooks were used to create and draft the semi-structured interview guide, as well as contextualize the results of the interviews in the lived experience of more than 100 additional buprenorphine patients with whom the researcher spoke prior to completing a single interview. Each part of this process

included elements of qualitative data collection and analysis that occurred simultaneously to enhance methodological rigor and deepen understanding of the data being generated from the overall study.

### ***Analytic Strategy and Coding Scheme***

To begin the first round of coding for the semi-structured interview guide transcripts, an initial coding scheme was developed from the major themes pre-identified in the interview guide (i.e. *AA/NA, Background, Buprenorphine, Continued Use, Criminal Justice, Family, Friends, Methadone, Payment, Previous Treatment, Route of Administration, Substance Use History, Treatment Experience, Treatment Trigger, and Work*) (see Appendix D for a full list of codes applied during analysis). These main-level codes were applied during the first round of coding and enhanced during this round by adding secondary-level codes to each one that emerged directly from the data. For example, the main-level code, *Buprenorphine*, became: *Buprenorphine: Dose* (information related to patients' dosing level), *Buprenorphine: Recommend* (whether patients would recommend buprenorphine to others), *Buprenorphine: Side-Effects* (side effects patients experienced from buprenorphine), *Buprenorphine: Street* (experiences patients had with diverted, or non-prescribed, buprenorphine), *Buprenorphine: Taper* (patients' plans to taper off of buprenorphine in the future), and *Buprenorphine: Time* (information related to patients' ideas about how long they wished to remain on buprenorphine). These secondary-level codes were added to each main level code to allow for greater specificity within each main-level code, but also to begin identifying emergent data even within preconceived conceptual areas.

After the first round of coding was complete and secondary-level codes had been added to the main-level codes, a second round of coding was completed with full application of the secondary-level codes to the transcripts. During this second round of coding, several “open,” or “in-vivo,” codes (Straus and Corbin 1998) were developed that encompassed thematic or conceptual areas emerging directly from the data, without a specific attachment to any preconceived codes that were developed directly from the interview guide. These codes included: *All the Same* (information related to patients drawing conclusions about how all opioids are basically the same, and the implications of this belief); *Normal* (patients’ descriptions of how buprenorphine makes them feel “normal”); *Sick Role* (information related to elements of Talcott Parsons’ concept of the sick role); *Too Good for This Place* (patients’ statements concerning stigma and pharmacotherapy); *Word of Mouth* (information patients received from informal channels about pharmacotherapy and opioid use); *Barrier* (phenomena that patients identified as being a barrier to accomplishing a task related to treatment); and *Facilitator* (phenomena that patients identified as being helpful to accomplishing a task related to getting treatment).

After the second round of coding was complete and the “open” and “in vivo” codes had been added to the coding list, five additional codes were added that addressed each of the five levels of Bronfenbrenner’s ecological systems model: *CHRONO*, *MACRO*, *EXO*, *MESO*, and *MICRO*. While each of these five codes could technically be considered main-level, preconceived codes (similar to those applied during the first round of coding), they were purposely applied in a later round of coding to ensure that the researcher had a thorough understanding of some of the phenomena that would fall into each systems-level code. A full, third round of coding

was conducted that applied each of the “open” and systems-level codes to the transcripts.

Throughout each full round of coding, the researcher developed a series of memos that highlighted notable findings and emergent themes that developed during each stage of analysis. One of these memos included a diagram of Bronfenbrenner’s ecological systems model, and as phenomena were discussed during each interview, the researcher made a note of which systems level would most appropriately describe it. This memo became central to organizing the findings into systems levels and also helped ensure saturation. Once a phenomenon was attributed to a systems level, it was not relisted in the memo if it occurred in a later transcript. By the end of each round of coding, the researcher was not adding any additional data to the diagram.

By the third round of coding, which included the systems-level codes, the researcher was very familiar with the transcripts and what type of phenomenon would be coded with each systems-level code. However, the application of these five codes also served as an additional layer of analysis. Because main-level and secondary-level codes had already been applied to the transcripts by the third round of coding, the application of the systems-level codes served as a way to not only code the data in the transcripts, but also as a way to code the previously applied codes. Once all three full coding rounds had been completed, a co-occurring codes table was generated that not only allowed the researcher to understand which codes appeared to be associated with each other, but also to see which main- and secondary-level codes were most often appearing within each of the systems-level codes. This not only worked to strengthen the foundation of the analysis, but also to further ensure saturation had been reached and the discovery of additional findings within each systems-level was unlikely.

Chapters 4, 5, 6, and 7 present the results of this qualitative analysis. The next chapter, chapter 4, presents a discussion of the chrono- and macro-level systems of the ecological systems model, and what influences exist at this level that shape individual treatment experience.

## **Chapter 4**

### **MESOSYSTEM AND CHRONOSYSTEM**

#### **Chronosystem**

Individual social systems and structures are rarely static entities, but go through change and metamorphosis through time often relying on the other systems and structures for direction. The chronosystem of Bronfenbrenner's systems model allows for the consideration of the dynamic function of time in affecting the social systems that surround an individual. Developed primarily to capture individual change over time, the chronosystem level of Bronfenbrenner's model is extended to include socio-historical context and events that shape the individual's environment. Because the interviews for this study were done cross-sectionally, the data cannot capture changes to individual patients during their courses of treatment. Therefore, this chapter extends the social history of heroin and the use of pharmacotherapy for treating opioid dependence that was included in the manuscript introduction. Understanding the contemporary proliferation of prescription opioid analgesics is imperative for contextualizing these patients' substance use disorders and subsequent entry into the buprenorphine treatment program.

In this chapter, a history of prescription opioids and the factors that led to their proliferation will be related to the subsequent rise in heroin addiction and overdose deaths in the United States. These chronosystem changes will lend context to the experiences of the buprenorphine patients interviewed in this study and why many of them sought treatment at this time. This chapter will also cover macrosystem results that emerged from the data, namely how Talcott Parsons' concept of the sick role structures the debate between medicalization and criminalization of opioid addiction for buprenorphine patients. Ultimately, slow shifts and incongruences between how

these two paradigms influence other systems and structures around the individual, created barriers for buprenorphine patients attempting to access treatment.

*The Rise of Prescription Opioids and Heroin*

*“You need a good bedside manner with doctors or you will get nowhere”*

William Lee Burroughs, Junky

While opium has been cultivated throughout human history beginning in Mesopotamia around 3400BC (Booth 1996), modern opiate use traces its origins to Friedrich Serturmer, who isolated morphine, the active ingredient in opium, around 1804. It took almost 50 more years for the hypodermic syringe to be invented (1853), and nearly another fifty (1898) for a Bayer chemist to develop diacetylmorphine – heroin. These three 19<sup>th</sup> century discoveries laid the foundation for the expanded availability of opiates over the next 120 years (Quinones 2015).

In the early 1950s, retired psychiatrist Arthur Sackler revolutionized medical advertising by directly marketing the cutting-edge antibiotic Terramycin to doctors through medical journals. Sackler realized that the chemical companies that developed pharmaceuticals could more quickly expand the distribution of these important new drugs by making regular, individualized contact with the physicians who prescribed them. Although Sackler was radically successful in this first endeavor, he is best known for his new company’s promotion of the pharmaceutical industry’s first billion-dollar drug, Valium, under the Purdue Frederick (now Purdue Pharma) label (Quinones 2015). In addition to promoting Sackler’s novel methods, such as funding and sponsoring continuing medical education credit (CME) seminars that are required for maintaining licensure, the Valium case also reminded the medical community that

medications can be developed to treat symptoms as well as underlying causes of medical conditions, a notion common in 19<sup>th</sup> century patent medicine (Quinones 2015).

For most of the 20<sup>th</sup> century, pain relieving narcotics were used for the short-term treatment of pain, often following surgery or for end-of-life care. But beginning in 1980, two short papers were published in leading medical journals that put many apprehensive physicians at ease when it came to prescribing opioid analgesics to their patients. The first, a short paragraph published in the prominent *New England Journal of Medicine* using data from a Boston database (Porter & Jick 1980), reported that only four patients out of the nearly 12,000 who were treated with opioids while hospitalized became addicted. The second, a full research article published in *Pain* (Portenoy & Foley 1986), reviewed thirty-eight cases of cancer patients taking opioid analgesics and reported that only two of them, who both had a history of substance abuse, became addicted. This paper popularized the idea that opioids could be safely prescribed to most people without much concern about addiction based largely on the personal characteristics and histories of the patients.

In the same year the Portenoy and Foley paper was published, the World Health Organization (WHO) developed and widely dispersed a guide promoting a model of pain treatment that was later referred to as the WHO Ladder (Meldrum 2003). This guide associated opioid-based medications with the categories of mild, moderate, and severe pain, deeming opioid analgesics essential for the treatment of cancer pain, and declaring freedom from pain a universal human right (Meldrum 2003; Quinones 2015). A conceptual foundation began to emerge from this latter point, even at the international level, establishing that patients should be believed and treated for the pain they report to physicians (Quinones 2015).

During each of these shifts in research and policy, the pharmaceutical industry developed their own advances, which included the fusion of morphine and a controlled-release formula, Continus, which was originally used with asthma medication. This new medication – MS Contin – was released by Purdue Frederick in 1984, paving the way for the release of Purdue’s follow-up medication, OxyContin, in 1996. OxyContin flourished in a way that MS Contin did not because of the medical environment that was created by research and policy shifts occurring between the medication release dates. By the mid-1990s, the Porter et al. (1980) and Portenoy et al. (1986) papers were being widely cited, creating an environment that separated pain-ridden patients dependent on opioid analgesics from ‘addicts.’

Another policy shift that occurred in 1996 helped further reduce concern about the risk of opioid analgesic addiction following a public address given by the American Pain Society’s President (APS), which stated that doctors and nurses should be trained to treat pain with the same “zeal” as other vital signs (Quinones 2015, pg. 94; Grunder 2013). At the same time, the APS coined the slogan, “Pain: The fifth vital sign,” followed by the Veterans Health Administration, which added pain to the standard list of vital signs (pulse, blood pressure, body temperature, and respiration) (Quinones 2015; Mularski 2006). Within a few years, the Joint Commission for Accreditation of Healthcare Organizations (JCAHO) was supporting the pain management movement, instructing hospitals to measure patients’ pain using the smile face scale and linking patient satisfaction with treatment (including pain relief) with performance and compensation systems in hospitals (Quinones 2015; Rowland 2014).

Also prominent during the 1980s and 1990s was the rise of managed care, a system of health care provision that was designed to reduce overall medical spending in the United States while improving the quality of care provided. During this time,

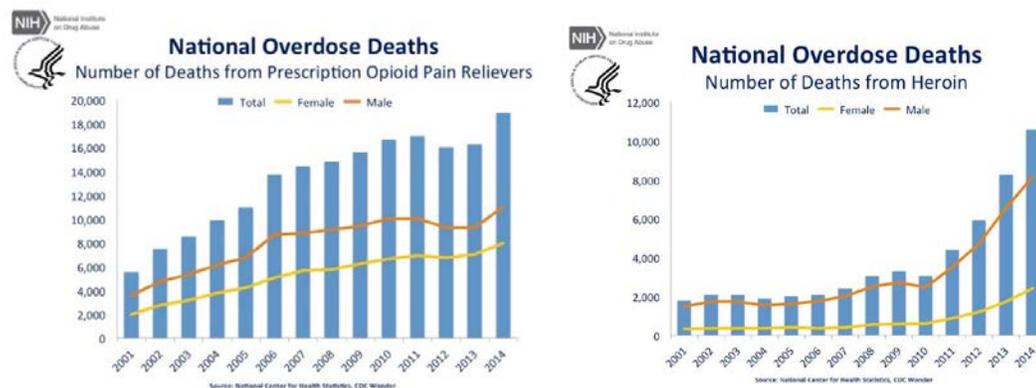
medical insurance companies reduced the number of reimbursable services, which led medical providers to increase the number of patients being seen in their practices, while simultaneously reducing the amount of time spent with patients (Quinones 2015). This trend had the largest impact on patient care in the areas of: patient satisfaction, outcomes for chronic diseases, physician satisfaction, risk of malpractice claims, and prescribing practices (Dugdale et al. 1999). Several studies have established a link between shorter patient visits, increased rates of prescriptions, and greater mismanagement of illness (Davidson et al. 1994; Grol et al. 1985; Tamblyn et al. 1997).

Further contributing to the rise in prescriptions for opioid analgesics during this time was a glaring omission in the data available to the FDA concerning the effects of long-term use of opioids for treating pain (Calabresi 2015; Quinones 2015). The FDA relies on research scientists to inform their decisions based on randomized control trials to test the efficacy of medications for use in clinical settings (Gartlehner et al. 2006). In the case of opioid analgesics, long-term control trials supporting the safety of opioids in the treatment of chronic pain were not a practical consideration because of ethical guidelines surrounding the maintenance of a pain-patient placebo group over several months or years (Calabresi 2015). Without this pivotal long-term data, the FDA was forced to extrapolate outcomes from short-term studies to long-term consequences (Calabresi 2015).

Throughout this time, government policies and pharmaceutical development and marketing had remained largely separated. However, this changed in the late-1990s and early-2000s when Purdue became more actively involved in the operation of government agencies that developed guidelines for the prescribing practices of OxyContin (Government Accountability Office [GAO] 2003). According to a

Government Accountability Office (GAO) report (2003), Purdue helped fund an educational program that also allowed them to disseminate materials on pain management, which may have influenced doctors to use their products. Although oxycodone – the only drug in OxyContin – had been around since 1916, the innovation of OxyContin was the time-released delivery formulation that allowed the FDA to issue OxyContin with a warning label indicating that it had a lower potential for abuse (GAO 2003). Purdue also donated money to the Federation of State Medical Boards; this allowed them to produce and distribute opioid analgesic prescribing guidelines (Faubert 2012), which have since been revised in 2013 (Gounder 2013). In 2007, Purdue Pharma plead guilty to misbranding OxyContin as safer and having a lower potential for abuse, resulting in a \$634.5 million fine (Quinones 2015).

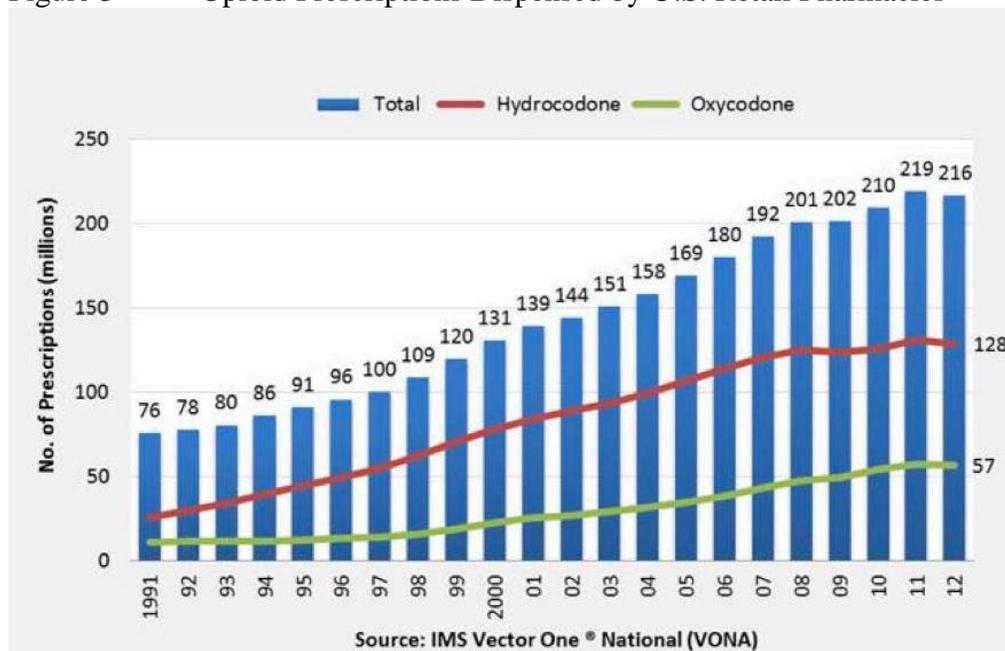
Figure 2 Comparison of National Overdose Deaths



Citation National Institutes on Drug Abuse (Graph) for Centers for Disease Control and Prevention (CDCP) data, National Center for Health Statistics (2015)

The result of this “lobbying” is starkly portrayed in the number of deaths from opioid pain relievers and heroin over the same time period, as displayed in Figure 2. Between 2001 and 2014, there was a 3.4-fold increase in overdose deaths attributed to prescription opioid pain relievers (CDC 2015). Between 2001 and 2010, there was a steady increase in the overall number of deaths; this trend began to plateau in 2010, before experiencing a small increase again in 2014 (CDC 2015). During this same period (2001-2014), overdose deaths attributed to heroin showed a six-fold increase, yet remained fairly low and stable until a turning point in 2010 (CDC 2015). After 2010, deaths attributed to heroin overdose began to rise dramatically, continuing through the CDC’s most recent data collection for 2014.

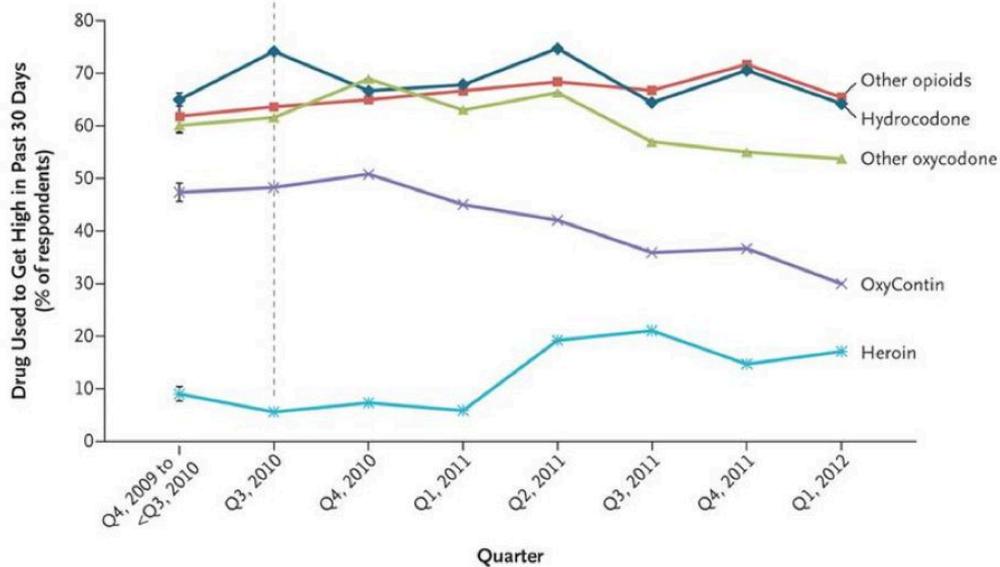
Figure 3 Opioid Prescriptions Dispensed by U.S. Retail Pharmacies



Citation: National Institutes on Drug Abuse (graph), IMS Health, Vector One: National, years 1991-1996, Data Extracted 2011. IMS Health, National Prescription Audit, years 1997-2013, Data Extracted 2014.

By the late 2000s, stories about the alarming rates of prescription opioid abuse were all over the mass media, and many states began launching prescription drug monitoring programs that would allow physicians to see whether their patients were also receiving DEA scheduled drugs from other practitioners. Since 2011, the United States has experienced a small, but notable, decrease in the number of prescriptions being written for opioid pain relievers (see Figure 3). Along with these responses from state governments and the medical community, Purdue Pharma’s introduced a reformulated version of OxyContin that included an abuse deterrent in 2010 (Quinones 2015). This new formulation made the drug more difficult to deconstruct and inject by turning it into a gel-like substance when users applied water and heat (Quinones 2015; Cicerco et al. 2014). The multiple changes that occurred between 2009 and 2011 ultimately led already dependent and addicted OxyContin users to move to other prescription opioids – or, to heroin (see Figure 4).

Figure 4 Increasing Trend of Heroin Use After the Introduction of Abuse-Deterrent Formulation of OxyContin (Dashed Vertical Line)



Citation: National Institutes on Drug Abuse (graph), for Substance Abuse and Mental Health Services Administration, *Results from the 2012 National Survey on Drug Use and Health: Summary of National Findings*, NSDUH Series H-46, HHS Publication No. (SMA) 13-4795. Rockville, MD: Substance Abuse and Mental Health Services Administration, 2013.

Research has clearly established that individuals who abuse prescription opioids, especially those with a physiological dependence, may shift to heroin use, particularly when they already inhale or inject prescription opioids (Lankenau et al. 2012; Peavy et al. 2012; Siegal et al. 2003; Grau et al. 2007; Cicero et al. 2012; Khosla et al. 2011; Daniulaityte et al. 2006; Inciardi et al. 2009; Pollini et al. 2011; Mars et al. 2014; Cicero et al. 2014). Respondents in these studies have reported that the greater accessibility of heroin, and the relatively low cost compared to prescription opioids (because of their scarcity), facilitated their initiation to heroin use (Lankenau et al. 2012; Cicero et al 2012; Mars et al. 2014; Cicero et al. 2014).

*Table 5 Respondent Characteristics Who Initiated Opioid Use with Prescription Opioids*

	Age	Years since first use	Started with legit. rx	Route of Administration			
				Prescription Opioids		Heroin	
				Oral	Nasal	Nasal	IV
<i>Tim</i>	36	13	N	x	x	x	x
<i>Santiago</i>	23	7	N		x	x	
<i>Vince</i>	28	4	N	x			
<i>Mindy</i>	32	7	Y	x	x	x	x
<i>Luke</i>	25	5	N		x	x	
<i>Brian</i>	31	12	N	x	x	x	x
<i>Julie</i>	32	13	Y	x	x	x	x
<i>Matt</i>	33	10	Y	x	x	x	x
<i>Herc</i>	33	8	Y	x			
<i>Eric</i>	35	2	N		x	x	x
<i>Calvin</i>	41	9	Y	x		x	
<i>Shelby</i>	55	16	Y	x			x
<i>Tyra</i>	30	6	N		x	x	x
<i>Tami</i>	47	15	Y	x		x	x
<i>Carlotta</i>	60	10	Y	x		x	

The respondents in this study followed a similar trajectory. As shown in Table 5, of the twenty respondents interviewed, fifteen initiated opioid use with prescription opioids, about half of whom (n=8) received their first opioid through a licit

prescription for an illness or injury. Of the fifteen respondents who initiated opioid use with prescription opioids, all but two eventually began using heroin. Nine of the thirteen respondents who eventually moved to heroin were using intravenously at the time of treatment entry. It should be noted, however, that none of these 15 respondents ever, at any point, injected prescription opioids during their years of opioid use—only heroin.

Interviews for this study were conducted during the winter of 2014-15, and the respondents who initiated opioid use with prescription pain relievers had a history of opioid use ranging from 2 to 16 years ( $\bar{X} = 8.8$  years). All but one of the fifteen respondents initiated prescription opioid use before the policy and medical shifts of 2010-2011 began to occur. As discussed in chapter 3, respondents were sampled to ensure representation across gender and race/ethnicity proportionate to their representation as clients in the larger OTP clinic. Information about their opioid use histories was only discovered once the interview began. While this sample (n=20) does not allow for generalizability to the larger clinic population, conceptual and thematic saturation was reached, indicating these characteristics are likely a trend across the patient population at WANS.

Without the proliferation of prescription opioids that occurred during the 1990s and 2000s, it is unknown how many of the respondents in this sample would have found themselves in an OTP clinic as buprenorphine patients. Perhaps this uncertainty helps mask the scope of the impact prescription opioids has had in the United States over the last thirty years. Applying the chronosystem of Bronfenbrenner's model to this study's sample helps make sense of the trajectories of the fifteen patients initiating opioid use with prescription pain relievers, by examining the intersection of their individual biographies with the socio-historical context.

## **Macrosystem**

Current understandings of the macro-level system context in which substance abuse treatment centers function are fundamentally shaped by the philosophical debate over the criminalization versus medicalization of drug addiction. The data generated from the semi-structured interviews collected in this study demonstrate how the persistence of these conflicting paradigms structures both individual decision-making and organizational policy. The main findings at this level of the ecological systems model include: 1) how Talcott Parson's *sick role* structures a patient's definition of himself as "addict," and the way buprenorphine is incorporated into the "recovery;" and 2) how differences between the methadone and buprenorphine programs contribute to patients' understanding of themselves in the sick role.

### *Sick Role*

The functionalist theoretical perspective emphasizes that social structures exist in a society because they serve a particular function in that society. Accordingly, functionalism posits that individual illness is potentially deviant, because when a person is sick, they may fail to conform to social norms and expectations. For functionalists, the purpose of deviance is to strengthen the existing social bonds within a society, because bonds are reinforced when deviance is sanctioned and negative consequences result from norm violations. Illness is implicitly an unnatural state of the body that brings the potential for social and physical dysfunction, and therefore disruption, to the society (Lupton 2012). Individuals who are sick may not be able to fully or adequately perform their own roles, and may also need to rely on others for care, so illness is potentially disruptive.

Because of this threat to the existing social bonds and normative order, sickness may be labeled deviant, and efforts to alleviate it become necessary so social order may resume. It is from this framework that Talcott Parsons derived the concept of *the sick role* (1951). While occupying the sick role, the individual is:

exempt from their normal social roles and obligations, and  
not responsible for their condition.

These two components of the sick role can be considered the privileges of illness, which are granted to an individual given the unfortunate circumstance of being sick. However, two equally-weighted responsibilities accompany such privilege (Levine and Kozloff 1978). Thus, the sick person *should*:

try to get well (or risk being accused of malingering), and  
seek competent help from the medical profession and cooperate with all  
prescribed therapies.

The contemporary medicalization paradigm evolved around these four basic components. The first two privileges noted are commonly ascribed to the medicalization paradigm because many of the perceived benefits of the medicalization of deviant behavior result from the assignment of the sick role. As increasingly more conditions become medicalized, especially those previously considered deviant statuses (such as drug addict), individuals may become absolved of their personal responsibility for occupying the role and therefore also released from the associated blame (Conrad and Schneider 1992). While conditions such as addiction were previously viewed as exclusively the purview of the criminal role (Parsons 1951), drug- addicted individuals who express a desire to get well and cooperate in the process can be permitted to occupy the sick role, though Parsons designates these individuals as *conditionally legitimate* (1951). Because therapeutic support is often

more effective than criminal justice intervention for reintegrating deviant individuals back into society, Parsons argued that granting individuals the sick role was almost always preferable to punishment (Medina & McCranie 2011).

Despite these accommodations, even conditional legitimation (Fox 1977) of the individual's sickness is accompanied by the responsibilities and expectations associated with occupying the sick role (Parsons 1972). Specifically, in order for an individual to be granted the privileges, it is imperative that the patient/deviant accept the fact that the sick role is inherently undesirable. This is integral to occupying the sick role because in order to meet the two expectations of the role, the patient/deviant must approach, follow the recommendations of, and succumb to, the subordinate relationship with the medical authority that will aid him/her in getting well – thus exiting the role. Interactions with medical professionals help the patient/deviant fulfill the expectations of the sick role by demonstrating the patient/deviant recognizes the validity of the violated norm and is compliant with societal demands, thereby negating any threat the deviant behavior might pose to the social bonds and the values on which they rely (Conrad and Schneider 1992).

### ***Exemption from Social Roles by Buprenorphine Patients***

Given the evolution of society's understanding of drug addiction as a disease falling within the purview of the medical profession, it is important to consider how patients with addictions occupy the role of "sick," as well as how they understand the responsibilities that accompany this role. Many of the individuals in this study found it difficult to take advantage of the *exempt from normal social roles* privilege granted to those defined as "sick." Individuals extended this privilege are obligated to use the

exemption in an attempt to get well by seeking medical help and adhering to the medical authority's instructions.

Tim (36/White/Male), an iron worker who has maintained steady employment in his industry since he was 17 years old, was not able to seek pharmacotherapy until he was temporarily laid off. When asked about his biggest roadblock to seeking treatment, Tim responded:

*Oh yea, I couldn't get on here until I got laid off. When I got laid off, that's when I came. That's when I could. Other than that, I mean, my biggest roadblock was fucking, my work. How you gonna tell your job, "look man, I got to take off a couple days cause I got to try and get on the clinic." You know? And at that point in time, when I was trying to get in, it wasn't like they have now when they're doing it at 7 o'clock. It was, wait out there, be the first one here, that means get up at 2 o'clock in the morning, and wait until 5am and if they take you they take you, if they don't they don't.*

Tim mentioned during the interview that he heard about the clinic from several friends who were in either the methadone or buprenorphine program, and he had entertained the thought of getting treatment for quite a while. Unfortunately, because of his work schedule and the policies and procedures governing intake at WANS, he kept delaying going to the clinic. At the time of the interview, Tim had been receiving daily dosing buprenorphine from WANS for 18 months. At the time of his intake, WANS provided intake appointments on a first-come, first-served basis. Clients were required to line up outside of the building in the rear parking lot until the clinic doors opened at 5 am. Once the doors opened, only a few individuals would be admitted to

each program per day. Clients who showed up but were not admitted to the programs were asked to continue coming back on subsequent days until a space became available.

During the period while Tim has been a WANS client, a robbery and shooting incident occurred that forced the clinic to change the waiting policy. Now, clients are asked to come at 7 am and line up on the sidewalk in front of the building. At 7 am, the intake door opens, just to the right of the main lobby, and all of the individuals standing in line are brought into a waiting area. Every client provides their name and contact information and undergoes a urine drug screen (UDS). The new policy – implemented to improve client safety – did not alter the fact that only a few clients are accepted into each program each day, nor did it address the fact that clients still needed to take time off from work to complete the intake process. Moreover, because WANS does not provide appointments in advance, clients must also weigh the costs and benefits of taking time off particularly when they will probably not secure treatment in one day, and likely be asked to return for subsequent days to queue up for a treatment slot.

Several respondents referred to this process as a form of “punishment” or penance. Santiago (23/Latino/Male), who also completed his intake appointment under the previous policy, mentioned using the experience as a way to “punish” himself for “messing up.”

*Like my fiancé, she went to [another OTP clinic] and I could have gone there and got in that day but instead I'd rather wait out here all night, and I punished myself, for me messing up. So I sat here at 10 o'clock at night until 5 in the morning*

*for 15-20 times. But I did it because that way I know that after this I won't do it again. It's how I learn. So pretty much I just punished myself.*

Another respondent, Mindy (32/White/Female), mentioned feeling as if she had to show the WANS staff that she really wanted to be in treatment by showing up and trying to get “on the clinic” every day until they had a spot for her.

**Respondent:** *I actually came in, because at the time you had to be here at 5 in the morning. So I didn't know that, so I'm here at 5 in the morning and then there was a couple people. And they told us that we had to be here at like 7-8 now. Cause someone got shot out here, waiting out here. So I came back, a couple hours later. I got here at like 7. Which I didn't get in right away, because you know there's so many people, and I had benzos in my system too. So, I waited for that, but I just kept on coming though. You know what I mean? Cause you still get a urine, and you're still on the list. But you gotta show that your levels are going down.*

**Interviewer:** *What did they say when they told you you had benzos in your system?*

**Respondent:** *They said that I had to keep trying. Which I was doing, I still came every day just to let them know that I wanted to be here. I didn't skip a day or nothing like that. Even though the benzos were still in my system, it only takes 3 days. By the 4<sup>th</sup> day I was good. Which was lucky because I got in that day.*

If the sick role exchange of responsibilities for privileges was operating in its theoretically-defined form, study participants would not feel obligated to “punish” themselves, because individuals who legitimately occupy the sick role are not

responsible for their condition. Some respondents experienced this penance as an internalized feeling, but others, like Carlotta (60/Latina/Female), believed it was actually structured into the intake process, which was further exacerbated by language differences and cultural barriers.

**Respondent:** *Okay, yea. Oh at 7 o'clock, that's it for three days. I come over here for 4 days.*

**Interviewer:** *Did they tell you why they couldn't take you those days?*

**Respondent:** *They told me because the people supposed to trying. She see the people trying, trying, trying, that's the first time they no take the people. You supposed to come, insist, insist, insist.*

This experience of being punished also extended to payment issues. Several respondents recalled how, at the peak of their drug use, they were spending hundreds of dollars each day on either prescription narcotics or heroin. Because buprenorphine daily dosing was not covered by Delaware's Medicaid program, all of the respondents in this study were required to pay \$6 per day to receive their medication regardless of the dosage. There was an obvious disparity within the clinics given that methadone daily dosing was, in fact, covered by Medicaid. Many of the individuals who were placed into the buprenorphine program during their intake appointments did not know that Medicaid would not cover buprenorphine insurance. When they discovered this information, it influenced their decision to continue in the buprenorphine program, switch to the methadone program after one month as required by WANS guidelines, or drop out of the treatment program completely.

When Shelby (55/White/Female) recounted her intake experience, she reported that she did not even think about whether she would have to make out-of-pocket payments at that time, but noted that it would not be a deciding factor for her.

*I thought I was just going to have to pay. I didn't even think about insurance. I wasn't even thinking about that. I didn't even know they accepted insurance of any kind. All I wanted to do was get clean, girl, I just wanted to stop. And \$6 a day to pay is cheaper than my dope habit; that was \$80. So I'm still saving \$74.*

Julie (32/White/Female) and Eric (35/White/Male) expressed similar sentiments:

*Yea, I'm gonna pay whatever. If I can pay \$45 a day for [dope], I'm sure I can pay the \$6, what is it \$6 a day for the Subutex. (Julie).*

While, Eric agrees: *\$6 a day is better than \$200 a day for dope. (Eric)*

Carlotta (60/Latina/Female) felt that making an out-of-pocket contribution to her treatment indicated her investment in recovery.

*I want to do it because for myself. It don't matter what to pay. I do it, I feeling strong. Feeling I can do it. It don't matter if I have to pay. It's more bad to be looking for money for drugs, but sometimes you find it for drugs, I can find it for this.*

While some participants received the payment information more readily than others, each respondent ultimately accepted the \$6 per day as a necessity for accessing treatment. Despite the fact that most respondents knew methadone clients did not pay out-of-pocket for their medication, buprenorphine clients rationalized paying for their medication out-of-pocket because the cost of the buprenorphine was significantly cheaper than what they had been paying for heroin or prescription narcotics.

However, this “payment penance” led to considerable frustration for many buprenorphine patients, given the overall perception that methadone clients were largely still using drugs, appeared as if they were high because of the properties of methadone as a full agonist, and were more likely to divert their medication either for money or drugs. Given these perceptions about methadone patients as a whole, buprenorphine patients felt that they were more serious about getting clean, and therefore it was even more unfair that their medication was not covered by Medicaid and they were responsible for coming up with out-of-pocket payments. Santiago shared this perspective:

*These guys are taking hundreds and hundreds of milligrams of the methadone, and half of them are getting sick, or they're so messed up they can't even keep their head up. It's like doing drugs again. You start nodding and everything else. But some of them will also get increases so when they get take homes they can sell 'em. They sell their take homes and stuff so then they can buy dope. Because dope don't stay in your system long, you can pass a drug test. You can take dope two days before a drug test and pass it. It's not hard. A lot of them they get increases, you getting 200mg of methadone and you go out and you sell it, you get \$80 for it. So you can get*

*two bundles of dope for your take homes that you got for free. That Medicaid paid for.*

Ornette (51/AA/Male) also had acquaintances in the methadone program who used their Medicaid coverage to receive the medication with no out-of-pocket cost, only to then sell their take-home doses on the street. He specifically talked about a man who sold heroine and realized that he could increase his customer base by also selling methadone to the same customers.

*But I mean, I see people selling the methadone. Seriously, and my boy had some, and that thing was so watery. He made so many bottles out of that little thing. I said, man, you know what, that's just water. He said, nah nah nah, and I said, well you just go ahead. Sell it for \$25 a hit. And people buy it, people buy it. They buy the methadone and they buy the dope... just to make sure, you know, when they ain't got no dope they won't be sick.*

Vince (28/AA/Male), who had been taking buprenorphine for one month at the time of the interview, recounted his observations and the interactions he had with methadone patients in the dosing area – the primary point of contact between buprenorphine and methadone patients:

*I mean they say it's strong, and I donno, I just see how them people act. I heard someone say it makes em feel like they're high again. They said it feels like crack and all that. I don't feel high off the subutex. I don't get that feeling from like, what I get from Percocets and stuff. And I just seen, it just seem like them people be*

*chasing it and stuff. You can just tell how they come in here and be like, lollygagging and all, happy and all that stuff (Laughter). I'm like for real?! Like, I donno, it's like you replacing one drug after another.*

Eric, who had only been coming into the clinic for four days at the time of the interview, made these observations distinguishing buprenorphine from methadone patients:

*What I noticed is, and I've only been here for 4 days, but I'll sit there and I'll look at people and, say you got 100 people taking methadone and 20 people taking subutex. Out of the 100 people taking methadone, maybe 5 of them look like they got a shower last night and are wearing clean clothes. And the other 95, they look like they're still doing dope. Like a bum sleeping under a bridge. But then the subutex people that I seen, so say there's 20 of them, maybe 10 of them look like bums, and the other 10 look like they got shower last night. 50% as opposed to 5%. To me, I donno, cause with methadone you're still getting high. That's why they keep asking for increases. Because their body, say they're getting 60 mg for 2-3 weeks, eventually you take it and you just feel normal. Well they come in and say it's not working or wearing off, when I wake up I'm feeling like shit now. When it's really that they're not getting high anymore. So they get an increase to 70mg, and now they got the buzz going and they're high, so they're good. They can nod out at 12 o'clock at night. So to me, subutex seems to be a more, better way to, better treatment I guess. Because it takes away the biggest part of addiction, is to resist temptation. So if you're still doing, doing the methadone but asking for increases to get high, you're still an addict. If you took the methadone away from them tomorrow, guarantee you, as soon as it*

*wears off they're gonna go get heroin or pills. They're gonna go get high as soon as they start feeling sick. Whereas the subutex, you don't get high. So when it wears off, you feel like shit but, hopefully, you've gotten rid of that routine and mindset of wanting to feel high. So I think subutex is a better way. I mean, I didn't think so when I came in here, but I didn't know either.*

Overall, buprenorphine patients generally had negative views of methadone patients, even those, like Eric, who initially came to WANS seeking a slot in the methadone program. At the time of his interview, Eric had just been released from jail after serving one year for property theft. He was on probation, living in a local homeless shelter, and had just relapsed with heroin on the day after his release. He found himself high at three o'clock in the morning, trying to compile his probation paperwork by a dim light in the bathroom. Although he had always looked down on people who went to the methadone clinic, he knew he needed treatment and was desperate to stay out of jail. Thinking he could still experience the feeling of using, he went to WANS to get methadone treatment. Because Eric had never been in a formalized treatment program before, WANS placed him in the buprenorphine program instead. Skeptical but willing to try it, Eric took subutex for four days. He stated that he now feels buprenorphine was intended for patients who *actually* want to get clean. Instead of feeling the euphoria he observed in methadone patients, he only felt "normal" – like he did before he ever used opiates. He thought he could speak on the topic because he *was* the patient who had come into WANS wanting to be on methadone to still feel high.

Experiences with methadone and interactions with methadone patients enabled the buprenorphine patients in this study to define themselves as more serious about

getting clean, and more committed to their recovery, than methadone patients. Given that most respondents painted a negative picture of those on methadone, it was even more frustrating that Medicaid covered methadone – but not buprenorphine – as a daily dosing medication, further contributing to the notion of an “us/them” dichotomy. On the one hand, buprenorphine patients noted that their daily payments to the clinic further reinforced their commitments to staying clean. However, buprenorphine patients felt that their medication should also be covered by Medicaid, especially because their medication did not help them feel high and they showed a greater commitment to recovery.

### ***Balancing Sick Role Obligations and Privileges for Buprenorphine Patients***

Buprenorphine patients are individuals with opioid use disorders as classified by the DSM-V, and they legitimately occupy the sick role within the medicalization paradigm. As such, they are responsible for seeking medical attention and complying with healthcare authorities in order to get well. Patients in this buprenorphine program have fulfilled their obligations under the sick role. Furthermore, eight of the 20 patients interviewed for this study initiated their opioid use with legally obtained prescriptions to treat chronic pain and injuries they sustained. Forty percent of the participants had never used a licit or illicit opioid before developing the opioid addiction that eventually led them to seek treatment. Of these eight respondents, seven later moved to using heroin, five of them relying on intravenous delivery by the time they entered treatment. These findings contribute to the existing argument rooted in the medicalization perspective that the opioid addict’s ‘sickness’ is not his or her fault, and help illustrate that the severity of the substance abuse problem may not be either.

In this study, the buprenorphine patients do report feeling at fault for their “sickness,” and they do not express any sense that they are exempt from the normative social roles and daily obligations adults are expected to fulfill (e.g. unable to miss work for fear of judgment). Furthermore, they encounter additional barriers when they seek help from medical facilities and other social institutions (e.g. out-of-pocket costs and priority intake policies).

Ultimately, if drug addicted patients are *not* granted the sick role, the sense of responsibility to get better is absent. If they are not exempt from their normal social roles and obligations, and are held responsible for their condition, the sick role concept is not applicable, and the mutual exchange involving the addict’s responsibility to society to recover is compromised. If drug addicted patients are *granted* the sick role, given exemption from normal social roles and obligations, and recognized by society as not being responsible for their condition (because addiction is a disease), then they are obligated to get well by seeking competent help from the medical profession.

Interview narratives, however, reveal that breakdown of the model occurs when the sick role exchange is granted on a piecemeal basis. If drug-addicted patients are *not* granted the sick role, yet still expected to get well by seeking competent help from the medical profession, patients experience discord. This discord is made worse when the individual experiences judgement from society for their use of the prescribed therapies the patients are accessing through the medical profession. Even if drug addicted patients are granted the sick role, and patients follow through on the mutual exchange of responsibilities, if society does not define medications for opioid addiction legitimate forms of prescribed therapies, the drug addicted patient is still not recognized as following through on the exchange.

Parsons developed the concept of the sick role to address the disruption to society that occurs due to 'sickness,' and the functionalist perspective details how this disruption can be managed by members of the medical profession, who are charged with diagnosing, treating, and reintegrating individuals so they may continue functioning as contributing members of society. According to this view, society functions more smoothly when individuals occupy clearly defined roles for which there are shared, mutually understood expectations. Because of this, Parsons also noted that granting individuals' occupation of the sick role is almost always preferable to punishment, as it would more effectively improve the functioning of society. Even though there is still disagreement about to what degree drug addiction is medicalized or criminalized, society has less to lose by granting individuals the sick role and allowing them access to carefully regulated rehabilitation by medical authorities whose purpose it is to restore order by returning recovering addicts to socially acceptable roles. From the narratives presented in this chapter, buprenorphine patients believe this rehabilitation process is facilitated by removing as many barriers as possible for individuals with opioid use disorders, such as: streamlining the intake processes to allow guaranteed access to the initiation of buprenorphine therapy, and increasing Medicaid coverage that will reduce out-of-pocket costs to patients.

### **Conclusion**

The results presented in this chapter have covered the two broadest levels of Bronfenbrenner's ecological systems model, the chronosystem and macrosystem. The results from the chronosystem helped to clarify and contextualize why patients in this study were in need of pharmacotherapy for opioid use disorder, especially for those whose opioid addiction began with legal prescriptions for opioids. Three-quarters of

the participants in this study initiated opioid use with licit and illicit prescription opioid pain relievers. Situating this phenomenon within a national substance abuse treatment system that was already struggling to meet patient demand, the patients in this study faced numerous barriers that limited their access to timely and efficient treatment services. Results from the macrosystem level contributed to this understanding by using patient narratives to describe the most significant barriers that develop from the incongruent paradigms of medicalization and criminalization, including limited access to, and Medicaid coverage of, pharmacotherapy. A more specific discussion of treatment center policies and Medicaid coverage requirements are included in the next chapter, Chapter 5. .

## **Chapter 5**

### **EXOSYSTEM**

The exosystem in Bronfenbrenner’s ecological model was developed to account for the fact that individual development and experience is profoundly affected by events, circumstances, and policies in which the individual does not directly participate. Members of the individual’s microsystems may participate directly in these settings, but the individual does not exert direct influence. Nonetheless, the individual is still affected by the decisions and actions occurring at the exosystem level.

The existing literature on buprenorphine treatment at the exosystem level addresses issues related to patient access (such as existing treatment programs incorporating buprenorphine), private physician willingness to prescribe buprenorphine, and insurance type (including Medicaid) and coverage. This interview data highlight the importance of facilitating patient access to buprenorphine, particularly by addressing insufficient Medicaid coverage and inefficient procedures for securing Medicaid payment for buprenorphine. This chapter will highlight three themes that emerged from interviews regarding the ecological systems model: 1) how treatment center policies shape buprenorphine patient experience; 2) how Medicaid coverage affects buprenorphine patient choice; and 3) how the availability of “street” (non-prescribed) buprenorphine influences treatment entry.

#### **Treatment Center Policies**

Individual buprenorphine patients have direct contact and interaction with the treatment center and staff as they receive their doses, attend individual and group sessions, and receive ancillary services. However, larger treatment center policies are

shaped and enacted without the direct participation of buprenorphine patients, even though they have a profound impact on their treatment experiences.

### *Priority Intake Policies*

As mentioned in chapter four, WANS has several key policies surrounding intake into the buprenorphine program. When a potential patient calls the clinic for information about intake, they are told they will be taken on a first-come-first-served basis and directed to line up outside at the front of the building between 7 and 7:30am. Staff members recommend that all *potential* patients start lining up on the sidewalk as early as possible and be prepared to submit a urine sample during the screening process. New patients are only admitted to the program four days per week and in limited numbers. On Mondays and Wednesdays, eight new patients are admitted to the clinic, and four new patients are admitted on Thursdays and Fridays. Tuesdays are reserved for transfer patients who have six months of documented, sustained abstinence at their current clinic. Transfers are also required to line up outside of the building and submit to urine screens.

All patients are required to bring photo ID and proof of Delaware residency to the initial intake meeting, and the clinic will not dose or formally admit a patient to the clinic without the photo ID. In most cases, newly admitted patients are given same-day initial dosing, and all new potential patients who see clinical staff are offered referrals for services even if they are not formally enrolled in the clinic. The staff clearly communicate to new patients that intake priority will be given to pregnant women and HIV-positive persons.

Several respondents reported having difficulty formally enrolling in the clinic, due to the priority given to pregnant women and HIV-positive persons. Joanne

(38/White/Female), tried to get admitted to the clinic several times before finally being enrolled into the buprenorphine program in January 2015. Joanne comes from “a long line of medication abusers.” Throughout her interview, she described feeling apprehensive about using prescription medication for any ailment because her family members have had ongoing issues with “doctor-shopping” and prescription pill abuse. Noting that cocaine had always been her drug of choice, Joanne says she fell into using heroin because of a recent boyfriend. Once she realized she was dependent on heroin and needed to stop using it on a daily basis, she was unable to quit on her own. She ended up using heroin for two years, and injecting intravenously for the last six months. Although she knew she needed help to stop, she was adamant about not using the methadone clinic services because of her family history and concerns that clinic staff would judge her as a “junkie.” When she eventually realized that quitting on her own was not possible, she went to the clinic for an intake meeting:

**Interviewer:** *So tell me about when you came in here, you woke up one day and decided, today's the day I'm going to go...*

**Respondent:** *Well, I came here a couple times and then I was just like, fuck that place I'm not sitting there to be turned away.*

**Interviewer:** *But tell me about what was going on with that process? Because that's one of the things I'm looking at too, how hard it is sometimes to get on and all that. So tell me about the first time you came and why you got turned away.*

**Respondent:** *Actually, they don't tell you why you're getting turned away. They don't. They just say, you know, “we're sorry, but if we didn't call your name try back again.” And that's just a process I didn't want to keep going through. To me, it was humiliating, it was frustrating, it was irritating, and I just wasn't doing it. No*

*more. You know what I mean? So I quit coming and trying, and was like fuck it, I don't even want to be on that shit anyway.*

Joanne was referring to a time in December 2014 when she initially started trying to get admitted to the clinic. She returned to WANS for an intake for several days, but stopped after becoming frustrated with the process. She waited several weeks before trying again a month later, when she was finally able to be fully admitted to the program.

Although the WANS website clearly states their policy of prioritizing pregnant women and HIV-positive persons for enrollment, clinic staff also use unpublicized guidelines to sort remaining patients based on their route of administration and severity of their personal situations. For example, potential patients who use heroin intravenously are more likely to be admitted to the program before potential patients who use heroin intranasally. Tim, who was actually sniffing heroin at the time of his intake, ultimately lied to WANS staff about his route of administration in order to get admitted to the clinic sooner.

***Interviewer:*** *What were some of the things that they told you when you were getting on? About the medication? Expectations? Process?*

***Respondent:*** *I donno. I don't remember, really. I mean, the process at that time, I did even have to lie to 'em and tell 'em I inject it. You know what I mean? Which is kind of fucked up. Who's to say whether I sniff or inject. Who's to say his life is more important than mine because he injects and I don't....Walk in and tell them, you know, you got HIV. But you can't really tell them that because they test for that... ya know, just take everybody.*

Ornette responded similarly upon discovering WANS' prioritization process, but he was not aware of the limitations when he first started coming to the clinic during the intake periods.

*I'm just so glad I didn't get that deep into it. Even to get into this program, it's crazy, because even to get in to this program you have to be dirty, you can't come up here saying look I'm trying to fight this thing, and I've been off it for two days and I'm trying to get in this program. You have to be dirty, you gots to be down and out, I mean, you really have to be. I had to tell these people I was shooting in my nuts, I had to tell them I was trickin' with men, I was doing all kinds of crazy stuff just to get in here. And you know, some of the people told me what to do and what to say, cause when I came up here I was up here trying to be arrogant. You know, "I only do two bags a day." And they would just say, "well get your ass back on out there and do some more bags!" You know, but I think that if they take it seriously, that when a person do come up here they coming up here for help.*

Ornette was a life-long substance user, but generally used only marijuana, alcohol, and crack-cocaine. After dating a woman who was maintaining a daily heroin habit, Ornette decided to occasionally join her in using heroin since he would often purchase it for her when he bought himself crack-cocaine. Because it did not start as his drug of choice, he only sniffed a couple of bags each day to maintain his dependence. He soon discovered, however, that he was unable to quit using on his own. When he began coming to WANS' intake meetings, he discovered that his pattern of use (sniffing three to four bags daily) was not enough to move his name into

treatment slots available on the four days per week that WANS took new buprenorphine patients. He was, however, able to get into the clinic once he changed his story to reflect more severe life circumstances, as he notes in the quote above.

### **Patient Medication Choice: Buprenorphine or Methadone**

Another WANS policy that affected buprenorphine patients during the intake process was when medical staff decided whether the patient was more appropriate for the methadone or the buprenorphine program. WANS generally imposes a step-therapy, or “fail first,” approach to assigning new patients to pharmacotherapy. New patients who meet the criteria for opioid dependence and have previously failed treatment attempts (especially with pharmacotherapy) may be given the choice of methadone or buprenorphine. However, patients who were not previously enrolled in a pharmacotherapy program, or who had been previously enrolled and experienced success for some amount of time, are placed directly into the buprenorphine program, regardless of their preferences. As discussed in chapter four, patients like Eric came to WANS hoping to be put on methadone, and usually hadn’t heard of buprenorphine before their intake meetings.

Other patients, like Brian (31/AA/Male), had no interest in being placed on methadone because of his negative personal feelings toward methadone patients in general. Like Eric, he was automatically assigned to buprenorphine by the nursing staff because of his lack of treatment history.

***Interviewer:** Now when you came in did they give you a choice about what medication you were going to be on?*

**Respondent:** *Nah, cause they said because I've got no prior treatment that I got to do that subutex.*

**Interviewer:** *So methadone wasn't even a choice. Okay, what would you tell someone that was thinking about getting on Subutex?*

**Respondent:** *I mean, it's the lesser evil. (Laughter).*

By the time Brian initiated treatment at WANS, he was aware of the fact that he would not be able to stop using heroin on his own, or stop using heroin without medication. During his interview, he expressed that he believed quitting heroin without medication was preferable to using pharmacotherapy, but since medication was something he felt he needed to quit using heroin long-term, he believed buprenorphine to be the “lesser” evil over methadone. In Brian’s case, WANS’ policy to place him directly into the buprenorphine program without allowing him to choose between buprenorphine and methadone, was actually his preference.

Calvin (41/AA/Male), who shared Brian’s perspective about methadone patients, was comfortable with the staff’s decision to place him directly into the buprenorphine program without allowing him to choose the methadone program during his intake meeting:

**Interviewer:** *At what moment during your intake process did they tell you that you would be getting the subutex and not the methadone?*

**Respondent:** *Well, being as it's my first time here*

**Interviewer:** *Who told you that? A nurse? Doctor?*

**Respondent:** *A nurse. They was like, anybody who's first time in the program, they gonna start them off on that. But I didn't want that anyway, the methadon.*

**Interviewer:** *How come?*

**Respondent:** *I mean, I seen people on it and I don't want to be high. I don't want to be high. And I wasn't doing the heron to be high, I was doing it to take away the pain that I feel, so you know. I have my good days and my bad days when I'm eligible to literally flex my knees to where I am right now. The winter's not a good time for me, the cold, the rain and stuff like that. To answer the question of why I refused the meth, I don't want to be high. Everybody I see is high, they medicated. They medicated. And that's defeating the purpose of doing what I'm trying to accomplish.*

Other respondents without previous treatment experience did not intend on being placed in the buprenorphine program and were dissatisfied with the decision. In the following cases, (Tyra, Billy, and Mindy), being placed directly into the buprenorphine program without being given a choice to enter the methadone program was not the preference of the patient.

Tyra (30/White/Female), for example, could not wait to be switched from buprenorphine to methadone. The WANS policy is that once a patient is placed in either the methadone or buprenorphine program, they must wait a minimum of one month before requesting to switch medications. At the time of her interview, Tyra was in the process of requesting a program switch. She was in the unique position of having taken both methadone and buprenorphine on the street, and she reported feeling that the methadone “held” her better. Unfortunately, she did not feel

comfortable sharing her experiences with the diverted street medications with the nursing staff conducting her intake.

**Interviewer:** *So tell me a little bit more about why you want to switch?*

**Respondent:** *It's not holding me, and it doesn't, I don't know how to put it. It's just that the subutex, it just makes me, I don't feel good after I take it. I'd rather not take it and be okay, than take it and just feel sick... it's just, I don't like, it just makes me feel like I have to throw up, and I don't know. I just don't like it, and I tried to have them start me on methadone in the beginning, but I didn't want to have to tell them I was using it on the street or they probably would have put me on it if I told them that I used it before. But I didn't want to say I was using it on the street...*

**Interviewer:** *How long after you started taking the subutex did you want to switch to methadone?*

**Respondent:** *When I first started taking it*

**Interviewer:** *So you were fine taking it that one day because you needed to get dosed, but after that you...*

**Respondent:** *Yea, cause it takes the sickness away but it just doesn't... it just... it just doesn't work with my body... They told me I had to wait a month before I could switch over...*

Similarly, Billy (35/White/Male), did not wish to be placed directly into the buprenorphine program and would have preferred being placed on methadone. At the time of his interview, he did not perceive that the buprenorphine was adequately maintaining him. When asked about whether he had mentioned taking buprenorphine to any friends or family members, Billy responded:

*Not really. I mean, my mom doesn't really, I don't know, she probably thinks [buprenorphine's] good for me, but other people think I should get off of it, but my mom probably thinks it's best for me to get off of it sometime. But like, I don't know, she doesn't want me to get on methadone, but I want to get on methadone because it makes me feel better. The subutex isn't really doing anything for me I don't think.*

Mindy found herself in a similar situation during her intake visit, and like Tyra and Billy, wanted to be placed in the methadone program from the start. Mindy was primarily nervous about starting buprenorphine at WANS because she had taken buprenorphine on the street before and did not like its effects:

**Respondent:** *I didn't even know I was getting on subutex. When I came into the office when they picked me that day, and you go in and you talk to the lady downstairs, I guess she might be a doctor, I think she might be a doctor or nurse, and she said, "Well you're going to get on subutex." And I said, "okay", I didn't even know what it was. I was thinking I'm getting on Methadone... And I said, what's the reason for that, I've never even heard of subutex. I heard of Suboxone...But not subutex. We'll, she's like, the reason is because you've never been in treatment before, I was never in a rehab or anything like that. So they just give people that have never been in treatment before subutex. Instead of the methadone.*

**Interviewer:** *So they didn't even ask you?*

**Respondent:** *My choice or anything, nope. Nope. Didn't even ask me. And even now, it just came to me, I don't know if this is just a thought, is like, is it like, them just trying to make money off the subutex? Because you know, the methadone is*

*covered by the Medicaid, but the subutex you gotta pay money here. So they're putting more and more people on the subutex, and I can see that it is a little bit better, but is that the reason? Is this the reason? I mean, I should have a choice of what I wanted. But to be honest with you, I'm glad I'm not on the methadone. Methadone screws you up, your body, your teeth, everything like that so. And people been here for years, so. Years on that, so, I can't even imagine! Yea, and I know a lot of people that still get high on the methadone, too. I know a lot of people, so. You know, it's just like getting high here. You know, that's all it is. That's all it is, just a free, free high.*

**Interviewer:** *So once they told you you'd be on the subutex...*

**Respondent:** *I kinda just told them, I was in my little addict mode, and I was like really? I don't even know what that is! You know, and I was like, are you kidding me? I gave her a little bit of a hard time, but she's like, trust me, you'll be okay, you'll be okay. So I gave it a chance, and now I'm good. I was thankful for it.*

Mindy came to WANS wanting to be on methadone, and was surprised when the nurse insisted that she begin pharmacotherapy on buprenorphine. Mindy recounts that the clinic staff told her she was going to be placed in the buprenorphine program because she had never entered or completed a treatment program before this current attempt. Although Mindy mentions being initially disappointed at learning she would not receive methadone, she now believes this decision was in her best interest. In contrast to Eric, Mindy was aware of the buprenorphine formulation, Suboxone (buprenorphine/naloxone), but was not familiar with Subutex (buprenorphine).

It is important to place these narratives within the context of the physical treatment facilities, as this context is inherently related to the patients' perceptions.

Buprenorphine was originally dispensed by WANS in a separate building through the 'drug-free' program. WANS was able to separate buprenorphine and methadone dispensing by taking advantage of office-based dispensing regulations that allowed physicians to write prescriptions for buprenorphine in non-opioid treatment program settings. During this time, buprenorphine patients were assigned to counselors and groups in the 'drug-free' program location. They also met with a WANS physician who traveled to the second location once a week from the methadone program building where he was normally housed. The physician would check in with each buprenorphine patient and write them a prescription for one week, two weeks, or one month depending on their overall progress in the program. Buprenorphine patients were only expected to go to the methadone program building during their first intake appointment (due to the medical nature of the exam), and during the first week of treatment when the patient was completing an extended induction period of daily dosing.

Over time, buprenorphine gradually moved out of the 'drug-free' program site and into the methadone program building. While it still operates as an independent program with a designated dosing window, it is co-located within the methadone program building in a way that it had not been in the beginning. Once the buprenorphine program was placed in the methadone program building, the model for dispensing buprenorphine to patients changed to more closely resemble the one for methadone. Buprenorphine patients started to daily dose at the methadone program for one month instead of one week, and then for sixty days instead of thirty, and so on. Eventually, the buprenorphine dispensing model replicated the methadone one, with buprenorphine patients being admitted to the program as daily dosing clients and not receiving take-home doses for one or two days at a time until they had completed three

months of abstinent urine screens. Once buprenorphine patients began receiving greater daily doses of buprenorphine, WANS switched to offering the less expensive formulation of buprenorphine – generic Subutex – in an effort to cut costs. Subutex, which does not contain an opioid blocker, was amenable to daily dosing, since patients were observed taking the medication, and it was therefore less easily diverted.

These organizational shifts in policy occurred during the five years that the researcher was directly observing the program, and buprenorphine had only been established at WANS for several months when those observations began. Each time WANS shifted the treatment center policies around the buprenorphine program, patients were forced to adjust to these changes and continue being compliant with their treatment plans. While WANS made many of these changes in an effort to improve different aspects of the program (i.e. efficiency, patient convenience, improved compliance with dispensing regulations, etc.), they were also accompanied by natural costs, as well (i.e., patient and staff policy confusion, disruption to patient routines, counselor reassignments, etc.). These program changes made at the exosystem level, in which the individual patients do not directly participate, have direct implications for patient experience.

In the case of intake priority policies, buprenorphine patients often experienced barriers and delays in getting admitted into the treatment program. Because only a certain number of patients are admitted to the program on any given weekday, WANS used priority treatment enrollment to ensure that the most high-risk populations, based on larger public health considerations, were admitted first. However, for those patients who did not fall into one of these high-risk categories (e.g. pregnant women, HIV-positive, intravenous user, etc.), it often required coming to WANS for several consecutive days or weeks without knowing when they would be admitted.

Unfortunately, once WANS patients became aware of the priority categories, several patients described lying about their route of administration and exaggerating their personal circumstances.

In addition to priority intake policies, WANS also uses a step-therapy, or “fail first,” policy approach that does not allow patients to choose their medication program, buprenorphine or methadone, unless they had a previous failed treatment attempt. Patients that did not have a previous failed treatment attempt were automatically placed into the buprenorphine program. For those patients without failed treatment attempts that had negative perceptions of methadone, based largely on medication characteristics that gave the impression of still being high, this policy was not problematic. However, for those patients who tried buprenorphine formulations on the street and were not satisfied with the effects, or were hoping to be placed on methadone because they had heard it was possible to still experience euphoric effects, this policy did not allow them to express their patient preference.

The next section will cover other exosystem policies that even exist beyond the treatment center as an organization, namely specific issues related to Medicaid coverage of buprenorphine that deepen the discussion from the previous chapter (macrosystem).

### **Medicaid**

At the time the interviews were conducted for this study, daily dosing of buprenorphine from an OTP was not covered by Delaware’s state Medicaid system. If opioid dependence is understood to be a chronic disease, and medications exist to treat diagnosed opioid dependence, Medicaid coverage of these medications in clinically appropriate patients is necessary to ensure patient access to such treatment. Although

increasing Medicaid coverage in most states has increased the *availability* of all three major medications for opioid dependence (methadone, buprenorphine, and naltrexone), Medicaid limitations on coverage for these medications is simultaneously decreasing *accessibility* (Rinaldo & Rinaldo 2013). This section will highlight the differential limitations for coverage of Methadone versus buprenorphine revealed by interview narratives.

State Medicaid coverage of medications for opioid use disorder involves a variety of challenges, delays, and limitations that result in considerable confusion surrounding coverage for patients seeking treatment and care. First, getting approval for medications to be considered for coverage or listing on state formularies goes through a review process by a committee, generally referred to as Pharmacy and Therapeutics (P&T). Medications have to be on the list to be reviewed, and then a determination is made based on controversy, cost, and evidence of efficacy and effectiveness. This process can vary in length, but generally takes six months or more. It should also be noted that each medication is considered by the P&T committee separately, is presented by a committee member who may or may not advocate for the medication, and who may or may not be a specialist in its use (Rinaldo & Rinaldo 2013).

Second, the language surrounding Medicaid coverage for medications is not used consistently and is not standardized throughout Medicaid systems. For example, jargon such as “formulary” and “preferred drug list” are used interchangeably, even though they have specific limits of coverage attached to a medication on either list. Technically, for a medication to be on a Medicaid formulary, it simply has to be covered by the health plan, whereas if a medication is on the preferred drug list, it

often has the lowest co-pay or a physician can prescribe it without prior authorization (Rinaldo & Rinaldo 2013).

Finally, just as there are addiction funding silos in Federal, state, and commercial coverage organizations, Medicaid agencies themselves silo different services and staff. Understanding coverage limitations for medications used in treating opioid use disorders can cross as many as four different areas of Medicaid operations: Narcotic Opioid Treatment Programs, pharmacy benefits, medical benefits, and pharmacy contracting and policy (Rinaldo & Rinaldo 2013). Since Medicaid staff in each area are not generally familiar with the coverage benefits and practices of the other areas, many may not be aware of how a medication would be covered as a pharmacy versus a medical benefit.

As of May 2013, 31 states offer Medicaid FFS coverage for methadone dispensed in an OTP, and an additional three states offer coverage through a block grant or other state/local funds. Only seventeen states do not offer coverage for methadone through state Medicaid programs (MT, ID, WY, ND, SD, IA, CO, KS, OK, AR, LA, MS, TN, KT, IN, WV, SC) (Rinaldo & Rinaldo 2013). In all of the states that extend coverage to methadone maintenance, patients must be enrolled in, or provide documented proof of, substance use disorder counseling as mandated by Federal law.

Buprenorphine, on the other hand, is officially covered by Medicaid plans in all fifty states. However, this is somewhat misleading because of the number of restrictions imposed on the coverage. In Delaware, for example, buprenorphine (Suboxone, buprenorphine/naloxone tablets, and buprenorphine tablets) was covered by FFS Medicaid plans with several limitations. Like methadone patients, buprenorphine patients are required to be enrolled in a substance use disorder

counseling program in order to receive coverage. Second, there is a lifetime limit of 24 months for the use of buprenorphine, and a maximum daily dosage of 16mg after six months of use. Third, all buprenorphine formulations require prior authorization before coverage can be instated. Finally, all buprenorphine formulations are covered as a pharmacy benefit (patient administered) instead of a medical benefit (health care professional administered); therefore, coverage is *not* extended when buprenorphine is dispensed in an OTP. (Note: All stipulations listed here were in effect at the time data was collected for this study).

With these differences, it is not surprising that many of the patients interviewed for this study were not aware of the effects these policies would have on their treatment coverage. Specifically, at the time of their intakes, some participants were not aware that buprenorphine would not be covered by Medicaid when given at the methadone clinic. When asked about making payments when his dosing started at the clinic, Tim responded:

**Respondent:** *No, I didn't start off paying anything. I just got held up like 4 months later. "oh, did you know you had a balance?" "um, no I didn't know". Nobody told me I was supposed to come over here and pay you and then go over and, you know what I mean? Nobody told me this. And now I have a balance. When I first started I was walking in like every day going right to the dosing. Getting dosed, no problems. And like 3 months, like a couple months, I forget. And she was like, you know, you have a balance? No, no I didn't. And why do I have a balance? Cause you're supposed to pay for it. So why didn't anybody tell me about how this process went? Instead of me having a balance now? You know, why wasn't I held up 2 months*

*ago, rather than 2 months of me getting my medication and now you're telling me this?*

***Interviewer:*** *So what was your balance, if you don't mind me asking?*

***Respondent:*** *It was a lot, it was a lot. They just keep on stacking it up. Like I had a hold at one point in time, you know, to handle my balance, but they didn't tell me anything. How was I supposed to know? I think it's actually like \$30 something a week, but the \$42 is like to help pay it back. Which, I just got off surgery too, so my balance is probably outrageous right about now. But like, I haven't had any income or anything. I've been telling [cashier] about this every Monday, I haven't been collecting unemployment or anything. I'm not collecting anything for this. It didn't happen at my job, so like.*

Due to a recent injury, Tim had been unable to work and was not collecting any government benefits. Since WANS made him aware that he is responsible for paying out-of-pocket for his treatment, he had to pay down the balance he had accrued. Because methadone is covered by Medicaid when dispensed in an OTP, even clinic staff who aren't affiliated with the payment office were often confused by the Medicaid coverage and reimbursement policy in relation to buprenorphine, especially since it is prescribed to a much smaller proportion of the overall patient population at the OTP site.

In other instances, patients received misleading or conflicting information concerning payment, but they were still held responsible for managing their bills.

***Respondent:*** *Well, see that's why I was arguing with [cashier]. During intake, I was like, "[cashier], no." Cause she said, "no, you have to pay." And I said,*

*“I didn’t have to pay at [previous buprenorphine treatment]?” “I don’t know why that is, but you have to pay here.” I called insurance, I was really mad. I was really upset, why all of a sudden I was covered and now I’m not. And there was no, I don’t know. It had to have changed. But it took me a good month with arguing with [cashier], going to her window almost every day.*

**Interviewer:** *But you were building up a balance during this time?*

**Respondent:** *Yes, exactly.*

Tami (47/White/Female) was particularly confused about paying for her medication at WANS, since she previously participated in an outpatient buprenorphine program where Medicaid covered the cost. Unfortunately, by the time she understood the new process and coverage limitations after a month in treatment, she had accumulated a balance. Once she began paying the actual cost of her daily treatment, she was still in the position of having to pay additional money to pay down her balance.

Santiago, who had been in treatment for ten months at the time of his interview, told the interviewer that some of the other patients he knew who had been in the buprenorphine program and accumulated balances had switched over to methadone because Medicaid covered it.

**Interviewer:** *So you came here and thought you were covered, and you gave them your Medicaid number...*

**Respondent:** *I went to the window to Karen, and she said, well you know it don’t cover the subutex. And I said, they told me it does. And she said, it don’t. So I said, okay well I’ll call and I’ll ask em. So I called and I asked them, and the next day*

*I came in and told her they said that they covered it. And she said well they don't. So I said, well that's fine cause I don't like to go through all of the extra steps so I just started paying. And I've been paying ever since.*

**Interviewer:** *And the people that you've met here who are on subutex and have Medicaid...*

**Respondent:** *They're on methadone, they're all on methadone now. Like I said, I won't switch because I'd rather pay my money and stay on subutex because it's working. I said a year, and I've done most of my year now, I'm going to try to work my way out of here. So I'm gonna work myself down, however I got to do it.*

Although some patients move to methadone because that was their preferred treatment all along, some of the patients Santiago befriended in the dosing area told him they asked to be transferred because they were unable to keep paying for the buprenorphine program. While these patients did not continue accruing additional fees after transferring, they were still responsible for paying the existing balance.

For patients like Matt (33/White/Male), accumulating a balance had additional consequences beyond being financially responsible to WANS. At the time of his interview, Matt had been in the buprenorphine program at WANS for four months. With the exception of a single use relapse related to his inability to get dosed over the Thanksgiving holiday, he had been abstinent from illicit opioids since he started treatment. After three months of negative urine screens, buprenorphine patients at WANS are eligible to begin receiving weekend and holiday take-home doses. However, patients with unpaid balances were not eligible for this benefit. Because Matt had accumulated a balance during his time at WANS, he was unable to receive take-home doses until he paid his account in full.

**Interviewer:** *Anybody talk to you about take homes? Like how you get take homes?*

**Respondent:** *I'm in the process of that now. They have somewhat, but I was told I needed a zero balance for take homes. Which, kinda sucks, but I don't understand why if I'm making a payment, like why couldn't they work with me? I'd love to have the take homes, but I'm working towards that now. So, but yea, I have been spoke to about that.*

This situation occurs because buprenorphine is covered by Delaware Medicaid as a pharmacy – rather than a medical – benefit. In fact, patients who receive office-based dispensing of buprenorphine by a private physician *are* covered by the Medicaid plan because office visits and intake appointments are covered. Since Medicaid patients pay only a nominal co-payment at the pharmacy, it is financially beneficial for OTP patients to earn full take home privileges. Patients who had previously received office-based dispensing of buprenorphine reported paying \$3 toward their 30-day prescription because they got Medicaid coverage when they filled their own prescriptions at a local pharmacy, rather than paying \$6 per day to receive their medication in the dosing clinic at WANS.

For those patients who struggle with paying the daily dosing fee to an OTP, being able to switch to an office-based arrangement with a private physician is appealing. Joanne explains:

**Respondent:** *That's the other problem I'm having, apparently Highmark doesn't pay for the Subutex. [cashier] said once I start to get take homes, they'll pay*

*for the prescription, but they won't pay for it now. They'll pay for everything else. Unless I switch my insurance, which I can't because everyone, my kids and my grandson is all under my case, and the United has no doctors in Delaware. So why the clinic only accepts that insurance is freakin' beyond me.... So now I'm in a financial freakin' agreement shit, and I have till April 30<sup>th</sup> or whatever. I mean, at some point, there's some date, but I don't know, I'm tired of dealing with this shit at this place, and I'm ready to find a fucking private doctor and be done with it. I like to come here, because of the counseling, because of the help, but financially, it's not worth it to me. When they're on my back every day, and I've got fucking, 50,000 holds, you know, there's some days when I come here and I really just need my dose. Like, when I get here. Cause I've had a long night, or just whatever. It's not always like that. But, then it takes you a fucking hour and a half to two hours, like that's enough to make somebody want to snap.*

Patients like Joanne associate many other privileges beyond the financial incentive with receiving office-based dispensing of buprenorphine. This was the case for several patients, especially those who had never received office-based buprenorphine from a physician before entering treatment at WANS.

However, other patients expressed additional concerns about receiving buprenorphine from a private physician that were not an issue for people enrolled in an OTP. Shelby happened to have a primary care physician – where she had been a patient for most of her adult life – who held the required waiver to prescribe buprenorphine through his practice.

**Respondent:** *Medicaid does not cover it, doesn't cover this stuff. Medicaid won't pay one dime towards it. Nothing... my roommate is on Methadone, and... the Medicaid doesn't cover him if he wants to switch to Subutex. They're not going to pay for it... doesn't cover anything. Cover's nothing. Now if I go to my doctor, he can give me a prescription for Suboxone. And I only have to see him once a month. But if I test positive for anything, they will kick me out immediately. And I wasn't willing to take that chance, and then I'm back to the beginning. Until I am perfectly clean, I mean cocaine everything, I'm not going to the doctor. That, I really don't want my doctor to know. There's a whole stigma. I've known this guy for 20 years, he knows what I've gone through with my daughter's drug abuse, and I don't even want him to know that I'm using it. But I could go to him, but again, if I test positive one time, pot, I don't smoke pot, but anything, you're immediately discharged. So I can't take the chance, at least here they'll work with me, I mean I'm an addict, what do you expect?*

Shelby had a long history of opioid abuse that, until the last few years, was confined to prescription opioid pain relievers she received from a specialist who treated her for multiple sclerosis. She envisioned a scenario where she could approach her family physician about using buprenorphine to slowly detox herself from the opioids he knew she had been prescribed. However, in order for her to convince her family physician that this scenario was true, she would need to consistently test negative for all other illicit substances (which was not possible at the time of her interview for this study). Until she managed to abstain from recreationally using cocaine, she had to continue receiving her buprenorphine from the WANS clinic to avoid having her primary care physician discover her other substance use.

In an effort to help patients who had difficulty paying their balances, WANS initiated an innovative program that would reduce patients' financial burdens while also enabling the organization to collect payment on accounts that were less likely to ever be paid. During March, April, and May, a patient with a balance of over \$300 can pay 50 percent of the balance to WANS in return for having the remaining balance forgiven. This deal coincided with employed patients receiving tax refunds in an effort to encourage patients to use their refunds to pay off their existing balances. When asked about the status of her account, Tami mentioned:

***Interviewer:*** *And are you still working on paying that down?*

***Respondent:*** *And when I found out that that was true, and this is the way it is, I, yup... Well yea, and they had like a thing up until April 2<sup>nd</sup>, I guess because of tax time, I don't know that's what I'm assuming it is, but the counselors would talk to you about your balance, if it was \$300 or more, they would pay half of it if you could pay half. They would pay half your balance of \$300 or more. Isn't that? I mean, who is going to be stupid and not take up on that? You know?*

In this instance, WANS was able to positively influence patients who had accrued a balance by implementing an organizational policy for payment forgiveness, if patients were able to pay at least half of their balance, presumably with income tax refunds.

Overall, Medicaid's classification of buprenorphine as a pharmacy benefit, rather than a medical benefit, had negative consequences for buprenorphine patients receiving their Medicaid through an OTP like WANS. Many patients reported misunderstanding this distinction during their intake process, which was made worse

by the fact that several patients reported receiving conflicting information from WANS staff. Ultimately, this misunderstanding resulted in patients accumulating balances during the first several weeks or months they believed Medicaid was covering their treatment, and delaying privileges, like take-homes, until they could pay down their balances to zero. In light of these complications, several patients mentioned wanting to switch to a private doctor for treatment, where the cost was considerably less (\$3 each month, as opposed to \$6 each day), and the perceived privileges were considerably more (e.g. no holds or medication delays). However, some patients were concerned that they would face judgement from private doctors, especially ones with whom they were already familiar, in a way that they did not experience in an OTP.

While both WANS treatment center policies and Medicaid coverage policies were institutionally-based findings of this study at the exosystem level, the next section describes the informal phenomenon of how the availability of diverted buprenorphine shapes buprenorphine patient experiences as they enter treatment.

### **Availability of Non-Prescribed Buprenorphine**

The final major concept from the exosystem level pertains to the availability of non-prescribed, or ‘street,’ buprenorphine to opioid dependent individuals who are not engaged in treatment. Previous studies indicate that prior experience with non-prescribed buprenorphine may increase the likelihood of treatment entry and is associated with improved treatment retention (Monico et al. 2015b). The findings from this study support these claims, and elaborate the association between the availability and use of non-prescribed buprenorphine and patient treatment entry and engagement.

Of the 20 respondents in this study, 17 reported purchasing non-prescribed buprenorphine on the street before they had entered treatment. Many of these patients reported using buprenorphine in that context to avoid experiencing withdrawal symptoms or to detox from prescription opioids or heroin on their own, a situation that is well-documented in the substance abuse literature (Bazazi et al., 2011; Genberg et al., 2013; Hakansson, Medvedeo, Andersson, & Berglund, 2007; Mitchell et al., 2009; Monte, Mandell, Wilford, Tennyson, & Boyer, 2009; Schuman-Olivier et al., 2010; Monico et al. 2015b).

During his interview, Jason (36/White/Male) was resolute about how central Suboxone was for him, both during his substance use period and in recovery. He reported using Suboxone before entering treatment when he tried to “kick dope” himself, always making sure he had some with him just “in case something came up.”

***Interviewer:** Ever taken any other medication for opiates? Methadone, Subs?*

***Respondent:** Nope*

***Interviewer:** Ever taken it on the street?*

***Respondent:** Yup.*

***Interviewer:** What did you take on the street?*

***Respondent:** Suboxone*

***Interviewer:** How many times?*

***Respondent:** Probably a dozen.*

***Interviewer:** How come?*

***Respondent:** To kick dope myself.*

***Interviewer:** So you would buy a couple at a time and try to wean yourself off?*

**Respondent:** *I always kept Suboxone with me just in case. In case something came up and I was going to get dope sick I would take a half of a Suboxone or something to avoid being sick.*

**Interviewer:** *So you always had it?*

**Respondent:** *Always, I have Suboxone now.*

**Interviewer:** *Just in case? As a safety net or whatever?*

**Respondent:** *Always.*

This study revealed that users consciously approach non-prescribed formulations of buprenorphine in several different ways. Luke (25/White/Male) also mentioned prioritizing buprenorphine over heroin any time that it was available in his peer network.

**Interviewer:** *What about Suboxone on the street? Anything like that?*

**Respondent:** *Yea, I have bought them on the street. A lot.*

**Interviewer:** *How did that go?*

**Respondent:** *That was good. I mean that was fine. I'd rather have gotten Suboxone than anything else.*

**Interviewer:** *Really?*

**Respondent:** *Yea, I definitely would rather have gotten that because...*

**Interviewer:** *Like over the oxys too?*

**Respondent:** *Well like now I would, yea. Because it's not as bad a withdraw from them either. I think they're a lot better for you than other stuff. Especially cause the Suboxone has the opiate blocker in them too, so you can't do anything else. And that helps you too.*

**Interviewer:** *When did you start buying those on the street?*

**Respondent:** *It was always just on and off. Whenever I could get them on the street, they're always hard to get. So it's just whenever I knew someone that had them at that time, I would just buy them up. Then just go do them until I ran out and then just go get the other stuff. So I always had to have something so I wasn't sick the next day.*

**Interviewer:** *So you were buying them so you wouldn't get sick?*

**Respondent:** *Mainly yea, just so I wouldn't be sick*

Luke reiterates what researchers have found in previous studies of diverted buprenorphine; namely, that he approached taking Suboxone on the street as a way to avoid feeling withdrawal symptoms from heroin. However, at this point in his substance use experience, Luke had a clear preference for purchasing buprenorphine over any other illicit opioid because his withdrawal experience from Suboxone was less intense than from other opioids; and it also prevented him from making a choice to use other opioids if they were available.

Eric, who also approached buying non-prescribed buprenorphine in this way, described getting paid on Fridays and immediately going out to purchase Suboxone from a friend who was likely getting a prescription for Suboxone through a private doctor or treatment program.

**Interviewer:** *You said you got Suboxone on the street? How often did that happen?*

**Respondent:** *Uh, it was pretty easy, because a lot of the people that hung out were drug addicts too. So some of them would go to the Suboxone doctor, get their*

*prescription, and then sell it so they could get dope. They'd keep a couple so they could eat them before they went back to the doctors so they could piss clean, or you know it would show up in their system, and you'd be a 8mg of Suboxone for like \$5 and then sell them for \$10. But when I started doing the dope I would keep them. I would make sure that, like say I got paid on Friday, the first thing I would buy was like 7 Suboxone. So that way, worst case scenario, I'm never sick, I'd just take the Suboxone. And then I would buy dope, get high until I had no more money, and then wait until I got sick, and then I'd take the Suboxone. I'd always make sure that I would never be sick. Cause I got sick one time, and was like, I'm never, nuh uh. Even if I had \$40, I would go buy, spend \$20 on like 2-3 Suboxones, and then buy dope with the other \$20. Get high, and then do the Suboxone when I got sick.*

For opioid users like Jason, Luke, and Eric, diverted buprenorphine was not just an opportunistic purchase, or a medication they bought as a back-up in case the dealer did not have quality heroin. They viewed purchasing Suboxone on the street as essential, and getting it was always prioritized over purchasing heroin. These men knew the efficacy of buprenorphine before coming to the WANS clinic and could rely on it helping them the way treatment center staff claimed it would when they completed their intake visits. Because of the regularity with which Jason, Luke, and Eric purchased buprenorphine on the street, they were in some ways already facilitating a self-directed opioid maintenance strategy.

Other patients who reported using diverted buprenorphine to avoid withdrawal symptoms or detox from other opioids used it more sporadically, mainly because they were not able to find it as often as they would have liked. Herc (33/Latino/Male), for

example, mentioned learning about buprenorphine from a friend who was selling some:

**Respondent:** *And then I tried to quit, one time, cause my buddy had the suboxones, like the stop signs...*

**Interviewer:** *Yea, the tablet*

**Respondent:** *And he told me that they were for trying to quit percs, I bought a couple off him and I tried to quit. And I actually stopped for like a month, but I relapsed... I didn't really know how to do it. I mean, he's not a doctor so he was like, "oh man, you just take a half of one or a little quarter of it, put in in your mouth and let it dissolve." I mean, I took a quarter of it like he said, but I don't think I did it right, I think I probably swallowed it or something. But it helped a little bit to the point where I went through a minor withdrawal, but it was tough. I labored through that recovery. It was not a smooth recovery.*

Herc was able to successfully detox himself from prescription opioids with only the few Suboxone tablets he purchased from his friend, but he was not able to sustain his recovery. He attributes this to being unsure about whether he took the Suboxones in the same way they would be prescribed by a physician. He was also unable to find additional Suboxones once his friend could no longer supply them.

Calvin followed a use pattern similar to Herc's, occasionally purchasing Suboxone with the intention of detoxing from heroin completely.

**Interviewer:** *Ever taken any of them off the street? Like, ever bought Subutex? Methadone? Suboxone?*

**Respondent:** *I've bought a Suboxone on the street. I would say about 3 times.*

**Interviewer:** *How come? What was the reason for buying that?*

**Respondent:** *Same reason, the detox. To attempt to detox, attempt to detox. My thought was, to get off completely. I mean, I know everything is a process and I never really had that many to wean myself off, so I guess it just kind of got me through my ill. You know, so, that wasn't as successful, me buying it off the streets and not having a plan to go with it to get more to keep it going.*

When asked why he decided to come to WANS for treatment this time, he explains:

**Respondent:** *Everybody was suggesting it, a lot of people I interact with throughout my day comes here. I never wanted to go on the meth. So when they told me they was giving out the "substitex", being as though they said it was another form of the Suboxone and I knew that worked for me. Cause when I did get it on the street it did work. That's what made me motivated to follow through with my plan more or less. You know what I mean, to get on the substitex.*

**Interviewer:** *Did you know much about it before you got on it?*

**Respondent:** *Not really, I've never been educated on it.*

In these excerpts, Calvin reveals that he understood detoxing from opiates to be a "process," and that buying a few tablets of Suboxone here and there was not enough to fully wean himself off opiates or sustain his abstinence. It was only when he learned that WANS was offering buprenorphine in addition to methadone that he was willing to come into the OTP for treatment. He specifically identified his

previous experience with buprenorphine as a factor that “motivated” him to follow through on getting into treatment, because the medication “did work.”

Interestingly, a few respondents noted that their experiences of taking non-prescribed buprenorphine resulted in getting high. These individuals usually experimented with diverted buprenorphine just one time. When asked about his experience with street buprenorphine, Mac (62/White/Male) noted:

*Well someone gave me a Suboxone pill about 3-4 years ago... I kinda liked it, it really rocked me. I took the pill and I was bouncing all over the place, I was like a rubber ball, man. I remember banging my head on the TV and I couldn't stand up, and it was like I got real drunk. And I was like, wow. And then I think I did a strip, did I do a strip? Maybe once within that like 3 years.*

Billy, who also experimented with diverted buprenorphine just once, had a similar experience:

***Interviewer:*** *Did you ever use subutex or Suboxone on the street?*

***Respondent:*** *Yea, the one time I went to get dope and someone had one of them orange Suboxone pills...*

***Interviewer:*** *The stop sign lookin' ones?*

***Respondent:*** *Yea, and I was like, I don't really want to do that but I did it, and it made me feel like, just like superman. I was living under a bridge and it made me feel so great, it was like being on speed. And I don't know, it just had me up all night and stuff. I went and took a shower with a hose back behind a like industrial building, and it was just like feeling good all up by myself.*

Although there are only a few cases for each category of use from the twenty interviews conducted for this study, it appears there is an association between the regularity of use of diverted buprenorphine, how the patients experience that use, and the utility of the buprenorphine itself to the patient. This seems like an important area to consider for future research.

### **Conclusion**

Overall, the primary findings at the exosystem level concern how treatment center policies, types of Medicaid coverage, and the availability of diverted buprenorphine shape patients experiences of treatment and treatment entry. Treatment center policies impacted patients' treatment entry experience, primarily through WANS' priority intake policy. Many of the patients in this sample had to go to the clinic and stand in line for an intake meeting multiple times before finally being admitted. Those who kept returning often gained access only after lying to treatment center staff about the severity of their use or the route of administration they used. This left some respondents feeling as though the treatment center differently valued some patients' lives.

Once patients were successful in being admitted to the OTP clinic, some were disappointed to find that they were not offered a choice about which medication they would be prescribed (buprenorphine or methadone). While many respondents noted feeling negatively about methadone and those patients who were enrolled in the methadone program, these attitudes gained considerable weight since they entered treatment. For those respondents who would have preferred exercising patient choice

regarding their medication, all but two (Mindy and Billy) were ultimately satisfied with WANS' decision to place them in the buprenorphine program.

Additionally, the lack of Medicaid coverage for OTP daily dosing of buprenorphine was one of the most salient factors shaping buprenorphine patients' experiences in this entire study. Many of the respondents were not aware that the cost of their treatment at WANS would not be covered by Medicaid, which resulted in the accumulation of account balances. Several respondents mentioned having acquaintances switch from buprenorphine to methadone after only a few months because they could no longer afford the out-of-pocket cost of buprenorphine, and methadone was fully covered by Medicaid. A few of the respondents mentioned not being able to begin receiving take-home doses due to their outstanding account balances, and still others are considering switching to an office-based dispensing through a private physician in order to have the cost of their care fully covered. Interestingly, those patients who are considering a private physician have not utilized this method of dispensing in the past, and some realize they will face other issues if they are able to switch to a private practice.

Finally, the availability of diverted buprenorphine was another exosystem factor to influence patients' treatment entry and engagement experiences. Respondents in this study seemed to have different patterns of use when it came to diverted buprenorphine, ranging from single experiences to regular use. Those respondents who used diverted buprenorphine on a regular basis were more likely to associate it with a positive, helpful experience, and utilized it in a way that resembled a self-directed opioid maintenance strategy. Those respondents who purchased buprenorphine sporadically on the street, associated it with a positive experience, but utilized it more as a self-directed detoxification strategy because they had limited

regular access to diverted medication. Those respondents who only had a single experience with diverted buprenorphine associated it with feeling high, and while it was a pleasurable experience, was not associated with a treatment or recovery orientation. This complex understanding of how different respondents utilize diverted buprenorphine based on regularity of use and street availability is a unique finding of this study and warrants future investigation.

The next chapter, focusing on issues and themes related to the mesosystem, will begin a discussion of microsystem interactions that exist in closer social proximity to the individual. These social spaces are those in which the individual directly participates, rather than those that exist beyond the individual's direct participation, the chronosystem, macrosystem, and exosystem.

## **Chapter 6**

### **MESOSYSTEM**

The mesosystem level was conceptualized as a way to account for interactions between an individual's various microsystems. For Bronfenbrenner, the intersections of various microsystems can be as influential on the development and experience of an individual as events occurring within a given microsystem setting. It is essential for individual development and experience that the various microsystems within which a person interacts, all maintain compatible expectations for behavior. Without microsystem consistency, the individual is left to experience the consequences of this discord, often through role strain.

Mesosystem level areas of interest that have been addressed in the existing literature pertain to the incompatibility of patients' microsystems in promoting pharmacotherapy or abstinence; the effectiveness of buprenorphine for patients involved in the criminal justice system; and the integration of family members in patients' treatment systems. The qualitative data in this study confirm the incompatibility of some of the patients' microsystems with pharmacotherapy, which generates role strain for the patient as a 'recovering addict.' Specifically, the main findings at this level of the ecological systems model concern: 1) the incompatibility of patients' microsystems of family, work, criminal justice agencies, treatment center, Medicaid, and local pharmacies as they interact during the buprenorphine treatment experience; and 2) the similarities and differences in how role strain manifests itself while the patient occupies the role of illicit drug user and recovering addict.

### **Office-Based Opioid Treatment: Buprenorphine by Prescription**

Several patients (Herc, Tami, and Luke) who were interviewed for this study had received buprenorphine as a prescription prior to enrolling in the daily dosing program at WANS. While the Delaware Medicaid program covers office-based dispensing of buprenorphine (which requires that the prescription be written and filled at a local pharmacy), there were several additional hurdles that these patients encountered that led them to reconsider the benefit of receiving buprenorphine in this modality. Each modality has different facilitating factors and barriers that each buprenorphine patient must weigh when making decisions about how to organize their own treatment program.

While priority intake policies complicate initiating daily dosing of buprenorphine at WANS, patients experienced other types of barriers in attempting to initiate prescription buprenorphine with a private physician or treatment center that uses office-based dispensing. Herc actually completed a drug diversion program for marijuana at WANS one year before he decided to start looking into a buprenorphine program for a prescription pill habit that had been going on for nearly seven years. During Herc's experience with the drug diversion program, he attended group meetings where he met a counselor who shared his story of recovering from prescription opioids. When Herc was ready to proactively address his opioid use, he returned to WANS and sought out this particular counselor, who explained the options for accessing buprenorphine:

*He referred me to a couple of doctors that deal with Suboxone treatment, and the doctor that I go to now is T-----, R----- T-----, it's a lady, and she started treating me in August 2013. He gave me her number, I called them up, and there was like a*

crazy waiting list, like I was number 80-something from their current waiting period. They said it would be like a 6 month wait. So while I was waiting for her to call me, [counselor] also told me about this building where you gotta come real early in the morning, but if you come early in the morning every day, or like several days of the week, where you can get the subutex, or something like that. Where it's not an actual Suboxone. The way he described it, it didn't sound like a regular Suboxone. I was like, "hey man, if that can help me that's awesome because I really need to get off this." So I think I came here like a total of four times and I was unsuccessful in getting it. Even though I came like 4 in the morning or 5 in the morning. Like my girlfriend would help me wake up real early in the morning and we would wait in the alley way and there were like 50 other people waiting. I mean, most of them were waiting for their methadone, and only a portion, small portion, like 5, but sometimes 20 or more, were waiting to get the subutex. But the first day I found out that you gotta sign in and fill out some paper work and what they do is, they choose who to let in cause they only have like a limited amount. So I was bummed out the first day. They were like, "we choose you, we choose you, we choose you and you," and I was like, uh... So now what? And they were like, "well, there's detox places you can go to." And I was like, man I work, I can't just go to a detox. And I was like, so ya'll are just going to send me back out on the streets to either use again or go through withdrawal, like I can't? So I chose to use cause I didn't want to go through the withdrawal. And I tried like, 2-3 more times I came, and I don't know if I was filling out the paperwork wrong, or I wasn't giving them enough of a sob story, or something, but they never chose me. But luckily, the wait for doctor T----- wasn't that long. Like, they called me within 3 weeks. And I was like, alright great.

By the time Herc returned to the WANS counselor, he was eager to start using Suboxone instead of continuing to depend on his regimen of prescription opioids. He was excited and ready to begin his treatment; but he encountered a system that maximized the availability of buprenorphine from several different outlets, yet did not address issues of accessibility in each of these modalities. His first option was to call the private physician recommended by the counselor, but he learned that she had a waiting list with more than eighty potential patients, which the office administrator estimated would result in about a six month waiting period.

Because Herc was willing to try whatever he needed to start on buprenorphine, he also attempted to get into the WANS clinic while he waited to hear from the private physician. Committed to getting treatment, and willing to use whichever modality allowed him to access buprenorphine first, Herc continued participating in counseling and group therapy at WANS. He was one of only two patients in this study who began using opioids with the oral administration of prescription pills who never moved to any other route of administration or to using heroin. Due to the priority intake policies at WANS, Herc was repeatedly turned away even though he continued to arrive early every morning attempting to secure an intake meeting. He finally received a call from the private physician after three weeks and was able to begin receiving buprenorphine through her practice.

Tami's initiation with Suboxone came through a referral she received while hospitalized for withdrawal symptoms she experienced when she was no longer able to access her prescription pain medication from her doctor. Afraid she would no longer be able to fill her current prescription after being discharged from the hospital, the nursing staff referred her to a few physicians that were waived to prescribe Suboxone:

**Interviewer:** *Now, did you have trouble getting in to see that private doctor? Was she full? Were you on a waiting list at any point?*

**Respondent:** *Yea, there is a waiting list for these doctors. Even for doctors now I hear. Well there was only limited doctors for Suboxone. There's limited, limited doctor's that can write a Suboxone prescription. So I called whoever I could call and the fastest appointment that I got was the one I took.*

**Interviewer:** *And do you remember about how long that took you?*

**Respondent:** *It took me probably about a couple months, but then she was my psychiatrist automatically anyway. And she, I was talking to her about the problems that I had, and she said I can do it, but I'm not going to be able to get you in because, I guess because of her situation with different prescriptions and things anyway, not for a couple months. So I used. I used until she gave me a script. Cause she was in the process of getting some kind of license back. I don't know what the issue was, but she had a lot of problems with her license because of everybody she had. Because they would sell.*

Tami received a list of waived physicians for buprenorphine and called every doctor on the list until she was able to get an appointment. She ultimately received a Suboxone prescription through her psychiatrist, but due to unspecified issues surrounding the doctor's waiver, Tami was forced to wait a few months before starting treatment with Suboxone.

Both Herc and Tami demonstrated a commitment to using pharmacotherapy and followed the instructions they were given to access treatment, but had to wait anxiously to hear from a physician who would eventually be able to give them

Suboxone. Luke's first experience with buprenorphine was quite different, though, because he had previously gone to a treatment agency that utilized office-based dispensing (rather than daily dosing) and provided advance appointments. Although the appointment he made was a few weeks away, he had the security of knowing exactly when he could start using buprenorphine. When asked about his earlier intake experience at the other treatment center, Luke responded:

**Respondent:** *You have to make an appointment. You have to call them ahead of time, and make an appointment. It's usually on like a Monday or a Thursday. And I went there on a Monday. You just go in and tell them you're intake. And it's your first time here any everything. They'll assign you to a counselor and you sit there and fill out a whole bunch of paper. Actually, actually before anything, they give you a urine first. And then after the urine they'll test it right there and then to see what you have in your system and everything, and then after that they'll assign you to a counselor and all that. And then you just fill out a stack full of paper. Just a whole bunch of stuff. And then after that, I guess the counselor goes through everything and you go back out to the lobby, and then you have to sit there and wait for the doctor to come. And he comes like at a certain time during the day, and you wait there. Then when the doctor comes, he comes out to the lobby and calls your name, and you go in, he asks you a few questions and everything, and then he just writes you a script for 7. And tells you to come back next Monday and get your next 7.*

**Interviewer:** *So does he dose you there?*

**Respondent:** *No, no*

**Interviewer:** *So the first time you ever get buprenorphine is a script to walk away with?*

***Respondent:*** *Yea, yea, you go right to the pharmacy to get it filled.*

Once the intake appointment was made, the intake process was not all that different from the one used at WANS. However, instead of being walked to the dosing area to receive the first dose after seeing the doctor, buprenorphine patients at the other facility were given a prescription for a seven day supply of Suboxone, which they could have filled at any pharmacy. While Herc and Tami were also given prescriptions during their first visits (rather than a single dose of Suboxone like at the WANS clinic), it is because they received Suboxone under office-based dispensing policies, rather than under guidelines that govern OTPs. Treatment centers, physician's offices, and hospitals intersected to create distinct pathways into buprenorphine treatment for these three patients, each with their own facilitating factors and barriers. Once Herc, Tami, and Luke were in treatment and receiving prescriptions for buprenorphine, they faced similar challenges that stemmed from the physicians' prescribing practices, the pharmacy's receipt of prior authorization, and Medicaid's restrictions on coverage, which all left the patient caught helplessly in the middle of frustrating bureaucratic regulations.

As previously discussed, buprenorphine is covered as a pharmacy benefit under Delaware Medicaid, so patients who receive a prescription from a physician can have it filled at a pharmacy, where it will be covered by the insurance with a small co-payment of three dollars for a 30-day supply. However, Delaware Medicaid only covers buprenorphine with prior authorization, which means that Medicaid must review both the initial request at the time treatment begins, as well as subsequent renewal requests on a monthly basis. Luke described his frustrating experience with Medicaid's prior authorization process:

**Interviewer:** *Did you ever have any problems getting your Suboxone?*

**Respondent:** *Trying to think. Yea, like they told me that I had to call my insurance and I had to call and stuff. I forget the reason, but it was to the point where I had to go to the Medicaid office and talk to this lady and get it all worked out. I don't know why. Because every, I think, every month, they have to like... I forget the proper word for it...*

**Interviewer:** *Pre-authorization?*

**Respondent:** *Yes! Yes! Pre-authorization. Exactly. That's what they had to do every single month. And every time, the pre-authorization always would have problems for some reason because of Medicaid. It sucked. Cause, I guess, [treatment center] has to call Medicaid or like fax stuff over to them, and sometimes they'd like forget or not do it or something like that. And I would call Medicaid, and they would say like, "Yea, we never got anything from [treatment center]." And I was like, what's going on? I just left there? I don't understand why they haven't done it? So I would have to call [treatment center], and they'd be like, "Hold on, give me a second." And then I'd have to call Medicaid again and make sure they got it, and they'd said, "okay, we got it." And then I would have to go to the pharmacy and make sure they were filling it for me.*

**Interviewer:** *So would you have to make these phone calls at the pharmacy while you were picking up your script?*

**Respondent:** *Yea, yea, or I would just go home and do it. Yea, sometimes it was stressful. Sometimes it wasn't that bad, it wasn't every single time. But it was a majority of the time.*

**Interviewer:** *Often enough to be a pain?*

**Respondent:** *Yea, exactly.*

**Interviewer:** *So did that ever cause you any problems in terms of staying in treatment? Like were there times you really couldn't get your Suboxone? So you started to get sick? Like how long would it take those issues to get resolved?*

**Respondent:** *Uh, about like, 2-3 days.*

**Interviewer:** *But in those 2-3 days did you not have your Suboxone?*

**Respondent:** *Yea, so I would have to buy them off the street. Yup. One time it took a week. And that sucked really bad. Like, it took a week, and then I had to go back to [treatment center] on Monday and see the doctor and told him that I never got my script because of Medicaid. And he was like, "there's nothing that I can really do, except for I can call Medicaid myself and tell them," because I think that's what Medicaid was waiting for was the doctor's signature or approval for me to get the Suboxone and they never got it. And then everything was fine after that. And I was able to get the script.*

**Interviewer:** *So it took the doctor actually picking up the phone and calling over to Medicaid?*

**Respondent:** *Yea, yup. Mmm hmmm. Yes.*

Each month, Luke had to make sure the prescribing physician signed a Medicaid form that renewed the prior authorization for buprenorphine. According to the Delaware Medicaid website (<http://www.dmap.state.de.us/information/whatsnew.html>), the prior authorization procedures include: 1) a thirty-day detoxification period that approves 52 units of buprenorphine over the course of one month; 2) a stabilization phase for buprenorphine maintenance that approves three doses daily for the first seven days of

treatment; and 3) a full maintenance phase that approves one dose daily for a maximum of 24 months as a lifetime benefit.

In addition to these procedures, the maintenance phase has additional conditions (summarized directly from prior authorization form unless indicated by quotations) such as:

Prior authorizations are generated for the first 28 days, second requests are approved for two months, and a third authorization for an additional three months of approval

Final approvals, for clients without any issues, are granted for three additional six-month authorizations. These approvals must contain a plan to taper and transition off buprenorphine. Requests beyond the 24 month limit must include a treatment plan along with “evidence of socio-economic changes that substantiate significant success with treatment” (Highmark Blue Cross Blue Shield Delaware 2014).

Patients are required to sign an informed consent document related to opioid dependence treatment, which includes an agreement to provide proof of receiving counseling services

Prior authorization can be cancelled at any point during treatment if a patient fills a narcotic agent or other significant drug interaction regardless of whether it is through Medicaid

Urine screens that are positive for narcotics or benzodiazepines may result in immediate cancellation of coverage

For a minor or temporary interaction (low dose of benzodiazepine, or less than five days of narcotic use), written rationale of medical necessity is required.

Clients who have failed three urine screens or relapsed three times are referred to an ASAM Level 1 (outpatient) provider or a new medication option.

Failures/relapses include:

Positive urine for illicit substances (cocaine, cannabis, heroin, street drugs, etc.) or prescription opioids

Urine screen that indicates falsified drug screen (no buprenorphine, or less than prescribed)

Change in course of treatment, including leaving one physician to start with a new provider

Although they originate in the patient's exosystem, these Medicaid policies permeate through to the microsystems in which the individual is involved – the physician's office, Medicaid office, pharmacy, and treatment center. To comply with the requirements developed by Medicaid, patients must negotiate these guidelines within each applicable microsystem without disruption, or risk losing their buprenorphine coverage. In Luke's case, for example, if the treatment center did not submit the prior authorization form as soon as his appointment with the physician was complete, he would be unable to fill his buprenorphine prescription at the pharmacy. If he was unable to fill his prescription, he would need to contact both Medicaid and the treatment center to ensure the two microsystems had communicated and were congruent. During the time that he was trying to coordinate managing the responsibilities assigned to entities in his microsystems, Luke was unable to secure his medication. As discussed in the exosystem chapter, Luke had regular access to diverted buprenorphine and was able to purchase Suboxone from the street to maintain his dosing. Because he had access to diverted Suboxone, Luke did not have to go

through withdrawal symptoms or resort to purchasing narcotics, the latter of which would have resulted in compromising his Medicaid coverage and treatment.

Herc had also been placed in similar situations. After sorting out the initial prior authorization and receiving his first week's allocation of Suboxone, the previously described maintenance conditions began:

*Something happened where they weren't filling my whole script. Cause the doctor, they progress you. Like I was going weekly, then they switched me to two weeks. But then my dosage went down. At first I was taking two a day, and then it went down to one a day. Then, once they switched me to monthly, I'm supposed to take one a day over 30 days. When I called Medicaid, because I would go to the pharmacy for a prescription for 30. But they could only give me like 8. And I was like, but I need 30. So I called Medicaid, and I was getting agitated, because my doctor was prescribing me 30. Why won't you guy cover it. Like, what's going on? And for some reason, the people over at Medicaid did not know how to explain it to me, until one day this woman, like I sat on the phone with her for like a hour, and she finally explained it to the point where I understood what they were doing.*

*Like she told me, look at your calendar. So I pulled out the calendar. So she said, you have to go by, we go by, because the Medicaid has the weird thing called "a rolling thirty days." And I was like, what the hell does a "rolling thirty days" mean? So what happens is, the day I called Medicaid to get my prescription filled, I have to count back the days to when I got my last refill. So if I get a prescription for 30, if I got my refill say, 8 days prior, then you have to subtract the 8 days from the thirty, so they could only give me 22. Because they can only give you thirty every "rolling thirty." It's weird. So basically from then on, like okay, I'll take the 22. And then*

*when that's gone, whatever day I get my prescription of thirty, then I have to count back 22 days. Now they can only give me 8. You know what I mean? It was weird, because my doctor's appointments didn't fall on an exact 30 days. Like sometimes it'll be every 33 days or every 34 days. So I wouldn't get my prescription, I wouldn't go to the pharmacy every 30 days exactly. Sometimes I'd go like every 33 or 34 days which totally messed up the whole "rolling thirty." So every time I get my prescription I would have to count back how many days I was last there. And it would change every time. So every time I got a prescription, the amount I can receive would change. It was weird. So, finally, the doctor called Medicaid and said, "look, let's reset the whole thing, and let's just start from here, and then we'll do an exact 30 days, so every time he goes he gets 30. And every time he goes he'll get 30. So we can just stop this counting back bullshit." So they finally reset it. And I finally got on the good schedule.*

*But it was so stressful for a while because, I was arguing with people from Medicaid, like, "What the fuck man, you guys is supposed to cover this, and why are you only giving me two today, and in two days I got to come back and you guys could only give me 7, and then when I go then I could only..." You know what I mean? It was just weird, man. That whole "rolling thirty" thing was just so weird. But I understood why they did it, you know, because they're only allowed to give you 30 every 30 days. So they can't give me 30 today, and then if my doctor's appointment is in 15 days, you know, or 28 days, they can't give me another 30. I mean, it was confusing as shit at first. And I was just like, what the fuck are you guys talking about? But they finally got it squared away. But for a while it was like, the pre-authorization wouldn't go through right away and I would have to wait, or you know, my Medicaid would expire, or whatever. It was hell at first.*

Because Herc was receiving his prescription from a private doctor, rather than going to a treatment center regularly (like Luke did), he had to schedule his follow-up appointments with the physician as in a traditional doctor's office. Most of the time, between his personal schedule and appointment times that had already been assigned, he was not able to schedule appointments that fell within the Medicaid prescription allowance schedule outlined in the maintenance phase conditions on the prior authorization form. Thus, he often faced issues at the pharmacy due to incongruence between the physician's prescribing practices and how Medicaid offers coverage. After some time as his patient, Herc's physician was willing to participate in contacting Medicaid; but for several months before that, Herc struggled to understand the problem and solve it on his own. Herc indicated that he felt particularly confused because he followed through on all of the other requirements for office-based buprenorphine treatment, such as attending regular counseling sessions and submitting clean urine screens.

Like Luke, Herc was also put in the position of being stranded because of the incongruence among agencies in his microsystem. He went without his prescription dose of Suboxone for several days at a time; but, unlike Luke, Herc did not have regular access to diverted buprenorphine:

*Like, I had the presence of mind to, just in case, like at that time, I would have 'just in case' Suboxone. There were days when I would try to stretch it as far as I can, I would take like a half, so that over time I would have like 2-3 Suboxone set aside for 'just in case' times.*

Technically, this practice of ‘piling’ Suboxone is a deviation from the prescribed treatment regimen and could result in a problematic urine screen if the patient’s levels of buprenorphine are lower than his regular dose. However, if Herc had not had the foresight to reduce his dose for a day or two during the early stages of his treatment, he would have experienced withdrawal symptoms or had to purchase illicit prescription opioids in the instances where he was not able to fill his prescription at the pharmacy.

Like Luke and Herc, Tami also experienced problems with Medicaid coverage for office-based buprenorphine before she switched to the WANS clinic:

**Respondent:** *But once I was in the only thing I did experience with getting my prescriptions every month was the prior authorization. What a pain in the ass. Every month, this is what I remember, every month I’d be cussing. Every month, I’d leave her office and I’d stand right at the desk before I left, and I’d say, “please, please fax that prior authorization to the insurance company while it’s in my eyes.” Because I would sometimes be three days without my medication. Because of that prior authorization. Either the medical place, when I had Medicaid, they would say they didn’t receive it. Or, that’s why I made sure, eye to eye, that the lady faxed my stuff, you know, then when I got to the pharmacy, I could be three days without my medication, so what are you going to do three days without your medication? You’re going to go use. Because you’re not going to be sick. I’m not anyway.*

**Interviewer:** *So when you were seeing the private doctor with Medicaid, every single month...*

**Respondent:** *EVERY month. EVERY month. A new prior authorization, every month.*

In addition to trying to manage the discordance among her psychiatrist, Medicaid, and the pharmacy, Tami also had to involve additional microsystems to comply with Medicaid's requirements. Because she was accessing her Suboxone from a psychiatrist who did not practice in a medical office environment, Tami had to schedule monthly appointments to take a urine screen at a local LabCorp before she was allowed to see the doctor for a follow-up visit. In order to satisfy the counseling requirement for Medicaid coverage, Tami also began seeing a psychologist once a month for one-on-one counseling. Unlike Herc, her psychiatrist did not require that she attend an outpatient treatment center, but did agree that seeing a psychologist would satisfy the counseling requirement.

Unfortunately for Tami, her psychiatrist decided to stop seeing buprenorphine patients during the course of her treatment, and Tami had to return to the hospital to be treated for withdrawal symptoms. When she was discharged, the hospital staff again referred her to Suboxone treatment with a physician; but due to the increasing popularity of buprenorphine and expanding waiting lists, she was unable to get an appointment. While trying to secure a treatment spot for office-based buprenorphine, Tami began purchasing prescription opioids from friends to ease the ongoing withdrawal symptoms. During this time, a friend offered her heroin when she was unable to find any prescription opioids. After starting to regularly use heroin, this same friend injected Tami with heroin for the first time. Four years later, Tami found her way into WANS as an IV heroin user.

## Role Strain In and Out of Treatment

At the point at which opioids start to occupy a primary place in the individual's daily life, the individual begins to occupy a separate role as a "drug addict." The addict role is often the most prominent in the person's life, even to the point of excluding all other roles (Stephens 1991). The respondents in this sample were no exception; many patients reported experiencing role strain within their microsystems of family, work, and criminal justice. However, buprenorphine patients also appear to experience role strain while they are in treatment, largely due to their decision to enroll in pharmacotherapy.

Matt is from a small, cohesive family and considers his mom his closest relationship. While he was actively using, his mother knew he had been taking prescription opioids, but did not know that he had switched to using heroin about three years prior. When he made the decision to go to WANS for treatment (four months before the interview for this study), he was open with his mom about seeking help for his substance use. Yet, he had not told her that he is taking a medication as part of his treatment. When probed about this, he responded:

**Respondent:** *I'm gonna eventually tell my mom, but I don't want her to know that right now. She's got enough stress on her mind right now, and if I tell her that it's just gonna add more stress, cause she's gonna be like, I donno, I just don't want to put that stress on her. Even though it's bettering me, she'll think totally opposite. She'll think that I'm still getting high, even though I'm comin' here and this and that. And I'm not. I'm not.*

**Interviewer:** *She'll still think you're still getting high out on the street? Or that the medicine is still getting you high?*

**Respondent:** *No, she'll think both. Like, you're goin' there to take medicine that's getting you high, is what you're doing. And it's not. Like, that's, subutex don't get you high. It don't.*

**Interviewer:** *Do you think she kinda associates it with the whole methadone thing?*

**Respondent:** *Probably. She'll probably, I mean she knew that I used to take Suboxone, on the street. Like she knew that. She knew I was trying to better myself, so. In the long run, she'll be alright with it. Like, I don't plan on being on it forever, I'm eventually going to wean myself off. But right now, I need it.*

Matt's situation was further complicated by the fact that he had previously taken diverted buprenorphine on the street and his mom was aware of it. He was concerned not only that his mom would not understand how buprenorphine and methadone were different, but also that he was currently taking a medication he had purchased on the street when he was actively using drugs.

Calvin, who had always been close to his mom, found himself in a similar situation. He used prescription opioids for several years following a severe injury, but had stopped when they became less effective. Eventually his pain returned, and a friend suggested he try heroin to manage the pain. He agreed, but withdrew from his family to such an extent that his mom was unaware that he had started using opioids again.

Once he started the buprenorphine program at WANS, he had to explain to his mom that he had starting using drugs again because he was unable to afford the daily cost of the treatment and medication. He admitted to her that he was using prescription opioids to manage pain, but did not reveal that he had started using heroin.

*I sat down with my mother the other day and shared with her, explain to her, cause she didn't understand because she didn't think I was using again. And I never shared with her that it was the heron. I told her it was the pills and stuff. But it's all the same, I was getting high. And just hopefully she know that versus me not motivated, she sees that I'm motivated to go to a treatment program and have her support and just, you know what I mean, have her know that I'm working towards being whole again. Being her son and everything. Which, I mean it's all an addiction, but I called it an experience as a phase goes, I knew it was something. I didn't come this far in life to decide to get high. So I just said I'm in treatment. I didn't explain nothing to her.*

Similarly, Calvin was willing to tell his mom that he had enrolled in a program for his drug addiction, but was unwilling to share with her that he would be taking buprenorphine as part of his treatment plan. Interestingly, he was willing to tell his mom he had started using prescription opioids again, but was not comfortable sharing that he had moved to using heroin. Although Calvin is now in treatment and “working toward being whole again,” he is still in the position of hiding something from his mom, just as he did when he was using.

Patients who are willing to share with some people that they are using buprenorphine as part of their treatment are often placed in a defensive position with family members who believe that taking the medication will get them high and is essentially the same as using opioids. A few years ago, Vince admitted to his family that his use of prescription opioids was problematic, and they responded supportively by calling various treatment centers to get him an appointment. They secured a place

for him in a detoxification program that released him after one week without providing any continuing care program. Vince relapsed with prescription opioids two weeks later.

This time, Vince was less willing to publicize his need for treatment and only discussed his plans with his girlfriend. At the time of his interview for this study, he had been taking buprenorphine for about one month and still had told his parents, although he did finally tell them he was currently in an outpatient treatment program. He reports that his girlfriend checks in with him often, asking a lot of questions about how the buprenorphine makes him feel and how it is different than other pills:

*She's supportive, and she just asked me how does it work and everything. She's just very curious about things, like how does it work, is it like the pills? And I told her, no, it's not like the pills. You know, me getting that happy feeling and stuff like that. I just say, they just get rid of my withdrawals. And it lasts like all day. Like my dose I took today, I'll be good all the way up until it's time for me to come in here tomorrow. I just tell her I feel great, I feel good, it's nothing like the Percocets and all that stuff like that. That's pretty much it. She would know if I'm high. Especially off the OxyContin, she'll know. My eyes will turn red, eyes will turn red. And all that stuff like that. She would definitely know.*

Mindy, on the other hand, has been completely open about her opioid use and treatment with all of her family members. She talked openly about how supportive her family has been throughout the process. Although they were disappointed to learn that she was using heroin, they never kicked her out of the house or withdrew any kind of support during her use. She reported that she lost their trust during her addiction,

especially when they began seeing her as a thief and liar. Now that she is in treatment, she is working on earning back their trust. Her family's apprehension about her taking buprenorphine long-term has raised their doubts about how serious she is about recovery. When asked whether her family knew she was taking buprenorphine, she responded:

**Respondent:** *Yea, they know. Um, they asked me what it's like, see they thought, cause it was the methadone clinic, that it was still going to get me high, and I'm like, no. But the methadone, see it all works, but the methadone is the only thing that makes you look like you're still high. But the Subutex, after they got to see me gradually grow in the couple months, they seen that it's working for me. Cause I would never drive that car here by myself, you know. Things like that. It's just the way it is.*

**Interviewer:** *So they were only concerned in the beginning?*

**Respondent:** *Yea, right. Is it even going to work, or she just going to keep going. You know, but I hung in there, and I'm still hanging in there and they see it.*

According to Mindy, her family is under the impression that buprenorphine and methadone are basically the same medication because she receives her daily dose of Subutex at the WANS methadone clinic. It has taken Mindy a few months to convince her family that taking buprenorphine is helping her improve her life, and that it does not give her the euphoria that mimics being high. With the exception of taking buprenorphine, her family is "happy" about her treatment; however, using a pharmacotherapy treatment modality represents an emotional hurdle she has to work to overcome with her otherwise supportive family.

The issue of continued role strain as a ‘recovering addict’ extends beyond family and into the microsystem of work as well. Tim has been able to keep a job throughout more than a decade of serious drug use, but was recently laid off due to industry factors outside of his control. When he spoke about how his drug use interacted with work, he revealed that while he was living in Florida, there were several instances where he was going through withdrawal and unable to go to work on a given day. Even though he was able to use paid sick leave, which has the connotation of being socially legitimate, his boss “called him out” on being “dope sick” several times, which led to him stigmatized and feeling like an unreliable employee.

When he moved back to Delaware, Tim chose not to “try to get on the clinic” until he had been laid off, because he did not think standing in line for an intake appointment was a legitimate excuse to miss work. Once he became a patient at WANS, he decided to pay for his treatment out-of-pocket even though he had employer-sponsored private insurance (Blue Cross/Blue Shield), because he was afraid his supervisor would discover he was receiving drug treatment. When asked why he does not use his insurance benefits, he explained:

**Respondent:** *I aint doing that. Cause I don't want my work to find out. Like they already know, but I don't know who knows. I don't know if, you know, I know my foreman knows.*

**Interviewer:** *So is there anyone that you're afraid of finding out you come here? That there would be some consequence? You mentioned the owner?*

**Respondent:** *The owner, but that's about it. But he might already know, I don't know. There's just no reason for me to go up and tell him anything like that, I'm going to work every day. That's all you care about, right?*

**Interviewer:** *But as far as him processing the insurance?*

**Respondent:** *Right, like I don't care to do that. In all reality, it's nobody's business. I come to work, and that's all you should care about. What I do outside of work is none of your business.*

Interestingly, phrases such as “it’s nobody’s business;” “I come to work, and that’s all you should care about;” and “what I do outside of work is none of your business” are notoriously used by individuals who occupy the role of ‘addict.’ Given that Tim had been enrolled in the buprenorphine program for 18 months at the time of his interview, it is notable that he still feels the need to use a language pattern that alludes to shame and secrecy to describe activities he engages in as part of actively pursuing medical treatment.

Other patients, like Luke, have had more complicated work experiences due to their substance use, and definitely do not feel comfortable revealing to their employers that they are currently taking buprenorphine. As a young adult, Luke was fired from several jobs due to his drug use. At one point, he rented a room from his boss until his boss discovered dozens of empty heroin bags in the room. Luke not only lost his shelter, but also his construction job. Now that he is working as a commercial painter, he believes he “learned his lesson the first time” and thinks it is best that no one he works with know he even has a history of substance use, which would be revealed by sharing that he takes buprenorphine.

**Interviewer:** *What about your work? Does your work know?*

**Respondent:** *No, mmm mmm. And they're not going to.*

**Interviewer:** *What is that?*

**Respondent:** *Uh, I donno, cause I just don't know how to deal with their reaction, and I don't want to see how they react. Cause it's my job, and I just don't want to take that chance. Cause I don't know how, cause I know he's really against drugs and stuff. So I donno how he would react if I told him. So, I'm just gonna just keep moving on.*

In addition to having lost jobs due to drug use, Luke has also had some involvement with the criminal justice system. He is on probation for a theft that occurred at a former workplace. While trying to keep his current boss from discovering that he is on buprenorphine, he also has to ensure that his probation officer will agree for him to remain on pharmacotherapy.

*But for probation, that's a whole different story. They don't want me to do anything. I told them everything, my probation officer knows my counselor, and he knows the whole deal with [treatment center] and stuff. He talked to [counselor] and everything about me. He's okay with it now. Cause every time I see him I have to get a urine from him too. A urine for him.*

His probation officer did not initially support Luke taking buprenorphine; he preferred that his clients try drug-free outpatient programs. However, his probation officer agreed to let him continue this course of treatment after speaking to Luke's counselor about the progress he had made. Several patients, including Luke, had to

have a discussion about buprenorphine with their probation officers out of concern that the buprenorphine might produce a positive urine drug screen outcome, which would result in a probation violation. When asked whether he brought the issue to his probation officer's attention, Luke responded:

**Respondent:** *Yea, yea I told him, cause I knew I was going to have a dirty urine for it.*

**Interviewer:** *So did you already know that they were going to test for it? Did they say that to you?*

**Respondent:** *Oh no, I didn't know that probation would, but I figured. But I don't know what it would come up as, if it comes up as opiates, I donno.*

Also concerned about producing a dirty urine while on probation, Jason was forthright about his involvement in the buprenorphine program during his probation intake appointment.

*I just did my intake yesterday so they know. I mean, I haven't met my probation officer yet, but I told them at my intake that I'm on the clinic. I have a paper from the clinic that says that I'm in treatment and everything looks good. I assume they'll be okay with it, but if not I'm not sure what she expects me to do. I can tell her I can't do probation, violate me, send me to prison for a year, let me go home without probation. Cause I'm not going to violate, I'm not going to be out here getting high.*

Jason is currently facing a ten-year suspended sentence after being declared a non-violent habitual offender due to his most recent arrest for organized retail theft.

He knows he absolutely cannot return to using any substances and believes medication like buprenorphine may be the only type of treatment that can help him stay clean and out of jail.

In contrast, Mindy never told her probation officer that she was a patient at the WANS clinic because she was concerned about his reaction. Mindy was originally arrested for robbery but pled to hindering prosecution, which resulted in 18 months probation. Because her arrest did not have anything to do with drugs, she was required to meet with her probation office on a monthly basis but not submit to urine screens. When asked why she didn't tell her probation officer about taking buprenorphine, she explained:

*No, not about the urine or anything, it was just that if I didn't have any problems with him, I didn't want to create anything. Everything was like smooth sailing with him, and I was just like, you know what, I'm okay. Cause I only seen him once a month, and like I said, I never gave him any problems or anything like that, so he didn't bother me much. So, and I would always go when I needed to go. So he didn't really, it didn't really matter I guess. Cause I didn't get caught with drugs or anything. Cause that's what I was saying, if you don't give them any problems or any reasons to do anything like that, then they won't [drug test]. But you have your ones that are just like that. But he was cool. He was cool.*

Each of the patients who were also on probation revealed they were afraid of “being discovered” by their probation officers. Luke and Jason decided to be upfront with their probation officers because they were more concerned about having a dirty urine, violating probation, and going to jail. Because Mindy was not subject to urine

screens, she was able to keep information hidden that she defined as something that would cause difficulty for her in an otherwise smooth relationship with the criminal justice system. In each case, patients perceived that authority figures would view buprenorphine use as problematic, not as an indicator of their involvement in a treatment program that would bring about positive changes for their lives.

### **Conclusion**

Bronfenbrenner created the concept of the mesosystem to account for intersections between the individual's various microsystems. It is essential that the behavioral expectations placed on the individual by these various microsystems are consistent and compatible, otherwise the individual experiences the negative consequences of role strain as they actively manage different expectations in different microsystem settings.

When the 'addict' is actively using drugs, the role they occupy is in competition with other socially-acceptable roles such as 'father,' 'daughter,' 'employee,' and 'friend.' When an 'addict' enters treatment and begins to disassociate from the problematic behaviors that accompany the 'addict' role, they begin to assume a different primary role – 'recovering addict.' Theoretically, once a patient is a 'recovering addict,' they are no longer engaging in the problematic behavior that resulted in experiencing role strain as an 'addict.' The role strain should cease and the person may begin to leave the role behind completely. However, if buprenorphine patients still feel the need to engage in secretive behaviors that mimic the ones they engaged in as 'addict' even though they are now in treatment, it is difficult for them to fully embrace the new role – and the associated healthy patterns of communication and interaction – of 'recovering addict.' Because buprenorphine patients still feel the

need to use omission, distortion, and even outright lies to manage others' perceptions of them, they often continue to experience the negative consequences of role strain.

Patients in this study noted feeling negative consequences of role strain, especially between their role as a buprenorphine patient at WANS and family, work, and the criminal justice system. Patients' families often believed buprenorphine was a way for the individual to continue to get high, or experience euphoria. Some patients revealed to their families that they had enrolled in treatment, but chose not to reveal that they were using pharmacotherapy as part of their treatment. Even families that were open to the idea of the patient taking buprenorphine as a maintenance medication often asked patients questions about how the medication felt, while monitoring their behavior for signs that were similar to their patterns of behavior while they were using illicit opioids.

Patients also noted feeling a similar pressure to conceal the fact that they were taking buprenorphine, especially from an OTP that primarily dispenses methadone, from their employer and co-workers. The pressure these patients describe was similar to that which they experienced when concealing their illicit opioid use from those in their work microsystem. Often when these patients were actively using, they were unable to come into work because of experiencing opioid withdrawal. This gave the impression that they were unreliable employees, generally resulting in the patient getting fired from their job. Because of the daily dosing procedure at WANS, patients sometimes feel as though they might convey this same sense of unreliability to their current employer by having to come into work late, miss work to get onto the clinic, or just be regarded as irresponsible or stigmatized because of their substance use history. These patients experienced inconsistent expectations in values and behavior as they actively had to manage their roles as both 'buprenorphine patient' and 'employee.'

This sense of concern about how they would be perceived by others also permeated into patients' criminal justice microsystem. Buprenorphine patients needed to proactively address their enrollment in a pharmacotherapy program with their probation officer, in a way that might not have been necessary in a traditional, 'drug-free' psychosocial program. Patients often disclosed taking buprenorphine to their probation officers because of a fear that they would give a positive opioid urinalysis for buprenorphine, which might result in a probation violation. For patients with several previous treatment attempts who were hopeful that buprenorphine would help them stay clean, the concern that their probation officer would not support their decision, or not allow them to continue using pharmacotherapy, was problematic. In these cases, the individuals acting in both roles as 'buprenorphine patient' and 'probationer,' experienced inconsistent expectations for values and behavior, which left the participants in this study to manage the expectations of both settings.

The final results chapter, chapter seven, will further discuss issues related to patients' microsystems, as they directly negotiate their experiences within separate microsystem settings.

## **Chapter 7**

### **MICROSYSTEM**

The level within which the individual participates most frequently and directly is the microsystem. The microsystems that surround the individual are all of the places, settings, and people with which the individual interacts and creates a day-to-day reality. For patients in this study, examples of microsystems include WANS, family, work, and the criminal justice system. The results at the microsystem level indicate that it is the information patients gather from other people in these various microsystems that is most influential on patient experience and behavior.

The existing literature concerning the microsystems within which substance-using and treatment-seeking patients interact reveals how individual characteristics facilitate treatment entry, retention, and outcomes; identifies the reasons why patients enter pharmacotherapy programs and choose buprenorphine over methadone; and considers counselors' and other clinical staff's attitudes toward patients who take buprenorphine. The data from this study supports much of the existing literature, which indicates patients rely on information shared within their social networks to inform their decisions to enter buprenorphine programs as a way of avoiding methadone programs. This study contributes to the literature at the microsystem level by enhancing the complexity of understanding surrounding both the positive and negative effects of informal information exchange in patients' decisions to: 1) progress from prescription opiates to heroin, and from other routes of administration to intravenous use, and 2) enter a buprenorphine program within an existing opioid treatment program known primarily for methadone dispensing.

## **Transitioning to Heroin and Intravenous Use**

Fifteen of the 20 respondents in this study initiated opioid use with prescription opioids, though some of them took pills that were actually prescribed for someone else. Of these 15 people, 13 eventually used heroin, and nine were using heroin intravenously at the time of treatment entry. The results presented in chapter four help place these patients' patterns of drug use into socio-historical perspective. One purpose of this chapter is to illuminate how these patients decided to transition from prescription opioids to heroin, or from inhalation or oral use to intravenous use, and how this transition occurs. The narratives from the 15 patients who have experienced such a transition reveal that the most prevalent factor influencing their decisions was the information members of their social networks provided about heroin and routes of administration.

### *Transitioning to Heroin*

The most pervasive explanation people in this study gave for transitioning from prescription opioids to heroin concerned the cost of heroin relative to prescription opioids. As the availability of, and access to, prescription opioid pills decreased over the few years prior to this research project, the price of the existing supply of these diverted pills increased. At the same time, the state of Delaware experienced a surge in the powdered heroin supply, thereby decreasing its price on the street.

When asked about how he generally chose to use prescription opioids, Brian responded:

*Yea, I just pop em, but then after awhile, sometimes I snort em, but it was never really my thing. And after awhile I just started dope, cause I mean someone*

*says it's cheaper, and I was like "ahhh..." it's cheaper. Know what I mean? This will get you higher than that. You do two bags and it's like taking a 30. Know what I mean? And go from there. And here we are.*

Brian, who had been using prescription opioids pills for nearly fifteen years, was not able to continue purchasing them as the cost rose and the availability declined. Once someone in his social network mentioned to him that heroin was less expensive, would actually get him higher than pills, and could easily replace the oxycodone he normally purchased, he decided to try it.

Luke was similarly influenced by someone in his substance user network who informed him that heroin was less expensive than the oxycodone he was using. When Luke first began taking 30mg pills (often referred to as "Roxy's" for Roxicodone), he would break them into pieces and use quarters of the single pill throughout the day. As his tolerance grew and his addiction intensified, he began to use more of the pill, more often during the day, until he was using multiple pills per day. As Luke used more pills, he had difficulty keeping up with the cost, so he decided to try heroin when an acquaintance told him it was cheaper.

***Interviewer:*** *Can you tell me a little bit about your opioid use over your lifetime? Like when and how did it start?*

***Respondent:*** *Started with me with marijuana and it went to OxyContin. And like Roxys and Percocets and...*

***Interviewer:*** *So 30s?*

***Respondent:*** *Yea, 30s, exactly. Umm, I started like, cutting it half and then cutting it in half again, just doing little fourths of them, and then working myself all*

*the way up until I met someone that told me that dope was cheaper, so I started doing dope.*

Even though she had been using prescription opioids for 11 years at the time of her transition to heroin, Tami acknowledges that she was “scared to death” to try it. It was only when a close friend explicitly broke down the cost difference that she changed her mind.

*I was scared to death because I kept hearing people overdosing, and I said I would never do that, never, never, never, but there I was. My girlfriend, she’s like, “You’re paying \$20 for a Perc 30, common, \$20 you can get 6 bags of dope, they’re \$5 a damn piece, and that \$5 bag equals the \$20 you’re paying for the Perc 30. That one bag equals that one pill.” And that’s what changed my mind. It tempted me, so I sniffed the one bag and within a half hour I was feeling good, I was able to move around, I was able to do my chores, whatever. Yup, yup.*

The phenomenon of prescription opioid users transitioning to heroin due to the scarcity and rising cost of opioid pills is well-documented in the literature (Lankenau et al. 2012; Cicero et al 2012; Mars et al. 2014; Cicero et al. 2014). However, one of the more interesting findings that emerged from these narratives is that respondents realized that while heroin may have been less expensive to purchase compared to a single 30mg oxycodone pill, maintaining a heroin habit was ultimately more costly, even over a short period of time. Calvin describes his experiences with buying heroin, which he approached with considerable thought and careful calculation.

**Interviewer:** *Can you tell me a little bit about that decision to start the heroin? You mentioned it was a little bit in your mind about being in pain after the infusions? Had you ever done it before?*

**Respondent:** *Nah, never done it before, but just listening to people, a couple friends of mine saying that that's just a powerful form of a Percocet. And I took a chance to see if that was the true results and effect of it, and you know, it's an opiate, I mean heron is an opiate, it just that you don't always know what you gonna get, versus the Percocet in the pill form that you get in a 10, a 15, or a 30, versus going to buy the drug on the street and you don't know what it is.*

**Interviewer:** *Yea, how much is going to be in there*

**Respondent:** *Just the quality of it, it could be a whole bunch of it, an ocean of it \*Laughter\* but the quality of it is just to keep the chase going. And it just starts off, like it's all about who you know and never going in the streets, versus the price of any and everything. So whether you're spending \$50 or \$25 for whatever the bundle or not, but if it ain't good you're going to be spending another \$50 or \$25. And this is all in one day. So then you re-evaluate your day, and be like, "damn, I did like 3 bundles and everything is garbage and I'm out of \$150!" And then you know, you sit back and re-evaluate your week on the seventh day, and you think about your tasks and where you went, and think with this guy I spend \$80, shit must have been alright.*

When he purchased prescription opioids in the past, Calvin did not have to consider which dealers he was approaching, or how the cost of his habit would fluctuate on a daily basis. He knew exactly how many milligrams of oxycodone he needed to take each day to avoid being sick, and how much that dosage cost. Because of the tremendous variability in purity from one bag of heroin to another, patients were

never sure how many bags of heroin they were actually going to need each day to satiate their level of dependence. As Calvin explains, patients could have an “ocean” of heroin at their disposal but never feel a sense of satisfaction. This unknown variable resulted in some patients spending even more money to maintain their drug habits once they transitioned to heroin.

Santiago, who began his opioid use by abusing prescription pills, generally maintained his use with two 30mg oxycodone per day. When a friend mentioned to him that he could buy almost twenty bags of heroin for the same \$50 he usually spent purchasing two pills per day, he decided to try it. After several months of heroin use, he realized that his tolerance was increasing; by the time he decided to enter buprenorphine treatment, he had been spending \$75 -\$100 per day.

*Well, yea basically, cause I mean, everybody always says, “oh, you should just do dope it’s the same thing as doing pills”, but I’m like, well it’s not really. But the only difference was, I paid \$35 for a bundle which is 13 bags of dope, and I pay \$25 for a pill. So if I spent \$50 for two pills they’re both gone. SO like I said, I was doing like 2 ½ bundles a day. So I was spending like \$75-\$100 every day as it is. And so I switched to that cause I’m getting like almost 40 bags compared to 2 pills. And I do [the pills] in a matter of seconds. So then I’d have to stretch them out throughout the day.*

Eric came to the same realization; that over time, heroin was “actually more expensive:”

*And it just gradually over time went from every once and while, to every couple of days, to every day. Then a couple times every day. And my money ran out, I had no pills, so somebody's like, 'try dope, it's the same thing.' So I did a bag of heroin, snorted that, and it worked, so ever since then because it's cheaper... Well it's actually more expensive. Because your tolerance to dope goes up faster than Percocets.*

#### *Route of Administration and Transitioning to Heroin*

In addition to learning about how, seemingly, inexpensive heroin was as compared to prescription opioids from individuals within patients' substance using social networks, patients' transition to heroin was also aided by patterns and shifts in their route of administration when using prescription opioids.

Eric began his opioid use with prescription pills that he started selling to supplement his regular income. Although he began taking the pills orally, he later learned that he could experience two distinct types of highs by sniffing one pill and taking another orally. Since the two routes of administration that are overwhelmingly associated with heroin are intranasal (through the nose) and intravenous (through the vein), Eric's decision to begin sniffing his prescription opioids allowed for a fairly seamless transition to snorting heroin. Brian noted that for the vast majority of his drug use period, he took prescription pills orally, only sniffing them once in a while. Sniffing was never his preference, but his willingness to consider it as a route of administration helped open the door for him to begin sniffing heroin.

*Yea, I just pop em, but then after awhile, sometimes I snort em, but it was never really my thing. And after awhile I just started dope, cause I mean someone*

*says it's cheaper, and I was like "ahhh..." it's cheaper. Know what I mean? This will get you higher than that. You do two bags and it's like taking a 30. Know what I mean? And go from there. And here we are.*

For Brian, it was the confluence of both a lesser cost and a willingness to change his regular route of administration that contributed to his transition from pills to heroin. In fact, of the 13 participants in this study who transitioned from prescription pills to heroin, nine began sniffing their pills prior to snorting heroin. Mindy also was willing to sniff her prescription opioids on occasion, but once she was reunited with her best friend who had started using heroin, she too began sniffing heroin regularly.

***Interviewer:*** *When did you switch over from the pills to the dope?*

***Respondent:*** *I would say maybe, I was sniffing pills for like 3 maybe 4 years. Then I switched over.*

***Interviewer:*** *Can you tell me what that was? Did you know someone who was using dope at the time?*

***Respondent:*** *I did. I did. It was actually my best friend, and you know, we didn't talk for like a couple months and then she came back around and she started doing dope around that time we weren't talking for a few months, and then she came and you know, I sniffed it at first, and then went downhill after that. Pretty much.*

In an attempt to further understand how individuals decide to transition from prescription opioids to heroin, the patients in this sample appear to have paved a smoother way for this transition to occur by creating a behavioral similarity between

the two drugs through their route of administration. For individuals that had already shifted from taking prescription opioids orally to intranasally, purchasing heroin as a less expensive alternative was even easier because they had already adopted a common route of administration for heroin. The only two patients that did not transition to using heroin, also never used their prescription opioids any other way than orally.

#### *Transitioning to Intravenous Use*

None of the 15 respondents in this sample who initiated opioid use with prescription pills reported using pills intravenously. All of the individuals who used opioids intravenously in this sample (13) did so with heroin, including the respondents who had initiated their opioid use directly with heroin. Yet even for those individuals, it was members of personal social networks that presented the opportunity to initiate intravenous use. These informal mechanisms provided both information and influence.

For patients like Tim, this transition was as simple as being around a new girlfriend who used heroin intravenously, so he decided to try it.

**Interviewer:** *So, you started here a year and half ago, and started shooting during that year and a half?*

**Respondent:** *Shoot, I started shooting probably about 3 months ago. I'm like a professional now. (Laughter) it's fucked up.*

**Interviewer:** *So what was that transition like for you? What, why?*

**Respondent:** *Cause, I was with a female, hanging out. She was shooting up, so I was like, "let me try it."*

Although Tim may have already possessed a willingness to try shooting heroin, he was only able to capitalize on his openness to the experience once he formed a relationship with an individual who knew how to use and could facilitate his first time use. For patients like Tami, all of her transition points came about due to influence exerted by, or information provided by, individuals she wound up spending time with at each point in her addiction. She explains her transition into shooting heroin this way:

**Respondent:** *...Then my progression grew and grew and grew and that was that. So that's how I came about with the heroin. Then, I got around a female, cause once you're out there and around that stuff you're with the wrong group of people and all that starts. So that girl, she shot, she did it intravenously, and she used to tell me it's the best feeling and it will take your sickness immediately away and you'll feel good, and da da da da da. So I started doing that, and that's how the needle use began.*

**Interviewer:** *So about how long ago did you start the dope? Like the first time you ever bought the dope?*

**Respondent:** *The first time I ever started dope was probably about 4 years ago*

**Interviewer:** *And about how long were you sniffing the dope?*

**Respondent:** *I sniffed dope probably close to a year, and then after that when I tried the needle use, that was it. That was it, I was in love.*

It is important to note that this openness was not devoid of perceptions of risk. Tami was quite scared to use heroin intravenously, even believing that there was an imminent possibility she could overdose from a single use. This fear was shared by other respondents in the study, like Julie, who didn't use heroin until she was talked into it by someone very close to her:

**Interviewer:** *So how did you generally use them? Did you start out just taking them?*

**Respondent:** *Yea*

**Interviewer:** *Did you ever move to any other way?*

**Respondent:** *I snorted them a couple times, but normally I just swallowed them.*

**Interviewer:** *And the dope?*

**Respondent:** *I started sniffing, and then yea.*

**Interviewer:** *Did you use it any other way?*

**Respondent:** *Um, I tried shooting near the end, just because I know that's pretty much what you have to do.*

**Interviewer:** *To feel it.*

**Respondent:** *Yea, because I mean me and my husband had just taken Percocets, and one day we couldn't get any but he know where [heroin] was, and he was like it's just like a Perc and it's cheaper. First I was like "No! I'm gonna die!", and this and that. "I'm not shooting up!" Then he said, "no, you're not going to overdose, it feels just like a Perc". And I was like, "why? Have you done it?", and he was like, "yea, I've tried it a couple times." And I was like, "fine, let's just try it." So that's how that started. Then we were using more and more every day, and we*

*weren't getting the same effect. But I mean, also because pretty much to even get in here, like the shooters get more help and quicker than the sniffers do. So, like you at least have to have a track mark, so I'm like I might as well just try it, like there's no other way.*

It is not surprising that these same informal networks also supplied information and advice about treatment options. By the time Julie transitioned to shooting heroin, other opioid users in her social network had informed her about the priority intake policies at several treatment clinics in the area. While this was not the sole reason for Julie's change in route of administration, the fact that intravenous users are accepted for intake into the clinics more quickly contributed to her rationalization that shooting heroin would be okay, and perhaps even useful.

Other patients actually used the same cost-benefit reasoning that led them from prescription opioids to heroin, in their decision to move from sniffing heroin to shooting heroin. Eric, began using heroin because it was a cheaper alternative to his prescription opioids, but noted that his tolerance increased at a much faster rate once he transitioned to heroin. His rationale for transitioning from sniffing heroin to shooting heroin was also a way to save money, because shooting heroin is a more efficient route of administration with a greater bioavailability.

*So I went from doing a couple bags of dope a day to a couple bundles, and snorting it was costing too much money so I started shooting it. And you know, I just ruined my life over the course of two years.*

Unfortunately for Eric, his life started unraveling at a much faster pace after his transition to heroin, and his switch to intravenous administration. He eventually lost his job, apartment, and custody of his two sons; he served one year in prison for theft and is now a convicted felon. Eric had never used an opioid before September 2012; by January 2013, he had transitioned to heroin. He entered his first detox facility in May 2013 and was incarcerated by April 2014.

### *Negative Effects of Intravenous Heroin Use*

Eric was not the only patient that noted experiencing significant, and rapid, negative effects to his life from using heroin intravenously. Julie had a particularly poignant dialogue during her interview, where she reflected with utter disbelief about how quickly the transition from pills to heroin, and from sniffing to shooting, occurred. She shared her story about “being out of control:”

**Interviewer:** *So you already knew that some of this preferential treatment occurred, how did you know that?*

**Respondent:** *It was just like coming, and seeing the order they were taking people in.*

**Interviewer:** *So this was even just like last week?*

**Respondent:** *Yea, like I talked to people before that had gotten into treatments and stuff. And they kept saying how hard it was. Not through here but in [nearby city]. But, I started shooting like a couple weeks before I got in here. But I just, it's not like something I ever wanted to do. So that's when I realized I HAVE TO GO. I never wanted to try it to begin with, and now it's like really out of control because what*

*started out as let's just get it because we can't find a Perc and then it turned into like a couple times a week, and then a couple bags and...*

**Interviewer:** *Now we're not even looking for the Percs anymore...*

**Respondent:** *Yea! (Laughter) Now we haven't looked for the Percs in months and we're doing a whole bundle a day, like it's not like, good.*

**Interviewer:** *No, I know, it's like you just realize...*

**Respondent:** *It was quick! I'm looking at the time frame and like, that was SO FAST. I never even like, from that first day that I tried it to now, like I never imagined...*

**Interviewer:** *Like, how quick it can all just change.*

**Respondent:** *It was definitely, I'm still kinda shocked. Like wow, 6-7 months? And like all these years of taking Percs and like, I could go for a whole month taking them every day and just be fine. And I just never really thought that I was going to get addicted that FAST, and then to have the withdrawal symptoms like that, and you really do have to get up and it's hard, to just stop. The way it completely takes over you, I'm still kind of like wow, how did this happen?? Like me and my husband, like especially the couple weeks prior to getting help, we've been talking about how we have to get help. And you know this whole first week together, you know getting help, like we even say, can you IMAGINE people who have been doing it for years? Like if we felt like we're feeling, you know? And it's only been like 6-7 months. Can you imagine? Like it's already taken a toll on us, and our lives.*

**Interviewer:** *There's people down there who have been shooting a bundle at day for 30 years. I can't even believe it.*

**Respondent:** *And just seeing the difference of the few months that we've been on it, how it's changed us and our interactions with everybody else. If it can do that in*

*that short of a time frame, like, can you imagine, me and him are like, can you imagine if we were these people who have been shooting up for years?*

**Interviewer:** *Just how much you can lose...*

**Respondent:** *Yea, like I feel like you really do seclude yourself. Like I really started noticing the past few weeks just how much we secluded ourselves from everybody. Because it's all about getting high. I mean, even secluding ourselves from our kids. Like, and we were never like that before. So it's like, it's time, we have to get help. When it starts coming before our kids, like it's time.*

As these narratives indicate, many participants started their opioid use with prescription pills and transitioned to heroin, primarily because the individuals in their substance-using network informed them that purchasing heroin was a cheaper alternative to pills. However, simply having the opportunity to access a less expensive alternative to prescription opioids was not the only factor contributing to the patient's transition.

Overall, patients in this study maintained dependence on a fairly consistent level of prescription pills for a majority of their use periods. The 13 patients in this study that initiated opioid use with prescription pills and later transitioned to heroin had an average of 9.2 years of opioid use in their lifetime – but only an average of 2.1 years of heroin use after making the transition. The most consistent reason patients gave for transitioning from prescription pills to heroin was that they believed “it was *the same thing* as pills.” Besides the (presumed) difference in cost, users would have no reason to transition to heroin unless they believed pills and heroin were interchangeable. According to the respondents in this study, the notion of *interchangeability* is perhaps the most critical piece of misinformation being

exchanged within substance-using networks. When asked how she would compare withdrawal experiences from prescription opioids and from heroin, Tami explained:

**Respondent:** *From the heroin? How can I compare it? The withdrawal from the heroin and intravenous use is WORSE. It is deathly, deathly worse. I swear it is. Yes. I thought that was terrible, going to the hospital because of the withdrawal from the pills, but nope, heroin is definitely worse. I guess because it has more opiate in it? I don't know. I'm assuming that's why, but it is worse. There's also a difference between the withdrawal from sniffing and a withdrawal from intravenous. There's two different withdrawals from that too.*

**Interviewer:** *How would you compare them?*

**Respondent:** *How would I compare them? The intravenous withdrawal is way worse than the sniffing withdrawal.*

**Interviewer:** *Do you feel like you get the same set of symptoms, just worse?*

**Respondent:** *It is the same set, but it's more intense, and it comes on stronger. Like, I can wake up and be instantly sick as soon as I got out of bed. I'd be throwing up and using the bathroom in my pants, and all of that. Compared to if I sniffed, I would have a few hours before I got like that. Or a day even. But intravenous use, because it goes right into your vein it brings it on stronger, the withdrawal is worse.*

**Interviewer:** *Would you say that the need to get more is worse? That drive to get more?*

**Respondent:** *Yup, yes. Yup, your increase moves up quicker, your increase moves up quicker too. Yup, yes it does.*

### **“World of Mouth” During Treatment**

While social network influences appeared to negatively impact patients through the spread of misinformation leading to their eventual transition from prescription opioids to heroin, and from intranasal to intravenous use, social network influences tended to be positive for facilitating treatment entry. Patients in this study often obtained information about the WANS clinic from individuals in their substance use network that they probably would not have accessed on their own.

#### *Information Exchanged About Treatment Entry*

Although minimal information about particular methadone clinics in the United States is available online, these clinics are essentially ‘closed’ spaces. They are subject to the same confidentiality guidelines governing any psychosocially-based treatment center. Furthermore, because the clinics operate as medical offices and dispense a schedule II narcotic, they are carefully regulated spaces that the average person would not be familiar with unless they had been formally involved in the clinic as a staff member, patient, or patient’s accompanying friend or family member.

WANS adheres to many of the security and confidentiality protocols followed by methadone clinics throughout the country, including video surveillance of the interior and exterior spaces of the building and automatically locking doors in the waiting area beyond the foyer. Smoking and loitering are not permitted on the property, so only those patients who are there for intake or already enrolled in the clinic are authorized to be near the building. Thus, people who are interested in accessing care from the WANS OTP generally learn how to approach the intake process by talking with current or former patients.

When Jason was released from jail the weekend before his interview for this study, he knew he needed to try a form of treatment that he had not previously tried if

he was going to have any hope of avoiding serving the ten year suspended sentence looming over his head. When asked about how he learned about the WANS OTP, he responded:

**Respondent:** *Well, everyone that shoots heroin knows about this place.*

**Interviewer:** *Well what happened the day you kind of decided that I'm going to go to this place? Just sort of came to you? Another strategy you haven't tried yet?*

**Respondent:** *I was talking to a friend of mine, Sunday, he comes here. And he was like, they take 8 people on Monday so you need to go. That was it so I woke up 5am on Monday and walked up here.*

When he was released from jail, Jason went to stay in a local men's shelter where he happened to start a conversation with another resident who was a current WANS patient. Not only was he able to ask this person some general questions about the clinic's location and services, but he was also able to gain valuable insight into the clinic's intake policies. Interestingly, Eric was staying in the same men's shelter as Jason the weekend before his interview for this study, because he had also been recently released from jail. Jason and Eric completed their intake into WANS on the same Monday morning. As Eric recounts:

*I showed up here on Monday morning. There's people already lined up out here at 4am cause this becomes their new drug now cause they need it. So they're here trying to be the first person in line. So I'm standing in line and started talking to this one guy, and asked him, "so is this where they do intake too?" and he's like, "yea, but not till 7." You used to have to camp out overnight and try to be the first*

*person, because it used to be first come first served. But now they take everybody, and let everybody fill out the form and then they go through it, and supposedly, they pick the most high risk people, piss test them, and then if you piss dirty they pick you. Some people say they just throw your name in a hat, but I don't think they do.*

Eric mentioned being given the same information Jason received concerning the intake process, and they both actively continued to interact with other current patients in order to gather more information. Gathering information about the intake process was one of the most common topics patients mentioned when they recounted discussions with others prior to becoming patients at WANS. Matt had several friends who were receiving methadone from WANS, and they gave him a complete run down of how the intake process would go and what he needed to have in order to get on the clinic without any problems. In addition to learning about having to submit a positive urine screen for opioids and making sure there were no benzodiazepines in his system, Matt also found out what time intake meetings started and which days WANS accepted the most new clients so he could maximize his chance of getting accepted.

***Interviewer:*** *How did you know you had to give a dirty urine?*

***Respondent:*** *Cause everybody told me, like all my friends said, "well they're gonna piss test you and make sure you're dirty." Like a lot of people told me, like you can't have no benzos in your system, or they won't medicate you.*

***Interviewer:*** *So just like friends?*

***Respondent:*** *Pretty much, yea, just like friends. Like I've learned about this place through my friends that come here. Like I have a few friends that actually come here. And they've been coming for years.*

**Interviewer:** *Are they on the subutex?*

**Respondent:** *Nah, they're on the methadone. Yea, they're on the meth.*

Calvin said he wanted to get help months before he finally came to WANS, but he held the same belief that many other patients who were interviewed expressed – they did not want to be on methadone, and they were not aware that WANS offered any alternative medication.

**Interviewer:** *Okay, so how come you decided to come here?*

**Respondent:** *Everybody was suggesting it, a lot of people I interact with throughout my day comes here. I never wanted to go on the meth. So when they told me they was giving out the “substitex”, being as though they said it was another form of the Suboxone and I knew that worked for me. Cause when I did get it on the street it did work. That’s what made me motivated to follow through with my plan more or less. You know what I mean, to get on the substitex.*

**Interviewer:** *Did you know much about it before you got on it?*

**Respondent:** *Not really, I’ve never been educated on it*

Individuals in Calvin’s social network kept suggesting that he give the WANS OTP a chance, but it was only after he discovered that WANS offered a medication similar to Subutex that he agreed to go for an intake meeting. Calvin reported that he received most of his information from informal sources, and he confirmed that he was never formally educated about the medication or the treatment program.

Joanne also avoided going to WANS because of her perception that the clinic only offered methadone, and she was firm in her decision not to take methadone so

she wouldn't appear to be "nodding out on dope." Fortunately, a close friend of hers who is also opioid dependent and receives methadone through WANS, convinced her that patients only appeared that way when they continued to use in addition to receiving the medication.

*Yea, so, I just never really wanted to be like that. No, no, no, no. And I didn't get like that, I wasn't walking around nodding out on dope, and I didn't want to be that way on Suboxone. And that's why, for a long time, I refused to come, I've been wanting to get help for a long time, but there was no way I was going to that fucking clinic. I've seen people come out of there, fall asleep sitting at a red light and shit. I'm not doing that. Then a friend of mine who, she actually came here with me today, they live with me now, but she was like, "just try it, not everybody's like that. People who look like that are because they're still using and going to the clinic." So then when I came, I explained my fear, I didn't want to go on the methadone and all that, then they told me about Subutex.*

Joanne did not want to enroll in a treatment program at WANS if methadone was the only medication available; however, once her fears were addressed and her misperception corrected by a friend and a WANS staff member, Joanne felt better about her decision to enroll in the buprenorphine program.

#### *Information Exchanged During Treatment*

Another topic on which patients received information informally through other patients regarded the length of time people should stay on buprenorphine. Patients like Vince expressed a desire to understand more about the medication, but did not think

there was sufficient information available through informal networks. When asked about how long he planned to stay in the buprenorphine program, he responded with some confusion.

**Respondent:** *I really have no clue, like I want to really talk to someone about that. Cause someone saying like 3 months, or, someone saying that you gotta be on it a few months, and I'm seeing people that have been in here 6-7 months. I don't want to be on it that long, I mean if I had to. I guess one of the nurses did say the amount of Percocets I was taking then I would have to be on this for a while. I guess just so be it, anything to get me better I guess. I have to stick with it.*

**Interviewer:** *So right now, you're kind of thinking like the shortest amount of time possible, that's still good for me, but the shortest amount of time possible?*

**Respondent:** *Yea, yea, shortest amount of time possible.*

Although Vince tried to gather information about this aspect of treatment through both formal and informal channels, he felt unsatisfied with the ambiguity of his nurse's and other patients' answers.

Brian also wanted to know how long was sufficient to be on buprenorphine before it was safe to begin tapering down without physiologically experiencing withdrawal symptoms. He did not want to rely on buprenorphine for any significant length of time; he intended to detoxify in a matter of weeks. He heard from other patients and people in his social network that it only took three days to overcome "dope sickness," and he built his plan for treatment around this information.

**Interviewer:** *So coming in your idea was two weeks as ideal and then up to a month?*

**Respondent:** *Yea*

**Interviewer:** *Why did that idea come up? Did you talk to someone about it?*

**Respondent:** *They say it takes like 3 days to get over the dope sickness. That's all I'm worried about. I'm not worried about like transitioning. From like having something in my body. Like I'm done, I've had a long career. I'm not worried about subs being in my body so that way I'm just feeling good every day and like, whatever whatever whatever. Nah, I'm cool, I'm good. Like I don't want nothing else. Once I'm done with this, I wanna be done with that. So that way I'm just cool and back to normal.*

Other patients pointed out that sometimes it was difficult for buprenorphine patients to access buprenorphine-specific information because the vast majority of people who are patients at the WANS OTP are on methadone. Mindy mentioned having difficulty during her intake appointment and orientation distinguishing between information that all patients were expected to know and information she could disregard because it was only for methadone patients. Ultimately, buprenorphine patients asked others who had been in that program longer to clarify information that was confusing or was not reported during the orientation session.

**Interviewer:** *What else did they tell you when you were going through the intake process about things like that? Any rules?*

**Respondent:** *To be honest with you, you know, you go to orientation when you first come in for intake, cause on your first day, after the orientation, you're supposed*

*to get your dose. But they don't really tell you everything you're supposed to know in here. You kinda hear it from everybody else. They just tell you specific things, like your urines, and what time you're supposed to be here to get your dose. Not really like the most important things. Because they're mostly talking about the people with methadone. They don't really like, they don't really talk to the people with subutex. You know?*

**Interviewer:** *Are there aspects of that orientation that include stuff specific to subutex?*

**Respondent:** *Like they did talk a little bit about it, but it was mostly like related to methadone. You know what I mean? The people who take subutex, like we have like a little box on the poster, you know what I mean? Everything else is methadone. It's like a billboard, you know, and they have everything written down and stuff.*

**Interviewer:** *So it's like a big poster? Down in the intake area?*

**Respondent:** *Yea, where we walked by where all the people were sitting in there, by the vending machines are. And that's from 7-8. The intake is from 7-8, and then the orientation was like half an hour or something like that but it was all for methadone basically.*

Many of the patients interviewed for this study reported receiving some kind of information about buprenorphine or the buprenorphine program through informal sources in their social networks. The information patients were seeking was not opinion-based (e.g. What do you like about WANS?), but fact-based (e.g. What do I need to have when I go for an intake?). Potential patients were making key treatment decisions based on the information they gathered from these networks partly because

of structural limitations on access to information in closed spaces. Opioid treatment programs like WANS serve methadone patients almost exclusively, so much of the information that is available is not geared toward patients in the buprenorphine program. This often leaves buprenorphine patients with a great deal of unanswered questions.

### **Conclusion**

Bronfenbrenner's microsystem accounts for all of the day-to-day interactions within which the individual directly participates. For this sample, gathering information through informal mechanisms within separate microsystem spaces was an integral part of patients' experiences. The informal exchange of information, however, was both beneficial and detrimental to patients, depending on the subject area.

For the 13 patients that initiated opioid use with prescription opioid pills but eventually moved to heroin, all of them did so through another member of their substance using network introducing them to drug. Of these 13 patients, 9 eventually moved to using heroin intravenously, which was also introduced by another member of their using network. Patients in this sample were convinced to try heroin on the bases that it was less costly, more available, and interchangeable with prescription pills as an opioid-based drug. Over time, patients who fully transitioned to using heroin instead of prescription pills found that heroin often: cost them more money, was widely available but in questionable quality and purity, caused them to experience significant negative effects in their life at a much faster pace (e.g. criminal justice system involvement, loss of family/housing/employment, etc.), lead to the transition to intravenous use, and created much more serious withdrawal symptoms when they

were unable to obtain heroin. Once patients experienced these impending negative effects from heroin use, they all came to the conclusion that heroin was not interchangeable with prescription opioid pills.

On the other hand, patients were also able to receive information from informal exchanges in their social networks that was positive for their development and experience because it directly related to improving their ability to secure treatment. Because OTPs are generally regarded as ‘closed’ spaces, patients often learned about the process and operation of the clinics from people in their substance using networks who were previous patients. Through these information channels, patients were able to learn about the best days and times to come in for an intake meeting, what generally occurs during the intake process, that WANS offers buprenorphine in addition to methadone, and that not all patients that receiving medication at WANS continue to use illicit drugs. In addition to information about treatment entry, patients were also able to gather information from other patients at WANS about how long people generally stay on buprenorphine maintenance, how long it takes opioids to move out of their system, and general information about the buprenorphine program that was less available to buprenorphine patients because of the overwhelming majority of patients receiving methadone.

This microsystem chapter completed the detailed review of study results. The final chapter of this dissertation will review the results at each system level, and tie together the interconnections and directional influences as phenomenon flow through each of the larger systems levels down to the individual, shaping patient experience.

## Chapter 8

### DISCUSSION AND CONCLUSION

As of 2012, the National Survey of Drug Use and Health reported that the rate of opioid dependence and abuse was 891.8 for every 100,000 people aged 12 years or older in the United States. That same year, the maximum potential treatment capacity nationally for buprenorphine patients and patients receiving methadone through specialized OTPs was 420.3 and 119.8, respectively (Jones et al. 2015). This significant gap between treatment capacity and treatment need persists at both the national and state levels despite legislative efforts to expand treatment, as in the case of the Drug Addiction Treatment Act of 2000 (DATA 2000). Although DATA 2000 was responsible for expanding access to pharmacotherapy for opioid use disorders, the rate of opioid use disorders continued to increase at a faster rate than the adoption of buprenorphine treatment occurred.

As of 2012, Delaware's rate of past-year opioid abuse or dependence was approximately 10.8 people for every 1000. Only 33 percent of DATA waived physicians in the state had applied for and received a waiver to maintain 100 buprenorphine patients concurrently, which left Delaware with a maximum potential treatment capacity rate of 5.1 patients for every 1000. Of those physicians who were waived to prescribe buprenorphine in office-based settings, only 63 percent were listed on the SAMHSA buprenorphine treatment locator, a national resource for patients trying to find buprenorphine providers. Furthermore, 100 percent of the methadone clinics in Delaware were operating at greater than 80 percent capacity in that year (Jones et al. 2015).

These treatment gaps at the national and state level continue to persist despite the proliferation of evidence that pharmacological innovations like buprenorphine are

effective for the treatment of opioid use disorders. While legislation has facilitated increased availability of buprenorphine to the public, other persistent barriers impede patients' access to buprenorphine therapy. In order to understand the barriers surrounding patient access to buprenorphine from the patient's perspective, 20 buprenorphine patients in Delaware were interviewed about their experiences with buprenorphine treatment initiation and maintenance. This study specifically sought to understand:

how opioid-dependent patients experience and manage the process of engaging in a buprenorphine treatment program, and

how chrono-, macro-, exo-, and meso-level systems interact to create and structure buprenorphine patients' experiences.

Whereas previous studies have examined the treatment gap and under-adoption of buprenorphine by other actors, including prescribing physicians (Netherland et al. 2009) and treatment programs (Knudsen et al. 2006; Knudsen et al. 2009; Ducharme et al. 2009; Savage et al. 2012; Friedmann et al. 2012), this study focused on understanding the issue from the perspective of buprenorphine patients. The first study aim targeted understanding what major barriers buprenorphine patients face in accessing buprenorphine treatment; and the second main study aim sought to understand how and why social and organizational forces create and maintain these barriers. These study aims were guided by an ecological systems framework that allows the researcher to examine the intersection of individual experience and macro-level social phenomenon.

## **Ecological Systems Framework Findings**

### *Chronosystem*

At the chronosystem level, the researcher compiled evidence to understand how the proliferation of prescription opioids developed in the context of increased pharmaceutical advertising, gross misunderstandings about the addictive properties of opioid pain relievers, the incorporation of pain as an additional vital sign in the health assessment process, and a steady increase in the number of managed care practices. Once medical, research, and governmental institutions began to interpret the wave of opioid dependence spreading throughout the United States as a direct result of these factors, policies were adopted and regulations imposed to reduce the overall number of prescriptions written, which was intended to diminish the rapidly increasing number of prescription opioid overdose deaths. These measures were successful in achieving both goals; however, when patients who were already dependent on prescription opioids were no longer able to access them on a regular basis, some patients turned to using heroin as a way to avoid withdrawal and maintain their active dependence on opioids. The patients in this study reflected this trend, with seventy-five percent of the sample having initiated opioid use with prescription opioids. Only two individuals in this sample never transitioned to using heroin.

### *Macrosystem*

The macrosystem analysis for this study revealed that as prescription opioid use proliferated, a shift occurred in the way that substance use is understood by society, with criminalization losing support as medicalization gained favor due to technological advancements such as high-resolution medical imaging. A division between the conflict paradigms persists at the societal level, however, as evidenced by

the incomplete transition of addicted individuals into Talcott Parsons' concept of the 'sick role.' Patients in this sample found it difficult to separate from work or family responsibilities (the first privilege granted to occupants of the sick role) to go to the clinic for an intake meeting and buprenorphine induction. Additionally, when patients were eventually able to secure the time and resources to go to the clinic, they were not guaranteed enrollment in the treatment program even though they were attempting to get 'well' by seeking competent medical assistance (the first and second responsibilities of occupants of the sick role).

Further reinforcing this dissonance was a pervasive belief among patients that having to go to the clinic multiple times before finally gaining access to buprenorphine treatment was a "punishment." Patients reported feeling as though they were required to show their commitment to starting the recovery process by continuing to show up each day in an attempt to complete the full intake process. In addition to barriers surrounding treatment enrollment, patients also viewed having to pay out-of-pocket for their buprenorphine as an additional form of "punishment." This was especially salient for buprenorphine patients because methadone was covered by Medicaid at the time of data collection; requiring out-of-pocket payment was viewed as additional penance for developing an addiction. Underlying patients' occupation of the sick role is an assumption that the patient is not at fault for the illness; that is, the patient did not bring the sickness upon themselves (the second privilege granted to occupants of the sick role). While the society may be increasingly more open to accepting that substance use disorders are characterized by medically measurable criteria, there are still conflicted opinions about the origin of the diagnosis.

### *Exosystem*

While paradigm conflicts and issues related to the attribution of blame are found and analyzed at the macrosystem level, their influence filters down through both the exosystem and mesosystem levels. The exosystem in this study mainly encompassed institutional and organizational policies of both WANS and Delaware Medicaid, which largely created barrier upon barrier for potential and current buprenorphine maintenance patients. Due to the limitations surrounding availability of, and funding for, physicians at WANS, intake procedures were developed on a first-come, first-served basis. Working at full capacity, this entails enrolling 16 patients each week plus transfers from other facilities. However, because more than 16 patients attempt to enroll at WANS each week, policies were designed to prioritize patients based on their public health impact. Pregnant women and persons who are HIV positive are admitted first; additionally, intravenous users and patients with dire personal circumstances are a higher priority than other patients. For those patients who do not meet these criteria, finally enrolling as a patient at WANS was sometimes a long and trying process, often filled with the daily disappointment of being excused from the clinic and asked to “try back again tomorrow.”

Buprenorphine patients also experienced treatment barriers surrounding their degree of patient choice. Like many OTPs and insurance carriers in the U.S., WANS follows a ‘fail-first’ strategy for admitting patients to pharmacotherapy programs. This entails requiring that potential patients previously fail to recover in a drug-free program, or at least fail in a buprenorphine program in the past to be considered for admission to a methadone program. In fact, two of the patients in this study who specifically preferred to be admitted to the methadone program were required to begin their treatment at WANS with the daily-dose buprenorphine program before ever

being considered eligible for methadone. Other buprenorphine patients came into WANS initially intending to go into the methadone program; but due to the ‘fail-first’ policy, were placed into the buprenorphine program, a decision that they reported feeling grateful for at this stage of their treatment. While some patients reported that this strategy had positive consequences in the long run, others still struggled with the lack of patient choice allowed by WANS.

In addition to treatment center policies, Delaware Medicaid policies were highly influential in imposing barriers to buprenorphine patients, especially with regard to a lack of insurance coverage of daily dosing buprenorphine from an OTP. Many patients did not realize that Medicaid would not cover their buprenorphine, and even staff members did not always provide clear or consistent information to patients because a vast majority of WANS patients are on methadone, which is covered by Medicaid. This often results in buprenorphine patients developing payment balances to WANS during the first few months of treatment. Payment balances were a significant barrier for some patients in the study who were barely able to pay six dollars each day, much less additional money each week to pay down their existing balances. Ultimately, this barrier limited a patient’s ability to earn take-home doses even once they met the minimum number of negative urine screen criteria; and some patients mentioned having acquaintances at WANS who switched over to methadone in order to have their medication costs covered and stop the accumulation of additional balances.

On the other hand, when the use of buprenorphine was removed from organizational or institution authority, as when patients used diverted buprenorphine purchased on the street, patients reported being able to experience the efficacy of the medication. Several patients in this study reported using diverted buprenorphine as a

self-directed maintenance program before going to an established treatment center. These patients were fortunate enough to have regular access to diverted buprenorphine, and chose to purchase buprenorphine instead of prescription opioids or heroin. Those who had sporadic access to diverted buprenorphine reported using the medication as a self-directed detox program before going to WANS. This was the case with many of the participants in this sample, 17 of whom reported using diverted buprenorphine before going to WANS, and only one of whom reported having a negative experience. In these instances of positive experiences with diverted buprenorphine, patients were able to freely learn about the medication without trying to negotiate institutional barriers. These experiences were largely where patients reported learning that buprenorphine worked for them, which laid the groundwork for believing that going to a legitimate buprenorphine program would be a successful treatment path.

### *Mesosystem*

In addition to prior experience with diverted buprenorphine, several patients in this study had other buprenorphine experiences with an office-based dispensing model from either a private physician or another treatment center. While each of these patients had a slightly different experience, all of them reported organizational barriers with acquiring their medication regularly due to prior authorization requirements established by Medicaid. These experiences were analyzed at the mesosystem level in order to understand the impact on individual buprenorphine patients when they must navigate a single barrier (such as prior authorization requirements) across several microsystem areas, including their doctor, the pharmacy, and Medicaid. Patients were often unable to fill their prescriptions on the day of issue; some reported going without

their medication for days at a time every month until the Medicaid prior authorization was issued. This places patients in a highly stressful situation because they suffer from physical withdrawal symptoms when they miss a dose of the medication.

Overall, however, mesosystem level results pertained primarily to the role strain patients experienced while moving between separate microsystems in their lives. Negotiating these microsystems presented additional barriers for patients to overcome while they were engaged in buprenorphine treatment, often due to inconsistency in the behavioral expectations of their role as a buprenorphine patient at WANS with their roles in families, workplaces, and/or the criminal justice environment. Throughout the interviews conducted for this study, patients report limiting the information they share with family members because they fear their families will perceive their treatment with suspicion or in otherwise negative ways because it includes taking an opioid-based medication for the treatment of their opioid use disorder. Patients would often tell family members they were in treatment and staying clean, but would omit the fact that they were taking buprenorphine. Among those who did reveal to their families that they were taking buprenorphine as part of their treatment, some indicated that family members expressed concern that they were still getting high using buprenorphine because they had taken buprenorphine on the street; it was difficult for family members to distinguish how those two experiences could be something different for the patient.

These experiences were further complicated when patients realized they were often replicating behaviors in the recovery role from the role as 'addict,' which included hiding or managing information they shared with family about substances they were taking. Several patients openly discussed how family members were aware they had developed an addiction to prescription opioids, but they never shared with

their families that they had transitioned to using heroin. Similarly, patients whose families were aware they used prescription opioids or heroin intranasally were not aware that patients had transitioned to using opioid intravenously. Now, in their role as a 'recovering addict,' patients found themselves managing information they discussed with family members in order to avoid additional questions or judgment about their treatment decisions.

Patients also experienced barriers to managing microsystem expectations within their work environments. Patients who were employed at the time of their WANS intake were often forced to take time off from work in order to spend the morning at the clinic waiting in line or going through the full intake process. These patients felt conflicted about having to miss work because it felt similar to situations where they took off from work because they were "dope sick" or actively using. Patients also managed information sharing in their workplaces similarly to how they managed information with family. Several patients mentioned having lost jobs in the past because employers discovered they were active opioid users; they feared similar repercussions if their current employers found out they were taking buprenorphine, even as part of a treatment plan. They anticipated experiencing negative consequences because their employers might view taking buprenorphine as still using and being under the influence, or because taking buprenorphine carries the stigma of having been opioid dependent at some point. In either case, buprenorphine patients revealed role strain in work environments similar to when they were actively in their addiction.

Patients who were under community supervision with a probation officer also reported engaging in this information management process, and experiencing the associated role strain, within the criminal justice microsystem. These patients noted feeling as though being on buprenorphine required a proactive conversation with their

probation officers to ensure that taking the medication did not compromise their probation requirements. Because probation officers collected their own urine drug screens during each meeting, patients felt they had to reveal their medication status for fear that their drug screens would test positive for opioids, a situation that would result in violating probation if it was not part of the treatment plan. These patients felt sure that without buprenorphine they would likely return to using illicit opioids and violate the terms of their probation. However, they were not sure whether their probation officers would approve of them taking buprenorphine as part of their treatment, or if taking buprenorphine would result in violating the terms of their probation. Patients discussed this paradoxical situation as a particularly negative experience of role strain at the mesosystem level.

#### *Microsystem*

While institutional and organizational barriers persisted at the exosystem and mesosystem levels of this analysis, results at the microsystem level indicate that informal mechanisms of information exchange between patients and individuals in their social networks were positive influences on mediating some of these barriers. Patients most often reported learning about treatment center policies or Medicaid regulations through word of mouth. When patients were considering entering treatment, but were concerned about the stigma attached to enrolling in an OTP, it was usually individuals within their drug-using networks that talked to them about how buprenorphine was different from methadone, and assured them that not all patients at the OTP are still using. It was these same acquaintances that offered information to patients about how the intake process worked, what days and times were the least crowded, and what they could say to WANS staff that would increase the likelihood of

being admitted to the program more quickly. These pieces of information proved invaluable to many patients, who may not have chosen to enroll in the buprenorphine program at WANS without it.

### **Conclusion**

The source of many of the barriers buprenorphine patients encounter is rooted in the conflict the society experiences while shifting from a climate of criminalization of substance use disorders (in which the individual is faulted and punished for their condition) to one of medicalization (where the individual is relieved of blame for their condition and treated for their condition). The philosophical orientation with which the society characterizes substance use disorders directly impacts policies that are implemented at the institutional and organizational levels. Some of these policies are translated by governmental bodies in the form of legislation that works to expand (in the case of buprenorphine) or contract (in the case of prescription opioids) the availability of medications or medical interventions. At other times, policies established by organizational bodies such as Medicaid indirectly expand or reduce access by creating eligibility criteria for specific medications that qualify for the extension of public funding. Indirectly, society makes decisions embedded in paradigmatic value systems by determining what it is willing to offer its members. This extends beyond Medicaid compensation for individual medical interventions to larger systems of public funding that grant resources to treatment organizations that must pay for expenses such as increased physician time, which would allow an increase in the number of patients admitted to organizations like WANS.

The society has increasingly moved toward an awareness of substance use disorders as falling under the purview of the medical profession, as evidenced by the

commitment of public agencies to expand the *availability* of pharmacotherapy, overall. However, the scope of expansion is limited by the retention of some elements of the criminalization paradigm that deem individuals at fault for their substance use disorders. This is evidenced by how patients in this study framed having to go to WANS repeatedly to secure an intake meeting or pay out of pocket for their medication. These barriers to *accessibility* were experienced by buprenorphine patients as “punishment” for their condition.

While the U.S. hovers between the complexities of two conflicting paradigms, buprenorphine patients will likely continue to experience role strain within their microsystems, each with their own unique set of behavioral expectations that might align closer with one paradigm or the other at different times. Within the WANS treatment center microsystem, patients may be praised for following their treatment plan and continuing to remain on a stable dose of buprenorphine for an extended period of time. However, in the family microsystem, this same patient may be pressured to start tapering off buprenorphine because they have been using it as a “crutch” for too long. Even though patients’ family members may extend pieces of the medicalization paradigm to the patient by being supportive of their treatment progress, those same family members often have issues with the length of time they think the patient should “rely” on the medication.

While both the criminalization and medicalization paradigms may include barriers specific to each if they were implemented independently, the issues and barriers that were discovered during the course of this study were rooted in the unsuccessful blending of the two. Durkheim (1951) warned that this period of flux is fundamentally problematic because it produces a state of anomie, or the “sense of despair that arises when we can no longer reasonably expect life to be more or less

predictable” (Conley 2008, p. 198). In the absence of clear shared guidelines and consistent social regulation across their environments, patients experience strain at the individual level that may compromise recovery. Given the many recent developments in the advancement of the medical understanding of substance use disorders, the society appears to be on the path to fully embracing the medicalization paradigm; but this slow transition is fraught with tension and risk. Until then, several policy recommendations are offered that may support patients’ successful recovery.

### *Policy Recommendations*

At the federal level, legislation like DATA 2000 was instrumental for improving and increasing the availability of buprenorphine to patients with opioid use disorders by allowing the medication to be dispensed in office-based settings, rather than limiting pharmacotherapy to traditional OTP environments. However, barriers to its expanded adoption combined with growth in opioid use disorder rates have limited the impact of the original legislation. Since that time, there have been revisions to DATA 2000, including increasing the caseload cap from 30 to 100 patients for doctors who prescribe buprenorphine for more than one year. However, given the severity of the opioid use disorder problem in the U.S., further steps must be taken to improve both availability and access.

One piece of promising legislation has already been proposed, but it will require continued bipartisan attention if it is to successfully become law. Senators Edward Markey (D-Massachusetts) and Rand Paul (R-Kentucky) recently proposed a bill that would increase the buprenorphine caseload limits for physicians from 30 to 100 patients as soon as they receive their DEA waiver to begin prescribing, rather than having them wait one year. Furthermore, the cap would be removed entirely after one

year as a prescribing physician. This legislation would also expand prescribing privileges to nurse practitioners and physician assistants, who can prescribe other medications under the direct observation of a physician. These changes would have the greatest impact in rural and suburban locations where there are fewer physicians in general, and where residents have little or no access to traditional OTP clinics.

At the state level, careful attention to Medicaid regulations as they relate to buprenorphine coverage would also increase patients' access to buprenorphine in states similar to Delaware. While buprenorphine is technically covered by Medicaid in all 50 states, stipulations prevent patients from taking advantage of these benefits in every environment where buprenorphine is available. Although these measures are not regulated at the national level, in summer 2015, SAMHSA announced it would begin encouraging states to include pharmacotherapy in their block grant submissions, which can be used to supplement Medicaid funding for services not currently covered. These measures would be most helpful for addressing access issues that are highly variable by state.

#### *Study Limitations*

The focus of qualitative research is heavily oriented toward the generation of theoretical and conceptual ideas that can be generalized to other social phenomenon, rather than statistical generalizability to a larger population of the same unit of analysis (Strauss and Corbin 2008). However, there are limitations of this study related to site selection and study sample that may have limited broader theory construction. First, the study site was situated in a small city in Delaware that may not capture the experience of buprenorphine patients at an OTP in a large urban area or small rural environment. Second, all of the study participants were receiving daily

dosing of buprenorphine; and with the exception of three retrospective accounts, respondents were not able to relay any experiences with office-based dispensing. Third, only one woman of color completed the qualitative interview. Although this low representation of women of color in the sample is proportionate to the population of buprenorphine patients at WANS, information gathered from this demographic group is sparse. Finally, due to organizing data collection in a way that was least intrusive to the daily functioning of the clinic, participants were recruited as they came in for dosing and asked to stay to complete the interview. Therefore, patients with regular employment or other responsibilities that began immediately after their dosing time were not able to participate in the study, potentially limiting the characteristics of the sample.

Due to the limited timeframe for data collection during this study, semi-structured interviews were only collected cross-sectionally. Given that the study focus was on patients' entry and engagement in buprenorphine treatment, it would have been helpful to follow-up with patients at a later date to discover if any early treatment barriers had impacted subsequent treatment retention. Finally, the amount of time patients had been engaged in treatment at the time of their interview varied considerably across the sample (see Chapter 3). Therefore, retrospective questions targeting patients' experiences during their intake process varied in timeframe from three days to almost two years.

#### *Future Research*

In addition to the policy recommendations discussed earlier in this chapter, this study also generated important implications for future research and development focused on innovative strategies to improve access to buprenorphine and create more

efficient treatment entry processes. One of the major barriers people seeking pharmacotherapy in treatment environments face is the persistence of waitlists for patients (Gryczynski et al. 2009; Sigmon et al. 2015a). In response to waitlist issues, researchers have already developed strategies to incorporate interim methadone treatment into OTPs, where individuals are offered daily dosing of medication without the other psychosocial services on a short-term basis until a treatment position becomes available. Research on interim methadone programs has demonstrated that it is highly successful in reducing drug use, related risk behaviors, and criminal activity (Schwartz et al. 2006; Schwartz et al. 2007; Schwartz et al. 2009; Schwartz et al. 2011), so expanding interim pharmacotherapy to buprenorphine programs in areas where waiting lists are common is a feasible alternative (Sigmon et al. 2015a). Innovative strategies could prove especially helpful in expanding access with interim buprenorphine in rural areas, including utilizing innovative technologies in dispensing systems, and maintaining daily patient monitoring through an interactive voice response system (Sigmon et al. 2015b).

Additional research should also seek to compare treatment experiences and outcomes across buprenorphine dispensing settings. This study was limited to buprenorphine patient experiences within an OTP, which may differ considerably from patient experiences in receiving buprenorphine from a ‘drug-free’ treatment environment or physician office. Findings from this and future studies should seek to reduce the treatment gap for patients seeking buprenorphine treatment, which will also contribute to reducing the growing rate of opioid overdose deaths.

## REFERENCES

- Abraham, J. (2010). Pharmaceuticalization of society in context: Theoretical, empirical, and health dimensions. *Sociology*, 44(4), 603-622.
- American Society of Addiction Medicine. (2004). Office-based opioid agonist treatment (OBOT). Retrieved from [http://www.asam.org/advocacy/find-a-policy-statement/view-policy-statement/public-policy-statements/2011/12/15/office-based-opioid-agonist-treatment-\(obot\)](http://www.asam.org/advocacy/find-a-policy-statement/view-policy-statement/public-policy-statements/2011/12/15/office-based-opioid-agonist-treatment-(obot)).
- Anderson, T., Swan, H., & Lane, D. 2010. Institutional fads and the medicalization of drug addiction. *Sociology Compass*, 4(7), 476-494.
- Awgu, E., Magura, S., & Rosenblum, A. (2010). Heroin-dependent inmates' experiences with buprenorphine or methadone maintenance. *Journal of Psychoactive Drugs*, 42(3), 339-347.
- Bazazi, A. R., Yokell, M., Fu, J. J., Rich, J. D., & Zaller, N. D. (2011). Illicit use of buprenorphine/naloxone among injecting and noninjecting opioid users. *Journal of Addiction Medicine*, 5(3), 175-180. doi: 10.1097/ADM.0b013e3182034e31.
- Berg, B.L. (2009). *Qualitative research methods for the social sciences*. (8<sup>th</sup> Ed.). Boston, MA: Allyn & Bacon.
- Booth, Martin. (1996). *Opium: A history*. London: Simon & Schuster, Ltd.
- Bourgois, P. (2000). Disciplining addictions: The bio-politics of methadone and heroin in the United States. *Culture, Medicine and Psychiatry*, 24(2), 165-95.
- Brecher, E. M., & the Editors of Consumer Reports. (1972). *The Consumers Union Report on Licit and Illicit Drugs: The Consumers Union Report on Narcotics, Stimulants, Depressants, Inhalants, Hallucinogens, and Marijuana—Including Caffeine, Nicotine, and Alcohol*. Boston: Little Brown and Company.
- Bronfenbrenner, U. (1977). Toward an experimental ecology of human development. *American Psychologist*, 32, 513-531.
- Bronfenbrenner, U. (1979). *The ecology of human development*. Cambridge, MA: Harvard University Press.
- Bronfenbrenner, U. (1989). Ecological systems theory. *The Annals of Child Development*, 6, 187-249.

- Bronfenbrenner, U. (1994). Ecological models of human development. In *International Encyclopedia of Education* (2<sup>nd</sup> Ed.) (Vol. 3). Oxford: Elsevier. Reprinted in: Gauvain M., & Cole, M. (Eds.), *Readings on the development of children*, 2<sup>nd</sup> Ed. New York: Freeman, 37-43.
- Bronfenbrenner, U. (1999). Environments in developmental perspective: Theoretical and operational models. In S.L. Freidman & T.D. Wachs (Eds.), *Measuring environment across the life span: Emerging methods and concepts* (pp. 3-28). Washington D.C.: American Psychological Association.
- Bukten, A., Skurtveit, S., Gossop, M., Waal, H., Strageland, P., Havnes, I., & Clausen T. (2011). Engagement with opioid maintenance treatment and reductions in crime: A longitudinal national cohort study. *Addiction*, 107, 393-399.
- Calabresi, Massimo. (2015, June 15). The price of relief: Why America can't kick its painkiller problem. *Time*, 185 (22), 26-33.
- Campbell, N.D., & Lovell, A.M. (2012). The history of the development of buprenorphine as an addiction therapeutic. *Annals of the New York Academy of Sciences*, 1248, 124-139.
- Centers for Disease Control. (2015, December). CDC Wonder. National Center for Health Statistics. Retrieved at <http://wonder.cdc.gov/>.
- Charmaz, K. (2006). *Constructing grounded theory: A practical guide through qualitative analysis*. Los Angeles, CA: Sage.
- Cicero, T.J., Ellis, M.S., Surratt, H.L. (2012). Effect of abuse-deterrent formulation of OxyContin. *New England Journal of Medicine*, 367(2), 187-189.
- Cicero, T.J., Ellis, M.S., Surratt, H., & Kurtz, S.P. (2014). The changing face of heroin use in the United States: A retrospective analysis of the past 50 years. *JAMA Psychiatry*, 71(7), 821-826.
- Clarke, A. E., Shim, J. K., Mamo, L., Fosket, J.R., & Fishman, J.R. (2003). Biomedicalization: Technoscientific transformations of health, illness, and U.S. biomedicine. *American Sociological Review*, 68(2), 161-94.
- Conley, D. (2008.) *You may ask yourself: An introduction to thinking like a sociologist*. New York: W.W. Norton & Company, Inc.
- Conrad, P., & Schneider, J.W. (1992). *Deviance and medicalization: From badness to sickness*. (2nd Ed.). Philadelphia: Temple University Press.

- Conrad, P. (2005). The shifting engines of medicalization. *Journal of Health and Social Behavior* 46(1), 3–14.
- Conrad, P. (2007). *The medicalization of society: On the transformation of human conditions into treatable disorders*. Baltimore, MD: John's Hopkins University Press.
- Corbin, J. & Strauss, A. (2008). *Basics of Qualitative Research: Techniques and Procedures for Developing Grounded Theory*. Thousand Oaks, CA: Sage.
- Crabtree, B.F., & Miller, W.L. (1992). *Doing qualitative research*. Newbury Park, CA: Sage.
- Curcio, F., Franco, T., Topa, M., Baldassarre, C., & Responsabili, U.O. (2011). Buprenorphine/naloxone versus methadone in opioid dependence: A longitudinal survey. *European Review for Medical and Pharmacological Sciences*, 15, 871-874.
- Cropsey, K. L., Lane, P. S., Hale, G. J., Jackson, D. O., Clark, C. B., Ingersoll, K. S., & Stitzer, M. L. (2011). Results of a pilot randomized controlled trial of buprenorphine for opioid dependent women in the criminal justice system. *Drug and Alcohol Dependence*, 119, 172-178. doi:10.1016/j.drugalcdep.2011.06.021.
- Courtwright, D.T. (2001). *Dark paradise: A history of opiate addiction in America*. Cambridge, MA: Harvard University Press.
- Courtwright, D.T. (1992). A century of American narcotic policy. In Gerstein, D.R., & Harwood, H.J. (Eds.), *Treating drug problems*. (Vol. 2). (pp. 1-62). Institute of Medicine. National Academy Press, Washington, D.C.
- Courtwright, D.T., Joseph, H., & Des Jarlais, D. (1989). *Addicts who survived: An oral history of narcotic use in America, 1923–1965*. Knoxville, TN: University of Tennessee Press.
- D'Aunno T, Folz-Murphy N, & Lin X. (1999). Changes in methadone treatment practices: Results from a panel study, 1988 – 1995. *American Journal of Drug and Alcohol Abuse*, 25(4), 681 – 699.
- Daniulaityte, R., Carlson, R.G., & Kenne, D.R. (2006). Initiation to pharmaceutical opioids and patterns of misuse: Preliminary qualitative findings obtained by the Ohio Substance Abuse Monitoring Network. *Journal of Drug Issues*, 36(4), 787-808. doi:10.1177/002204260603600402.

- Davidson, W., Molloy, D.W., Somers, G., & Bedard, M. (1994). Relation between physician characteristics and prescribing for elderly people in New Brunswick. *Canadian Medical Association Journal*, 150(6), 917-21.
- Digiusto, E., Shakeshaft, A.P., Ritter, A., Mattick, R.P., White, J., Lintzeris, N., Bell, J., Saunders, J.B., & the NEPOD Research Group. (2006). Effects of pharmacotherapies for opioid dependence on participants' criminal behaviour and expenditure on illicit drugs: An Australian national evaluation (NEPOD). *The Australian and New Zealand Journal of Criminology*, 39(2), 171-189.
- Dole, V. P., & Nyswander, M.E. (1980). Methadone maintenance: A theoretical perspective. In D. J. Lettieri, M. Sayers, & H.W. Pearson (Eds.), *Theories on drug abuse: Selected contemporary perspectives* (pp. 256–61). Washington, DC: US Government Printing Office.
- Dole, V.P. (1980). Addictive behavior. *Scientific American*, 243(6), 138–154.
- Dole, V.P. (1988). Implications of methadone maintenance for theories of narcotic addiction. *JAMA*, 260(20), 3025–3029.
- Ducharme, L.J., & Abraham, A.J. (2008). State policy influence on the early diffusion of buprenorphine in community treatment programs. *Substance Abuse Treatment, Prevention, and Policy*, 3, 17-26.
- Ducharme, L. J., & Roman, P. M. (2009). Opioid treatment programs in the Clinical Trials Network: Representativeness and buprenorphine adoption. *Journal of Substance Abuse Treatment*, 37(1), 90-94.
- Dugdale, D.C., Epstein, R., and Pantilat, S.Z. (1999). Time and the patient-physician relationship. *Journal of General Internal Medicine*, 14(Suppl1), S34-40.
- Durkheim, E. (1951). *Suicide: A study in sociology*, translated by G. Simpson & J.A. Spaulding. New York: The Free Press.
- Fauber, John. (2012 February 19). Follow the money: Pain, policy, and profit. *MedPageToday*. Retrieved from <http://www.medpagetoday.com/Neurology/PainManagement/31256>.
- Fiellin, D. A., Barry, D. T., Sullivan, L. E., Cutter, C. J., Moore, B.A., O'Connor, P. G., & Schottenfeld, R. S. (2013). A randomized trial of cognitive behavioral therapy in primary care-based buprenorphine. *The American Journal of Medicine*, 126(1), 74.e11–74.e17.
- Fiellin, D. A., Moore, B.A., Sullivan, L. E., Becker, W. C., Pantalon, M. V., Chawarski, M. C., & Schottenfeld, R. S. (2008). Long-term treatment with

- buprenorphine/naloxone in primary care: Results at 2–5 years. *The American Journal on Addictions*, 17, 116–120.
- Fiellin, D. A., Pantalon, M. V., Chawarski, M. C., Moore, B. A., Sullivan, L. E., O'Connor, P. G., & Schottenfeld, R. S. (2006). Counseling plus buprenorphine–naloxone maintenance therapy of opioid dependence. *The New England Journal of Medicine*, 355(4), 365–374.
- Fiellin, D. A., & O'Connor, P. (2002). New federal initiatives to enhance the medical treatment of opioid dependence. *Annals of Internal Medicine*, 137, 688–692.
- Fiellin, D. A., Butler, R., D'Onofrio, G., Brown, R. L., & O'Connor, P. G. (2002). The physician's role in caring for patients with substance use disorders: Implications for medical education and training. *Substance Abuse*, 23, 207–222.
- Fox, R. C. (1977). The medicalization and demedicalization of American society. *Daedalus*, 106(1), 9–22.
- Friedmann, P. D., Jiang, L., & Alexander, J. A. (2010). Top manager effects on buprenorphine adoption in outpatient substance abuse treatment programs. *The Journal of Behavioral Health Services & Research*, 37(3), 322–337.
- Galanter, M., Dermatis, H., Glickman, L., Maslansky, R., Sellers, M. B., Neumann, E., & Rahman-Dujarric, C. (2004). Network therapy: Decreased secondary opioid use during buprenorphine maintenance. *Journal of Substance Abuse Treatment*, 26, 313–318.
- Garcia, C. A., Correa, G. C., Hernandez Viver, A. D., Kinlock, T. W., Gordon, M. S., Avila, C. A., & Schwartz, R. P. (2007). Buprenorphine-naloxone treatment for pre-release opioid-dependent inmate in Puerto Rico. *Journal of Addiction Medicine*, 1, 126–132. doi:10.1097/ADM.0b013e31814b8880
- Gartlehner, G., Hansen, R. A., Nissman, D., Lohr, K. N., Carey, T. S. (2006, April). Criteria for distinguishing effectiveness from efficacy trials in systematic reviews. Rockville (MD): Agency for Healthcare Research and Quality (US); (Technical Reviews, No. 12.) 1, Introduction.
- Genberg, B. L., Gillespie, M., Schuster, C. R., Johanson, C. E., Astemborski, J., Kirk, G. D., & Mehta, S. H. (2013). Prevalence and correlates of street-obtained buprenorphine use among current and former injectors in Baltimore, Maryland. *Addiction Behavior*, 38(12), 2868–2873. doi: 10.1016/j.addbeh.2013.08.008.

- Gibson, A. E., Doran, C. M., Bell, J.R., Ryan, A., & Lintzeris, N. (2003). A comparison of buprenorphine treatment in clinic and primary care settings: A randomized trial. *Medical Journal of Australia*, 179, 38–42.
- Gibson, A., Degenhardt, L., Mattick, R.P., Ali, R., White, J., & O'Brien, S. (2008). Exposure to opioid maintenance treatment reduces long-term mortality. *Addiction*, 103(3), 462-468.
- Glass, T.A., & McAtee, M.J. (2006). Behavioral science at the crossroads in public health: Extending horizons, envisioning the future. *Social Science and Medicine*, 62, 1650-1671.
- Goodman, R.M., Wandersman, A., Chinman, M., & Imm, P. (1996). An ecological assessment of community-based interventions for prevention and health promotion: Approaches to measuring community coalitions. *American Journal of Community Psychology*, 24(1), 33-61.
- Grau, L.E., Dasgupta, N., Harvey, A.P., Irwin, K., Givens, A., Kinzly, M.L., & Heimer, R. (2007). Illicit use of opioids: Is OxyContin a “gateway drug”? *American Journal of Addiction*, 16(3), 166-173.
- Gounder, C. (2013 November 8). Who is responsible for the pain-pill epidemic? *The New Yorker* Retrieved at <http://www.newyorker.com/business/currency/who-is-responsible-for-the-pain-pill-epidemic>.
- Government Accountability Office. (2003). Prescription drugs: OxyContin abuse and diversion and efforts to address the problem. (GAO publication GAO-04-110). Washington, D.C.: U.S. Government Printing Office.
- Grol, R., Mokkink, H., Smits, A., van Ewijk, J., Beek, M., Mesker, P., & Mesker-Niesten, J. (1985). Work satisfaction of general practitioners and the quality of patient care. *Family Practice*, 2(3), 128-35.
- Gryczynski, J., Schwartz, R., O'Grady, K., & Jaffe, J. (2009). Treatment entry among individuals on a waiting list for methadone maintenance. *The American Journal of Drug and Alcohol Abuse*, 35, 290–294.
- Gryczynski, J., Jaffe, J.H., Schwartz, R.P., Dusek K.A., Gugs, N., Monroe, C.L., O'Grady, K.E., Olsen Y.K., & Mitchell, S.G. (2013). Patient perspectives on choosing buprenorphine over methadone in an urban, equal-access system. *The American Journal on Addictions*, 22, 285-291.
- Hakansson, A., Medvedeo, A., Andersson, M., & Berglund, M. (2007). Buprenorphine misuse among heroin and amphetamine users in Malmo, Sweden: Purpose of

- misuse and route of administration. *European Addiction Research*, 13(4), 207-215. doi: 10.1159/000104883.
- Haddad, M. S., Zelenev, A., & Altice, F. L. (2013). Integrating buprenorphine maintenance therapy into federally qualified health centers: Real-world substance abuse treatment outcomes. *Drug and Alcohol Dependence*, 131, 1-2.
- Highmark Blue Cross Blue Shield Delaware. (2014 November 6) Request for Prior Authorization Buprenorphine/Naloxone (Zubsolv, Suboxone) and Buprenorphine (Subutex) Website Form. Retrieved from <https://highmarkhealthoptions.com/providers/priorauthorization>.
- Huang, T.T., Drewnowski, A., Kumanyika, S.K., & Glass, T.A. (2009). A systems-oriented multi-level framework for addressing obesity in the 21<sup>st</sup> century. *Preventing Chronic Disease – Public Health Research, Practice, and Policy*, 6(3), 1-10.
- Inciardi, J.A. (1994). Some considerations on the clinical efficacy of compulsory treatment: Reviewing the New York experience. In C.G. Leukefeld, & F.M. Tims (Eds.). *Compulsory treatment of drug abuse: Research and clinical practice* (pp. 126–138). NIDA Research Monograph 86. NIH Publication No. 94–3713. Rockville, MD: National Institute on Drug Abuse, 1988. Reprinted 1994.
- Inciardi, J.A., Surratt, H.L., Cicero, T.J., & Beard, R.A. (2009). Prescription opioid abuse and diversion in an urban community: The results of an ultrarapid assessment. *Pain Medicine*, 10(3), 537-548.
- Jaffe, J.H., & O'Keeffe, C. (2003). From morphine clinics to buprenorphine: Regulating opioid agonist treatment of addiction in the United States. *Drug and Alcohol Dependence*, 70, S3-S11.
- Join Together. (2003). *National poll of physicians finds barriers to widespread buprenorphine use*. Boston, MA.
- Joseph, H., & Dole, V.P. (1970). Methadone patients on probation and parole. *Federal Probation*, June, 42–48.
- Johnson, R., Chutuape, M.A., Strain, E.C., Walsh, S.L., Stitzer, M.L., & G.E. Bigelow. (2000). A comparison of levomethadyl acetate, buprenorphine, and methadone for opioid dependence. *New England Journal of Medicine*, 343, 1290-1297.
- Kelley, J.G. (1966). Ecological constraints on mental health services. *American Psychologist*, 21:535-539.

- Khosla, N., Juon, H.S., Kirk, G.D., Astemborski, J., & Mehta, S.H. (2011). Correlates of non-medical prescription drug use among a cohort of injection drug users in Baltimore City. *Addictive Behavior*, 36(12), 1282-1287.
- King, N. & Horrocks, C. (2010). *Interviews in qualitative research*. Los Angeles, CA: Sage.
- Kinlock, T. W., Gordon, M. S., & Schwartz, R. P. (2011). Incarcerated populations. In P. Ruiz & E. Strain (Eds.), *Lowinson and Ruiz's substance abuse: A comprehensive textbook* (5th Ed.). (pp. 881-891). Philadelphia, PA: Lippincott.
- Kloos, B., & Shah, S. (2009). A social ecological approach to investigating relationships between housing and adaptive functioning for persons with serious mental illness. *American Journal of Community Psychology*, 44, 316-326.
- Knudsen, H. K., Ducharme, L. J., & Roman, P.M. (2006a). The adoption of medications in substance abuse treatment: Associations with organizational characteristics and technology clusters. *Drug and Alcohol Dependence*, 87(2-3), 164-174.
- Knudsen, H.K., Ducharme, L.J., & Roman, P.M. (2006b). Early adoption of buprenorphine in substance abuse treatment centers: Data from the private and public sectors. *Journal of Substance Abuse Treatment*, 30, 363-373.
- Knudsen, H. K., Abraham, A. J., Johnson, J. A., & Roman, P. M. (2009). Buprenorphine adoption in the National Drug Abuse Treatment Clinical Trials Network. *Journal of substance abuse treatment*, 37(3), 307-312.
- Koch, A.L., Arfken, C.L., & Schuster, C.R. (2006). Characteristics of U.S. substance abuse treatment facilities adopting buprenorphine in its initial stage of availability. *Drug and Alcohol Dependence*, 83, 274-278.
- Kvale, S., & S. Brinkmann. (2009). *InterViews: Learning the craft of qualitative research interviewing*. (2<sup>nd</sup> Ed.). Newbury Park, CA: Sage.
- Lankenau, S.E., Teti, M., Silva, K., Jackson Bloom, J., Harocopos, A., & Treese, M. (2012). Initiation into prescription opioid misuse amongst young injection drug users. *International Journal of Drug Policy*, 23(1), 37-44.
- Levine, S., & Kozloff, M. (1978). The sick role: Assessment and overview. *Annual Review of Sociology*, 4, 317-343.
- Lofland, J., & Lofland, L.H. (1995). *Analyzing social settings: A guide to qualitative observation and analysis*. (3<sup>rd</sup> Ed.). Belmont, CA: Wadsworth.

- Longabaugh, R. (2003). Involvement of support networks in treatment. *Recent Developments in Alcoholism*, 16:133– 147.
- Lounsbury, D.W., & Mitchell, S.G. (2009). Introduction to special issue on social ecological approaches to community health research and action. *American Journal of Community Psychology*, 44, 213-220.
- Lupton, D. (2012). *Medicine as culture: Illness, disease and the body*. (3<sup>rd</sup> Ed.). Thousand Oaks, CA: Sage Publications.
- Magura, S., Lee, J. D., Hershberger, J., Joseph, H., Marsch, L., Shropshire, C., & Rosenblum, A. (2009). Buprenorphine and methadone maintenance in jail and post-release: A randomized clinical trial. *Drug and Alcohol Dependence*, 99, 222-230.
- Mann, Arnold. (2004). Successful trial caps 25-year buprenorphine development effort. *NIDA Notes*, 19(3), 14-16.
- Mars, S.G., Bourgois, P., Karandinos, G., Montero, F., & Ciccarone, D. 2014. “Every ‘Never’ I Ever Said Came True:” Transitions from opioid pills to heroin injecting. *International Journal of Drug Policy*, 25(2), 257-266.
- Marsch, L.A., W. Bickel, Badger, G.J., & Jacobs, E. (2005). Buprenorphine treatment for opioid dependence: The relative efficacy of daily, twice and thrice weekly dosing. *Drug and Alcohol Dependence*, 7, 195-204.
- Mattick, R.P., Ali, R., White, J., O'Brien, S., Wolk, S., & Danz, C. (2003). Buprenorphine versus methadone maintenance therapy: A randomized double-blind with 405 opioid-dependent patients. *Addiction*, 98, 441-52.
- McDowell, D.M., & Cocke, C. (2006). Office-based treatment of opiate-dependent patients with buprenorphine: It's about time. *Primary Psychiatry*, 13, 68-73.
- Medina, T.R., & McCranie, A. (2011). Layering control: Medicalization, psychopathy, and the increasing multi-institutional management of social problems. In B.A. Pescosolido, J.K. Martin, J.D. McLeod, & A. Rogers (Eds). *Handbook of the sociology of health, illness, and healing: A blueprint for the 21<sup>st</sup> century* (pp. 139-158). New York: Springer.
- Meldrum, M. L. (2003). *Opioids and pain relief: A historical perspective*. Washington, D.C.: IASP Press.
- Mitchell, S.G., Gryczynski, J., Kelly, S.M., O'Grady, K.E., Jaffe, J.H., Olsen, Y.K., & Schwartz, R.P. (2014). Treatment outcomes of African American

- buprenorphine patients by parole and probation status. *Journal of Drug Issues*, 44(1), 69-82.
- Mitchell, S.G., Jaffe, J.H., Gryczynski, J., & Olsen, Y.K. (2010, October). Integrating buprenorphine treatment into formerly 'drug-free' outpatient programs: Staff perspectives. Paper presented at the Addiction Health Services Research Conference, Lexington, KY.
- Mitchell, S.G., Kelly, S.M, Gryczynski, J., Myers, C.P., Jaffe, J.H., O'Grady, K.E., Olsen, Y.K., & Schwartz R.P. (2012). African American patients seeking treatment in the public sector: Characteristics of buprenorphine vs. methadone patients. *Drug and Alcohol Dependence*, 122, 55-60.
- Mitchell, S. G., Kelly, S. M., Brown, B. S., Schacht Reisinger, H., Peterson, J. A., Ruhf, A., & Schwartz, R. P. (2009). Uses of diverted methadone and buprenorphine by opioid-addicted individuals in Baltimore, Maryland. *American Journal of Addictions*, 18(5), 346-355.
- Monico, L.B., Gryczynski, J., Mitchell, S.G., Schwartz, R.P., O'Grady, K., & Jaffe, J.H. (2015a). Buprenorphine treatment and 12-step meeting attendance: conflicts, compatibilities, and patient outcomes. *Journal of Substance Abuse Treatment*, 57:89-95.
- Monico, L.B., Mitchell, S.G., Gryczynski, J., Schwartz, R.P., O'Grady, K., Olsen, Y.K., & Jaffe, J.H. (2015b). Prior experience with non-prescribed buprenorphine: Role in treatment entry and retention. *Journal of Substance Abuse Treatment*, 57:57-62.
- Monte, A.A., Mandell, T., Wilford, B. B., Tennyson, J., & Boyer, E. W. (2009). Diversion of buprenorphine/naloxone coformulated tablets in a region with high prescribing prevalence. *Journal of Addiction Disease*, 28(3), 226-231.
- Moore, B.A., Barry, D. T., Sullivan, L. E., O'Connor, P. G., Cutter, C. J., Schottenfeld, R. S., & Fiellin, D. A. (2012). Counseling and directly observed medication for primary care buprenorphine maintenance: A pilot study. *Journal of Addiction Medicine*, 6(3), 205–211.
- Moore, B.A., Fiellin, D. A., Barry, D. T., Sullivan, L. E., Chawarski, M. C., O'Connor, P. G., & Schottenfeld, R. S. (2007). Primary care office-based buprenorphine treatment: Comparison of heroin and prescription opioid dependent patients. *Journal of General Internal Medicine*, 22, 527–530.
- Morrill, C., Buller, D.B., Buller, M.K., & Larkey, L.L. (1999). Toward an Organizational Perspective on Identifying and Managing Formal Gatekeepers. *Qualitative Sociology*, 22(1): 51-72.

- Mularski, R.A., White-Chu, F., Overbay, D., Miller, L., Asch, S.M., & Ganzini, L. (2006). Measuring pain as the 5th vital sign does not improve quality of pain management. *Journal of General Internal Medicine*, 21(6), 607-612.
- Musto, D. (1999). *The American disease: Origins of narcotic control*. (3<sup>rd</sup> Ed.) Oxford: University Press.
- Musto, D.F. (1987). *The American disease: Origins of narcotic control, Expanded edition*. Oxford University Press: New York, NY.
- Nemecek, D. (2007). Improving access to buprenorphine: A managed care company overcomes several obstacles to make this treatment more available. *Behavioral Healthcare*, November.
- Netherland, J., Botsko, M., Egan, J. E., Saxon, A. J., Cunningham, C. O., Finkelstein, R., Gourevitch, M.N., Renner, J.A., Sohler, N., Sullivan, L.E., Weiss, L., Fiellin, D.A., & BHIVES Collaborative. (2009). Factors affecting willingness to provide buprenorphine treatment. *Journal of Substance Abuse Treatment*, 36(3), 244-251.
- Neumann, A.M., Blondell, R.D., Azadfard, M., Nathan, G., & Homish, G.G. (2013). Primary care patient characteristics associated with the completion of 6-month buprenorphine. *Addictive Behaviors*, 38, 2724-2728.
- O'Connor, P. G., Oliveto, A. H., Shi, J.M., Triffleman, E.G., Carroll, K.M., Kosten, T.R., Rounsaville, B.J., Pakes, J.A., & Schottenfeld, R.S. (1998). A randomized trial of buprenorphine maintenance for heroin dependence in a primary care clinic for substance users versus a methadone clinic. *American Journal of Medicine*, 105, 100–105.
- O'Connor, P. G., & Samet, J. H. 1996. The substance-using human immunodeficiency virus patient: Approaches to outpatient management. *American Journal of Medicine*, 101, 435–444.
- Office of National Drug Control Policy (ONDCP). (2003). *The President's National Drug Control Strategy*. Washington, DC: ONDCP.
- Parsons, T. (1951). Illness and the role of the physician: A sociological perspective. *American Journal of Orthopsychiatry*, 21(3), 452-460.
- Perkins, D. F., Ferrari, T. M., Covey, M. A., & Keith, J. G. (1994). Getting dinosaurs to dance: Community collaborations as applications of ecological theory. *Human Ecology FORUM*, 7, 39-46.

- Pollini, R.A., Banta-Green, C.J., Cuevas-Mota, J., Metzner, M., Teshale, E., & Garfein, R.S. 2011. Problematic use of prescription-type opioids prior to heroin use among young heroin injectors. *Substance Abuse Rehabilitation*, 2(1), 173-180.
- Quinones, Sam. (2015) *Dreamland: The true tale of America's opiate epidemic*. Bloomsbury Press: New York, NY.
- Peavy, K.M., Banta-Green, C.J., Kingston, S., Hanrahan, M., Merrill, J.O., & Coffin, P.O. (2012). "Hooked on" prescription-type opiates prior to using heroin: Results from a survey of syringe exchange clients. *Journal of Psychoactive Drugs*, 44(3), 259-265.
- Portenoy, R.K., & Foley, K.M. (1986). Chronic use of opioid analgesics in non-malignant pain: report of 30 cases. *Pain*, 25(2), 171-86.
- Porter, J., & Jick, H. (1980). Addiction rare in patients treated with narcotics. *New England Journal of Medicine*, 302(2), 123.
- Rettig, R.A., & Yarmolinsky, A. (Eds.) (1995). *Federal regulation of methadone treatment*. Institute of Medicine. National Academy Press, Washington, D.C.
- Ridge, G., Gossop, M., Lintzeris, N., Witton, J., & Strang, J. (2009). Factors associated with the prescribing of buprenorphine or methadone for treatment of opiate dependence. *Journal of Substance Abuse Treatment*, 37: 95-100.
- Rieckmann, T., Kovas, A.E., McFarland, B.H., & Abraham, A.J. (2011). A multi-level analysis of counselor attitudes toward the use of buprenorphine in substance abuse treatment. *Journal of Substance Abuse Treatment*, 41, 374-385.
- Rieckmann, T., Daley, M., Fuller, B.E., Thomas, C.P., & McCarty, D. (2007). Client and counselor attitudes toward the use of medications for treatment in opioid dependence. *Journal of Substance Abuse Treatment*, 32, 207-215.
- Rinaldo, S.G., and D.W. Rinaldo. (2013). Availability without accessibility? State Medicaid coverage and authorization requirements for opioid dependence medications. The Avisa Group, in a report by the American Society of Addiction Medicine, Advancing Access to Addiction Medications.
- Rowland, C. (2014 December 29). Groups unite against curbing painkillers: Industry, doctors, patients lobby over opiate laws. *Boston Globe*. Retrieved from <https://www.bostonglobe.com/news/nation/2014/12/29/opiate-prescribing-crackdown-massachusetts-opposed-industry-backed-patient-group/aAjGBp2NTHkfPfTSZrhF9N/story.html>.

- Savage, S. A., Abraham, A. J., Knudsen, H. K., Rothrauff, T. C., & Roman, P. M. (2012). Timing of buprenorphine adoption by privately funded substance abuse treatment programs: The role of institutional and resource-based interorganizational linkages. *Journal of Substance Abuse Treatment*, 42(1), 16-24.
- Schroeder, S.A. (2005). An agenda to combat substance abuse. *Health Affairs*, 24, 1005-1013.
- Schuman-Olivier, Z., Albanese, M., Nelson, S. E., Roland, L., Puopolo, F., Klinker, L., & Shaffer, H. J. (2010). Self-treatment: Illicit buprenorphine use by opioid-dependent treatment seekers. *Journal of Substance Abuse Treatment*, 39(1), 41-50.
- Schwartz, R.P., Highfield, D.A., Jaffe, J.H., Brady, J.V., Butler, C.B., Rouse, C.O., Callaman, J.M., O'Grady, K.E., & Battjes, R.J. (2006). A randomized controlled trial of interim methadone maintenance. *Archives of General Psychiatry*, 63, 102–109.
- Schwartz, R.P., Jaffe, J.H., Highfield, D.A., Callaman, J.M., & O'Grady, K.E. (2007). A randomized controlled trial of interim methadone maintenance: 10-month follow-up. *Drug and Alcohol Dependence*, 86, 30–36.
- Schwartz, R.P., Kelly, S.M., O'Grady, K.E., Mitchell, S.G., Peterson, J.A., Reisinger, H.S., Agar, M.H., & Brown, B.S. (2008). Attitudes toward buprenorphine and methadone among opioid-dependent individuals. *American Journal of Addiction*, 17(5), 396-401.
- Schwartz, R.P., Jaffe, J.H., O'Grady, K.E., Kinlock, T.W., Gordon, M.S., Kelly, S.M., Wilson, M.E., & Ahmed, A. (2009). Interim methadone treatment: Impact on arrests. *Drug and Alcohol Dependence*, 103, 148–154.
- Schwartz, R.P., Kelly, S.M., O'Grady, K.E., Gandhi, D., & Jaffe, J.H. (2011). Interim methadone treatment compared to standard methadone treatment: 4-month findings. *Journal of Substance Abuse Treatment*, 41, 21–29.
- Schwartz, R.P., Gryczynski, J., O'Grady, K.E., Sharfstein, J.M., Warren, G., Olsen, Y., Mitchell, S.G., & Jaffe, J.H. (2013). Opioid agonist treatments and heroin overdose deaths in Baltimore, Maryland, 1995-2009. *American Journal of Public Health*, 103, 917-922.
- Sigmon, S. C., Meyer, A. C., Hruska, B., Ochalek, T., Rose, G., Badger, G. J., Brooklyn, J.R., Heil, S.H., Higgins, S.T., Moore, B.A., & Schwartz, R. P.

- (2015a). Bridging waitlist delays with interim buprenorphine treatment: Initial feasibility. *Addictive behaviors*, 51, 136-142.
- Sigmon, S. C., Meyer, A. C., Hruska, B., Ochalek, T., Heil, S. H., Higgins, S. T., & Schwartz, R. P. (2015b). Interim buprenorphine treatment: Leveraging technology to bridge waitlist delays. *Drug & Alcohol Dependence*, 156, e204.
- Siegal, H.A., Carlson, R.G., Kenne, D.R., & Swora, M.G. 2003. Probable relationship between opioid abuse and heroin use. *American Family Physician*, 67(5), 942-945.
- Springer, S. A., Chen, S., & Altice, F. L. (2010). Improved HIV and substance abuse treatment outcomes for released HIV-infected prisoners: The impact of buprenorphine treatment. *Journal of Urban Health*, 87, 592-602.  
Doi:10.1007/s11524-010-9438-4.
- Stanton, A., McLeod, C., Luckey, B., Kissin, W.B., & Sonnefeld, L.J. (2006). Expanding treatment of opioid dependence: Initial physician and patient experiences with the adoption of buprenorphine. Westat. Retrieved from [http://www.buprenorphine.samhsa.gov/ASAM\\_06\\_Final\\_Results.pdf](http://www.buprenorphine.samhsa.gov/ASAM_06_Final_Results.pdf).
- Strauss, M.A., & Corbin, J. (1998). *Basics of qualitative research: Grounded theory procedures and techniques*. (2<sup>nd</sup> Ed.) Thousand Oaks, CA: Sage Publications.
- Stein, M.D., Cioe, P., & Friedmann, P. D. (2005). Brief report: Buprenorphine retention in primary care. *Journal of General Internal Medicine*, 20, 1038–1041.
- Stephens, R.C. (1991). *The street addict role: A theory of heroin addiction*. SUNY Press: New York.
- Substance Abuse and Mental Health Services Administration (SAMHSA). (2003). Narcotic analgesics in brief. *The DAWN Report* (pp. 1-4). Rockville, MD: Office of Applied Studies, SAMHSA.
- Substance Abuse and Mental Health Services Administration (SAMHSA). (2004). *Treatment Admissions in Urban and Rural Areas Involving Abuse of Narcotic Painkillers*. Rockville, MD: Office of Applied Sciences, SAMHSA.
- Substance Abuse and Mental Health Services Administration (SAMHSA). (2005). *Medication-Assisted Treatment for Opioid Addiction in Opioid Treatment Programs*. Rockville, MD: SAMHSA.
- Tamblyn, R., Berkson, L., Dauphinee, W.D., Gayton, D., Grad, R., Huang, A., Isaac, L., McLeod, P. & Snell, L. (1997). Unnecessary prescribing of NSAIDs and

the management of NSAID-related gastropathy in medical practice. *Annals of Internal Medicine*, 127(6), 429-38.

Trickett, E.J. (2009). Multilevel community-based culturally situated interventions and community impact: An ecological perspective. *American Journal of Community Psychology*, 43(3/4), 257-266.

Weiss, R.S. (1994). *Learning from Strangers: The Art and Method of Qualitative Interview Studies*. New York, NY: The Free Press.

Wesson, D.R., & Smith, D.E. (2010). Buprenorphine in the treatment of opiate dependence. *Journal of Psychoactive Drugs*, 42(2), 161-176.

White, W., & Kurtz, E. (2005). *The varieties of recovery experience*. Chicago, IL: Great Lakes Addiction Technology Transfer Center.

White, W.L. (1998). *Slaying the dragon: The history of addiction treatment and recovery in America*. Bloomington, IL: Chestnut Health Systems/Lighthouse Institute.

Yin, R.K. (1994). *Case study research: Design and methods*. (2<sup>nd</sup> Ed.) Thousand Oaks, CA: Sage.

## Appendix A

### INTERVIEW GUIDE

1. Background and Demographics
  - a. What is your age? Race/ethnicity?
  - b. Are you currently employed? What do you do? How long have you been doing it?
  - c. Are you currently taking buprenorphine (also referred to as Suboxone or Subutex)? Which kind?
  - d. How many milligrams are you currently taking? Starting dose?
  - e. How long have you been taking buprenorphine this most recent time?
  - f. Have you ever taken any other medication for opioid dependence? Such as methadone, naltrexone, Vivitrol, etc.?
  
2. Substance use history
  - a. Can you tell me a little bit about your opioid use over your lifetime?
    - i. When did you first start using opiates? What initiated that?
    - ii. What was your opiate of choice?
    - iii. How did you use opiates? Orally? Snorting? Injecting?
    - iv. What about buprenorphine? Have you ever used buprenorphine on the street? Why?
  - b. What kinds of experiences did you have with family when you were using drugs? Specifically opiates?
    - i. Did they approve or disapprove?
    - ii. Can you tell me about any particular times when you experienced conflict with family over your drug use?
  - c. What kinds of experiences did you have with work/employment when you were using drugs? Specifically opiates?
    - i. Can you tell me about any particular times when you experienced conflict with work over your drug use?
    - ii. What about with the criminal justice system? Charges?
  
3. Treatment History/Experience

- a. Did you ever try any other drug treatments before getting on buprenorphine this time? Including treatments not involving medications?
    - i. How did those go?
    - ii. Did accessing treatment go as you had planned?
    - iii. Did you ever have any problems getting into treatment? Into the treatment you wanted to be in?
    - iv. Did you ever have any problems staying in treatment because of:
      - 1. Money?
      - 2. Insurance?
      - 3. Treatment center rules?
  - b. Can you tell me about your decision to get on buprenorphine this time? Why buprenorphine? Why now?
  - c. Are you getting buprenorphine from a private doctor? Or this treatment center?
    - i. Did you ever try to get buprenorphine anywhere else before this time?
    - ii. Did you ever run into any road blocks in trying to get into treatment? In trying to get on buprenorphine somewhere?
      - 1. Were you ever wait listed anywhere trying to get buprenorphine?
      - 2. What was that like? What did they tell you?
  - d. Can you tell me about your experience getting on buprenorphine this time at this treatment center? Why did you come here?
    - i. Can you walk me through the process of how you got on buprenorphine?
    - ii. Was it a positive experience? Was it a negative experience?
    - iii. What were your interactions like with treatment staff when you were getting on buprenorphine? Nurses? Doctors? Administrative staff? Counselors?
4. Problems getting buprenorphine
- a. Insurance
    - i. Do you currently have insurance/Medicaid? What kind?
    - ii. Have you had any problems with your insurance/Medicaid when it comes to your treatment and buprenorphine?
      - 1. With the treatment center? With the pharmacy?

- iii. What is your biggest frustration when it comes to issues surrounding getting your buprenorphine and your insurance/Medicaid?
      - 1. Were you ever unable to get your buprenorphine when you needed it because of issues with insurance?
      - 2. Issues with the treatment center? Pharmacy?
- 5. Family/Friends and Buprenorphine
  - a. Have you told family/friends/people closest to you that you are taking buprenorphine?
    - i. What does your family think about you taking buprenorphine while in treatment?
    - ii. What do your friends think about you taking buprenorphine?
    - iii. What kinds of things did your family/friends tell you when you told them you were taking it?
      - 1. How do you feel about the things they said?
- 6. Work and buprenorphine
  - a. Does your employer know that you are taking buprenorphine?
    - i. What does your employer think about you taking buprenorphine while in treatment?
  - b. If they don't know, are you afraid of them finding out? Why/Why not?
    - i. Have you ever been in a situation where you were worried they might find out? Can you tell me about that?
    - ii. Are you worried that being on buprenorphine might prevent you from getting a job you want?
- 7. Criminal Justice
  - a. Are you currently on probation/parole?
    - i. Does your probation/parole officer know you are taking buprenorphine?
    - ii. How did that conversation go? What did they say to you about it? Did you bring it up initially, or did they?
- 8. Tapering/Getting off buprenorphine
  - a. How long do you think is an ideal time to be on buprenorphine? Why?

- i. Did you have a preconceived idea when you came into treatment about how long you would be on buprenorphine? Why? How did you decide?
    - b. Have you tapered your dose since starting buprenorphine treatment this most recent time?
      - i. What influenced your decision to start tapering?
      - ii. Do you have any plans to start tapering your dose from your initial dose? Why or why not?
      - iii. How long do YOU feel like you would like to be on buprenorphine?
        - 1. Has there been anyone in your life influencing that decision? Who? Why?
    - c. Are you aware of the new Medicaid policies that limit how long someone can be on buprenorphine? 24 months
      - i. How do you feel about that?
    - d. Have you used any illicit substances since you've been in treatment this most recent time? Which ones?
      - i. Have those uses resulted in a positive urine screen at any point? How many times?
      - ii. Did you ever experience any negative consequences because of this? What?
        - 1. From treatment center? Private doctor? Insurance/Medicaid?
9. Advice to others
- a. What would you tell someone who was thinking about getting on buprenorphine?
    - i. What would you warn them about?
    - ii. What positive things would you tell them?
  - b. If you could change something about buprenorphine treatment, or getting your buprenorphine, what would you change?
  - c. Is there anything else you would like me to know about your experience getting on/staying on buprenorphine that I haven't thought to ask? That we haven't covered?

## Appendix B

### CONSENT FORM

**University of Delaware  
Department of Sociology and Criminal Justice**

Project Title: A Systems Perspective of Buprenorphine Patients' Experience in an Opioid Treatment Program

Principle Investigator: Laura B. Monico  
[lmonico@udel.edu](mailto:lmonico@udel.edu)  
(703)402-3701

Faculty Advisor: Ronet Bachman  
ronet@udel.edu  
(302) 831 - 2581

I am a student at the University of Delaware, and I am conducting some field research over the next few months into the experiences of clients here at Brandywine Counseling who are taking buprenorphine ("Suboxone," "bupe," "Subutex," "subs" etc.) to help them through their treatment for opioid dependence. As a part of this study, I would like the opportunity to interview you to discuss your personal experiences with taking buprenorphine during your treatment here. These interviews will be audiotaped and transcribed into a document for closer review.

The primary risk of this study is a breach of confidentiality. Any clients that are admitted to a drug treatment center assume a level of privacy into which I will be intruding. In order to minimize the risk to client confidentiality, I will: 1) only be using pseudonyms to refer to people, places, and things that could potentially reveal details about clients in field notes; 2) assign each interview participant a unique identifying code, and only I will be able to link clients' real names with their code; 3) keep all audio interviews and interview transcripts in a password-protected folder on my personal computer; and 4) assume all BCCS confidentiality guidelines that govern levels of confidentiality for BCCS staff.

One of the primary potential benefits of this study is to improve and expand the use of buprenorphine programs in outpatient drug treatment centers like this one. After the study is complete, I have been asked by the administrative staff at BCCS to talk to them about the factors that help and hurt buprenorphine patients' engage in treatment. Sharing results from this study with staff and administrators will not compromise your confidentiality because suggestions will be presented all together and will not include any names of any clients at any time.

#### **Participant's Agreement:**

Remember, your participation in this study is voluntary. You may choose not to participate or to withdraw your consent and discontinue participation at any time without penalty or loss of benefit. In signing this consent form, you are not waiving any legal claims, rights, or remedies. A copy of this consent form will be given to you. If you have any questions concerning the

research study or your participation in the study, before or after your consent, you may contact me at: University of Delaware, Department of Sociology, 322 Smith Hall, Newark, DE 19716, (703) 402-3701.

If you have questions about your rights as a subject/participant in this research, or if you feel you have been placed at risk, you can contact the Chair of the Human Subjects Institutional Review Board, through the University of Delaware Research Office, at: 302-831-2137.

I have read and understand this form (or it has been read to me), and I agree to participate in this research project.

\_\_\_\_\_  
Participant's signature

\_\_\_\_\_  
Date

## Appendix C

### PARTICIPANT CHARACTERISTICS

Name	Sex	Age	Race/Ethnicity	Employment	Employment Type (or previous)	Dose	Treatment Time	Opioid History	Beg in with Rx	Diverted Bup. Experience
Tim	Male	36	White	Yes - Full time	Iron worker	20 mg	18 months	Pills (oral to nasal) to Heroin (nasal to IV)	N	Y
Santiago	Male	23	Latino	Yes - Full time	Commercial Cleaner	16 mg	10 months	Pills (nasal) to Heroin (nasal)	N	Y
Mac	Male	62	White	Disability	Meat Clerk	20 mg	9 months	Heroin (IV)	-	Y
Vince	Male	28	AA	Yes - Full time	Warehouse	12 mg	1 month	Pills (oral)	N	Y
Mindy	Female	32	White	Unemployed	About to start a job at Target	14 mg	5 months	Pills (oral to nasal) to Heroin (nasal to IV)	Y	Y
Ornette	Male	51	AA	Yes - Full time	Sous Chef	12 mg	2.5 months	Heroin (nasal)	-	Y
Luke	Male	25	White	Yes - Full time	Residential Painting	20 mg	12 months	Pills (nasal) to Heroin (nasal)	N	Y
Brian	Male	31	AA	Yes - Part time	Drug Counselor	12 mg	4 days	Pills (oral to nasal (som	Y	Y

								e) to Heroin (nasal to IV)		
Julie	Female	32	White	Yes - Full time	Geriatric Care	12 mg	4 days	Pills (oral to nasal (some)) to Heroin (nasal to IV)	Y	Y
Matt	Male	33	White	Yes - Full time	Construction/Mason	8mg	4 months	Pills (oral to nasal) to Heroin (nasal to IV)	N	Y
Herc	Male	33	Latino	Yes - Full time	Barber	12 mg	16 months	Pills (oral)	Y	Y
Eric	Male	35	White	Unemployed	Hydraulic Engineer	8mg	3 days	Pills (nasal) to Heroin (nasal to IV)	N	Y
Jason	Male	36	White	Unemployed	Owned construction company; service manager for car dealership	8mg	3 days	Heroin (straight to IV)	-	Y
Calvin	Male	41	AA	Unemployed	Industrial/Warehouse	4mg	4 days	Pills (oral) to Heroin (nasal)	Y	Y
Shelby	Female	55	White	Disability	Nurse	12 mg	2 months	Pills (oral) to Heroin (IV)	Y	N
Tyra	Female	30	White	Unemployed	Retail/Fast Food	12 mg	1 month	Pills (nasal)	N	Y

								) to Heroin (nasal to IV)		
Tami	Female	47	White	Disability	Insurance underwriter; adult mental health care	12 mg	5 months	Pills (oral) to Heroin (nasal to IV)	Y	Y
Joanne	Female	38	White	Unemployed	Restaurant manager	16 mg	3 months	Heroin (nasal to IV)	-	N
Carlotta	Female	60	Latino	Unemployed	Housekeeping, laundries, restaurant	12 mg	2 weeks	Pills (oral) to Heroin (nasal )	Y	N
Billy	Male	35	White	Unemployed	Construction, Restaurant, Painting	12 mg	24 months	Heroin (IV and nasal)	-	Y

## Appendix D

### CODE LIST

AA/NA  
Background  
Buprenorphine  
Buprenorphine: Dose  
Buprenorphine: Recommend  
Buprenorphine: Side Effects  
Buprenorphine: Street  
Buprenorphine: Taper  
Buprenorphine: Time  
Continued Use  
Criminal Justice  
Criminal Justice: Buprenorphine  
Criminal Justice: SU  
Family  
Family: buprenorphine  
Family: SU  
Friends  
Friends: buprenorphine  
Friends: SU  
Methadone  
Methadone: Street  
Payment  
Payment: Balance  
Payment: Financial Situation  
Payment: Insurance  
Payment: Medicaid  
Payment: Out-of-Pocket  
Previous Treatment  
Previous Treatment: Buprenorphine  
Previous Treatment: Detox  
Previous Treatment: Drug Free  
Previous Treatment: Inpatient  
Previous Treatment: Methadone  
Previous Treatment: Pharmacy  
Previous Treatment: Private Doc  
ROA: IV  
ROA: Nasal  
ROA: Oral  
SU History

SU History: Heroin  
SU History: Other Drugs  
SU History: Rx ILLicit  
SU History: Rx Licit  
Treatment Experience  
Treatment Experience: Ancillary Services  
Treatment Experience: Change  
Treatment Experience: Dosing  
Treatment Experience: Holds  
Treatment Experience: Intake  
Treatment Experience: Medication Choice  
Treatment Experience: Other Clients  
Treatment Experience: Staff  
Treatment Experience: Take Homes  
Treatment Experience: UDS  
Treatment Experience: Waitlist/Priority  
Treatment Trigger  
Work  
Work: buprenorphine  
Work: SU  
z"All the same"  
z"normal"  
z"sick role"  
z"too good for this place"  
z"word of mouth"  
zBarrier  
zFacilitator  
zzCHRONO  
zzEXO  
zzMACRO  
zzMESO  
zzMICRO