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BARRIERS TO TREATMENT WITH BUPRENORPHINE FOR OPIOID ADDICTION IN NEW MEXICO

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**BARRIERS TO TREATMENT WITH BUPRENORPHINE
FOR OPIOID ADDICTION IN NEW MEXICO**

BY

KANWAL QIDWAI

**DOCTOR OF MEDICINE
MASTER OF SCIENCES BIOMEDICAL SCIENCES**

THESIS
Submitted in Partial Fulfillment of the
Requirements for the Degree of

**MASTER OF SCIENCE
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**BARRIERS TO TREATMENT WITH BUPRENORPHINE
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2017

ABSTRACT

More persons died from drug overdoses in the United States since 2000 than during any past years on record. There were approximately one and a half times more drug overdose deaths in the United States than deaths from motor vehicle crashes in 2015. Opioids, primarily prescription pain relievers and heroin, are the main drugs associated with overdose deaths. The 2014 data demonstrates that the United States opioid overdose epidemic includes two distinct but interrelated trends: a 15-year increase in overdose deaths involving prescription opioid pain relievers along with a recent rise in illicit opioid overdose deaths, driven by heroin. Natural and semisynthetic opioids, oxycodone and hydrocodone which are the commonly prescribing drugs, continue to be involved in more overdose deaths than any other opioid type. Prescription painkillers overdose death rates had declined in 2012 compared with 2011, and had held steady in 2013, but then a sudden increase of 9% was observed in 2014. Five states with the highest rates of drug overdose deaths in 2014 were West Virginia (35.5 deaths per 100,000), New Mexico (27.3), New Hampshire (26.2), Kentucky (24.7) and Ohio (24.6).

Due to implementation of federal and state guidelines, laws and regulations along with education and various medical strategies, the drug overdose deaths in NM has declined by 7.5% and in 2015, the state has ranked as the eighth highest in the drug overdose deaths in US.

The long-term goal of this line of research is to decrease deaths and emergency department (ED) visits related to opioid overdose in the state of New Mexico. The overall objective of this specific initial project is to create a survey, by identifying the most frequent and impactful barriers faced by the buprenorphine prescribers and non-prescribers for treating the opioid addicted population in NM. The research study has one specific aim that is descriptive and exploratory in nature: To create a new survey that will later be used to assess the frequency of barriers associated with prescribing buprenorphine in New Mexico (NM) for treating opioid addicted patients. This contribution is also important because our new survey is potentially generalizable to any state in the United States to identify these barriers.

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Chapter 1

Introduction

The United States is undergoing an epidemic of drug overdose related deaths. Nearly half a million have died between 2000 and 2015 and every day 91 Americans die from an opioid overdose (1,28). Since 2000, the rate of deaths from drug overdoses has increased 137% with a 200% increase involving opioids – chiefly prescription painkillers and heroin (1). New Mexico has led the nation in drug overdose deaths for the last two decades and the death rate has tripled since 1990 to become the leading cause of unintentional injury in the state (2). In 2015, the drug overdose death rate in the United States was 13.5 per 100,000, whereas in New Mexico, it was 24.4 per 100,000 (2). Opioids, chiefly prescription painkillers and heroin, are the leading cause of overdose deaths. According to the New Mexico Department of Health, 449 and 536 residents died due to drug overdose in 2013 and 2014 respectively (2). While deaths due to illicit drugs have remained steady during the past decade, deaths due to opioids, particularly prescription drugs, have increased dramatically nationally. According to American Society of Addiction Medicine opioid addiction 2016 facts and figure data, *“Drug overdose is the leading cause of accidental death in the US, with 55,403 lethal drug overdoses in 2015. Opioid addiction is driving this epidemic, with 20,101 overdose deaths related to prescription pain relievers, and 12,990 overdose deaths related to heroin in 2015”* (8).

As stated in *New Mexico Substance Abuse Epidemiology Profile August 2014*, 49% of drugs causing unintentional overdose death were prescription opioids (3). The rate of ED visits due to opioid overdose has also increased approximately 30% between 2010 and 2013 in the state (4). In 2013, there were 2,506 ED visits due to drug overdose at the rate of 122.8 visits per 100,000 populations, the rate of prescription opioid overdose related ED visits was 60.4 visits per 100,000 populations and the rate of heroin overdose-related ED visits was 26.9 visits per 100,000 populations (4). Drug abuse not only results in overdose death and increased ED visits due to cardiovascular, pulmonary, infectious disease (HIV, TB, Hepatitis B and C), psychiatric, and gastroenteritis complaints but is also associated with other social determinants of adverse health outcomes, including crime, violence, homelessness and loss of productivity.

Since 1972, when the Food and Drug Administration (FDA) approved methadone as a treatment for opioid abuse, millions of patients have been successfully treated with it. However, the major concern is that methadone can only be given in licensed substance abuse treatment facilities which have Opioid Treatment Programs (OTPs), approved for Medication Assisted Treatment (MAT). These programs are vigilantly oversight by states, Substance Abuse and Mental Health Services Administration (SAMHSA), Department of Health and Human Services (HHS) and Drug Enforcement Administration (DEA). Unfortunately, only few OTPs exist in New Mexico, and patients often have to drive for hours from one county to another to reach these treatment facilities.

Clinically, methadone is also associated with severe life threatening side effects that include withdrawal, relapse, respiratory depression, cardiac rhythmic abnormalities and death (5).

Due to tremendous increase in the use of prescription and non-prescription opioid in the US, a flexible and urgent treatment was critically needed which has minimal side effects and can be easily prescribed from office based practiced settings (OBS). In October 2002, finally FDA approved buprenorphine which can be easily prescribed from OBS. Buprenorphine represents the one of the latest advancements in medication-assisted treatment for opioid dependence. There have been two other medications approved after buprenorphine, 1) extended release naltrexone known as vivitrol which was approved for OUD after buprenorphine and buprenorphine implant which is a long acting implant.

Like methadone, buprenorphine in combination with counseling and behavioral therapies, provides a holistic treatment approach for people with opioid dependency that has minimal side effects and is easily prescribed and supervised from the office-based practice settings. When taken as prescribed, buprenorphine is much more safe and effective compared to methadone with considerably lower risk potential than other opioids. Its safety profile, ceiling effect at high doses, formulated with naloxone to limit injection abuse, and lower abuse potential compared to full opioid agonists make it a suitable and safer medication for office-based treatment of opioid dependency (25).

Despite the high efficacy of buprenorphine, New Mexico has only 255 Drug Addiction Treatment Act 2000 (DATA 2000) certified physicians who are registered to prescribe buprenorphine in the state according to the Substance Abuse and Mental Health Service Administration website, (6). But, according to the New Mexico Pharmacy Board, out of 255, only 111 are actively prescribing buprenorphine and have a minimum of 20 patients in last fourth quarter of 2016 (These data are obtained from New Mexico Department of Health on March 31, 2017).

Many counties in NM have a high rate of heroin use, but have no or only 1 or 2 physicians prescribing buprenorphine. According to the New Mexico Substance Abuse Epidemiology Profile August 2014, in 2013 the life time rate of heroin use in Valencia was 8.6%, 7.8% in San Miguel and 6.8 % in Lincoln counties of New Mexico (3). Based on the SAMHSA database, Lincoln County has 0 buprenorphine physician prescribers, Valencia County has one, and San Miguel County has 8 (6). Similarly, according to the *National Directory of Drug and Alcohol Abuse* treatment program, Lincoln and San Miguel County have only one treatment facility available each, and Valencia County has none (7). The table below shows the number of buprenorphine prescribers in relation to counties, population and facilities.

Table 1: Buprenorphine Prescribing Physicians by High Opioid Addiction NM Counties

Counties	Lifetime Heroin Use, 2013	Cities in County	Population (Census 2010)	Buprenorphine Prescribers (SAMHSA)	Drug and Alcohol Abuse Facilities (National Directory of Drug and Alcohol Abuse Treatment Program)
Valencia County	8.6%	Belen, Rio Communities	76,569	1 prescriber in Belen, 0 prescriber in Rio	None
Lincoln County	6.8%	Capitan, Carrizozo, Corona, Glencoe, Honda, Nogal, Ruidoso, Downs, San Patricio, Tinnie	20,497	No prescriber in any city	1 treatment facility in Ruidoso
San Miguel	7.8%	Las Vegas, Pecos, Conchas Dam, New Mexico, More	29,393	6 prescribers in Las Vegas. 2 prescriber in Pecos	1 treatment facility in Las Vegas

Potential Harmful effects of Substance Abuse in United States

Health care costs are rising and drug abuse poses a large burden on an already strained system. Illicit drugs are estimated to cost American society approximately \$193 billion each year (24). The greatest cost of drug abuse is either lost directly to overdose, or through drug abuse-related diseases such as tuberculosis, sexually transmitted diseases (STDs), hepatitis, and acquired immunodeficiency syndrome (AIDS) (20). Other costs of drug abuse are due to traffic accidents caused by alcohol- and drug-impaired drivers; street crime committed by addicts to support their addiction; loss of work productivity and resources expended to apprehend, sentence, treat, and incarcerate drug abusers (20).

A strong correlation also exists between drug abuse and homelessness. Drug users are less dependable employees than other workers and have decreased workplace productivity. They are more likely to have taken an unexcused absence compared to drug-free workers. Drug users get fired more frequently and also switch or left jobs more frequently compared to non-drug user employees. This high turnover increases training and other productivity-related costs to American businesses (20).

Despite of the fact that an efficacious drug buprenorphine is available in the market, still many of opioid use disorder patients are unable to access physicians who are actively prescribing buprenorphine. The purpose of this study is to find out specifically why buprenorphine is not effectively prescribed in New Mexico. I have reviewed 39 studies related to buprenorphine and was astonished to see that only one study has been conducted in New Mexico and rest of them were either conducted in others states or nations, out of which some are qualitative and some are quantitative studies. Peer reviewed and published studies mentioned several barriers to physicians becoming prescribers of buprenorphine for opioid dependent patients: (1) buprenorphine training, (2) DEA auditing, (3) clinical office base setting stigma, (4) lack of provider interest, knowledge and expertise in treating opioid use disorder patients, (5) inadequate financial support from health insurance, Medicaid or Medicare, (6) lack of institutional training and support, (7) complex patient populations (8) shortage of physicians in rural areas are the barriers identified by physicians in some of the published research studies and, (9) hesitation in adopting buprenorphine

treatment by PCPs in office based settings. However, none of the articles has been able to identify all the obstacles. Some share mutual barriers and some identify other distinctive barriers.

Studies of Buprenorphine Barriers faced by Physicians Nationally, Internationally and in New Mexico

Studies Conducted Nationally

Over the past two decades, few studies have been conducted nationally to identify the challenges faced by physicians in prescribing buprenorphine for opioid use disorder patients. Both qualitative and quantitative studies recognized some of the multiple barriers faced by physicians in the United States.

A telephone interview survey was conducted in 2010 in rural Washington (9). Twenty-four out of thirty-three (73%) rural physicians mentioned four important barriers which include: (1) inadequate financial support from Medicaid, (2) lack of mental health and behavioral addiction treatment services, (3) difficulty in finding consultants to assist in treating complex patients, and (4) shortage of physicians in rural areas.

In 2010, a 34 item survey that asked about clinician's beliefs and attitudes about buprenorphine/naloxone diversion was completed by a national representative sample of non-prescribing addiction treatment professionals at the *Cape Cod Symposium on Addictive Disorders* in Hyannis, Massachusetts (10). The same survey was also completed by a national representative sample of prescribers at the *American Academy of Addiction Psychiatry Symposium* in Boca Raton, FL also in 2010. Results from this study show that attitudes and beliefs were associated with clinicians' perceptions of danger from buprenorphine diversion. Also, clinicians with greater number patient receiving buprenorphine believe that barriers to access treatment was a major cause of buprenorphine diversion.

Another study was conducted in 2005 in Massachusetts, which investigated the barriers that were affecting the accessibility of opioid detoxification with buprenorphine in the state (11). Three hundred and fifty-six buprenorphine waiver physicians were selected and a survey was sent through the mail, out of which 235 physicians responded (66%) to the survey. Two-thirds of non-prescribers and half of the prescribers reported at least one barrier. The more common barriers among DEA waiver prescribers were reimbursement and pharmacy issues. The more common barriers for those with a DEA waiver but not prescribing were insufficient staff knowledge and low demand of buprenorphine. Insufficient office, nursing and institutional support were barriers reported in both groups.

A recent study published in February 2015 included 173 out of 188 (92%) of accredited psychiatry residency programs in the United States (12). Forty-one programs responded with a response rate of 24%. Sixty-eight percent of programs provide residents an experience of using buprenorphine for detoxification, whereas 78% provide experience to use buprenorphine for maintenance treatment. Only 15% required that residents complete the buprenorphine training as a part of residency. Sixty-one percent offered optional training and 24% did not offer any training. Major barriers in promoting buprenorphine treatment for opioid use disorder patients include the lack of institutional support to provide access to the buprenorphine training or understanding the need to produce more buprenorphine prescribers in the epidemic of opioid overdose death are

A study published in 2015 was conducted in rural settings of New Hampshire and Vermont and included both qualitative and quantitative questions to understand the barriers to adoption of BMT among family physicians in a primarily rural area in the United States (13). One hundred and eight family practitioners completed it. Only 10% were the prescribers. Eighty-eight percent reported inadequately trained staff, 80% reported insufficient time, 49% reported inadequate office based settings, and 37% reported cumbersome regulation as a barrier.

A systemic review was published in *Substance Abuse Journal* in 2015 in which the Medline database was searched for all the studies conducted on examining the office based provider's acceptance or satisfaction with office based treatment of opioid addicted patients. Eight studies met the inclusion criteria, out of which four studies concluded that providers had a positive perception related to the efficacy of opioid agonist treatment, the other four studies indicated that providers believed that opioid use disorder patients were more complex compared to other patients in their practices. Three out of these eight studies also mentioned that additional support, including psychologists, counselors, social workers, etc., is needed to take care of opioid use disorder patients in office based treatment practices (17).

A study was conducted in Ohio in 2014 in which 41 Ohio specialty addiction treatment organizations were asked to complete a survey of their buprenorphine practices and availability of buprenorphine prescribers. Data was collected on pharmacotherapies used in the treatment of opioid dependence,

buprenorphine prescribing capacity, arrangements of the treatment organizations with prescribing physicians and also about the barriers encountered in hiring new physician to prescribe buprenorphine. Out of 41, 37 treatment organizations responded (90%). Twenty-nine treatment facilities (78%) actually prescribed buprenorphine. Fourteen (48%) of these 29 treatment facilities reported insufficient prescribing capacity. Out of these 14, 7 (50%) mentioned that they had to turn patients away from buprenorphine therapy due to limited physician prescribing capacity (18).

A semi structured telephone interviews of key personnel at a national sample of Veterans Health Administration (VHA) facilities with patient populations having high prevalence of opioid dependence and without methadone OAT programs was conducted from June 2006 to October 2007. Three different types of sites were categorized according to the number of veterans receiving buprenorphine prescriptions. Five sites were categorized as “More Buprenorphine” (i.e., with more than 40 prescriptions), three sites were categorized into “Some Buprenorphine” (with 5-40 prescriptions), and 9 sites were categorized as “No Buprenorphine (with 0-5 prescriptions). Sixty-two staff members were interviewed. For all three buprenorphine sites, common provider barriers included: (1) lack of interest, (2) stigma toward the population, (3) lack of education, (4) resistance to change, (5) lack of provider interest, (6) abstinence-based philosophy, and (7) pain and addiction issues (19).

Thus, although a few published studies have partially examined potential barriers to prescribing buprenorphine, these studies do not provide a

comprehensive assessment of barriers from the viewpoint of providers. Also, a major reason to do the present study is to determine the barriers and facilitators reported by physicians in New Mexico.

Studies Conducted in New Mexico

Semi-structured interviews were conducted in 2011 in Albuquerque, NM with staff from 24 substance use treatment agencies and with 8 key stakeholder personnel (e.g. Department of Health, substance abuse advocacy groups), to identify the gaps in opioid addiction treatment availability (14). However, this study did not specifically focus on the barriers faced by physicians in prescribing buprenorphine in NM.

Studies Conducted Internationally

A study in Norway reported the practices, motivations and diversion of methadone and buprenorphine in inmates enrolled in opioid maintenance treatment (OMT) (15). Twenty-eight in-depth interviews with inmates enrolled in 12 different OMT programs were conducted. The interviewees shared that the acquired norm of sharing drugs with others in a community was maintained even after entering OMT in prison. Dispensing their own prescription opioids by those who are enrolled in OMT to other individuals using illicit heroin but who are not enrolled in OMT and having withdrawal symptoms was commonly seen as an act of helping or was done for monetary reasons. Buprenorphine is sometimes illegally shared by addiction patients and thus can be a drug of abuse as well as a treatment of choice for opioid addiction.

Since 1995, France has allowed all of the registered physicians to prescribe buprenorphine without going through special training or acquiring any particular license. This policy has significantly increased the number of buprenorphine prescribers in the country and 20% of all the registered physicians are freely treating more than 50% of the opioid use disorder patient population with buprenorphine. The relaxed regulatory environment has made the buprenorphine maintenance treatment feasible and safe for physicians who are prescribing the treatment from office based settings (16).

In this study, we are trying to understand why, despite of a fact that an efficacious drug is available to treat patients with opioid use disorder, only a relatively few providers are licensed to prescribe buprenorphine in New Mexico. According to New Mexico Health Care Workforce Committee Annual Report 2016, in 2015 there are total 9382 MDs and DOs licensed in New Mexico but only 5367 (57.2%) practices in New Mexico (22). Out of these 5367 MDs and DOs, database from SAMHSA shows that only 255 have the waiver to prescribe buprenorphine. Per New Mexico Pharmacy Board, in last fourth quarter of 2016, only hundred and eleven physicians have prescribed buprenorphine to minimum of 20 patients.

In New Mexico, there are a total 9 medical specialties that may be licensed to prescribe controlled substances:

Table 2: Acronyms for healthcare professionals

1	MD	Doctor of Medicine
2	DO	Doctor of Osteopathic Medicine
3	DDS	Doctor of Dental Surgery
4	DMD	Doctor of Medicine in Dentistry or Doctor of Dental Medicine
5	DVM	Doctor of Veterinary Medicine
6	DPM	Doctor of podiatric medicine
7	NP	Nurse Practitioner
8	PA	Physician Assistant
9	OD	Doctor of Optometry

According to PMP there are total 5745 healthcare providers who are actively prescribing controlled substance to minimum of one patient in last fourth quarter of 2016 in New Mexico.

Out of which 2906 are MDS, 1015 are NPs, 580 are PAs and 227 are the DOs.

We can also conclude that in the epidemic of opioid use disorder, healthcare providers belonging to 9 specialties have access to prescribe controlled substances to the New Mexico population but only 2 specialties (MD and DO) have access to treat patients with opioid use disorder.

This is a hypothesis generating study with one specific aim: To identify the barriers and facilitators for providers in prescribing buprenorphine to treat patients with opioid use disorder in New Mexico

The **long term** goal of this line of research is to decrease deaths and ED visits related to opioid overdose in the state of New Mexico. The **overall objective** of this specific initial project is to create a survey, by identifying the

most frequent and impactful barriers faced by the buprenorphine prescribers for treating the opioid use disorder population in NM. This study will be the first in a series of studies designed eventually to reduce opioid mortality and morbidity by increasing the number of providers to prescribe buprenorphine. This study is descriptive and exploratory in nature. The ***rationale*** of the study is to better understand the obstacles to treatment with buprenorphine as the first step in alleviating those barriers by designing educational and informative programs; which may facilitate and promote buprenorphine treatment, and in response, increase the number of physician with widespread access to the medication for opioid addicted patients. The research study has ***one specific aim*** that is descriptive and exploratory in nature: To implement this aim we will create a new survey that will assess the barriers associated with prescribing buprenorphine in New Mexico for treating opioid use disorder patients.

Chapter 2

Methodology

Initially, we reviewed 39 relevant articles to collect all the barriers and facilitators reported by previous studies that physicians are facing for prescribing buprenorphine nationally and internationally. We then included 28 barriers and facilitators in our initial semi-structured interview guide created to interview New Mexico experts on opioid abuse. Our initial interview guide also included some questions related to buprenorphine training, motivations to become a buprenorphine prescriber, and any obstacles or facilitators that impact providers while becoming a buprenorphine prescriber. All 28 barriers and facilitators were listed in the first version of our survey, and interviewees were asked to rate each on an 11-point scale ranging from “- 5 = extreme barrier” to “+ 5 = extreme facilitator” with “0” as midpoint of the scale labeled “neither barrier nor facilitator.

We sent all the experts and physicians a letter of recruitment prior to interviewing each. (see appendix A). The letter explained details about the study, assured participants that the data would be kept confidential and indicated that the study had been approved by the University of New Mexico Human Research Review Committee (an Institutional Review Board).

Using our interview guide, we first interviewed 5 physicians who are experts in addiction, who already have a buprenorphine waiver, and who have been engaged in education and training new physicians to become buprenorphine prescribers in New Mexico. Face-to-face semi-structured

interviews were individually conducted using an iterative approach such that each interview informed the interviewer for subsequent interviews to enable more informed follow-up questions. We interviewed as experts:

- (1) Dr. Miriam Komaromy, Professor of Internal Medicine, University of New Mexico
- (2) Dr. Christopher Novak, Medical Director, Public Health Division, New Mexico Department of Health
- (3) Dr. Snehal Bhatt, Medical Director, Addictions and Substance Abuse Program, Assistant Professor, University of New Mexico
- (4) Dr. Leslie Hays, Family Practitioner at Espanola, addiction expert recognized at the White House as Champion of Change in April 2016.
- (5) Dr. Bruce Trigg, Former Medical Director, Public Health Division, New Mexico Department of Health

All interviews were audiotaped and saved on encrypted UNM computers. All 5 experts appeared highly motivated and gave us excellent feedback about barriers and facilitators for prescribing buprenorphine in New Mexico. We modified the interview guide slightly after each interview before conducting the next interview. The 5 expert interviews resulted in several new barriers being added to our interview guide list of barriers. Expert interviews also resulted in some minor wording changes to the extant listed barriers.

We then recruited 10 physicians with buprenorphine waivers who are prescribing buprenorphine from office based settings (OBS) and 10 physicians prescribing buprenorphine from Opioid Treatments Programs (OTPs).

Recruitment was by word-of-mouth and by using the online publicly available directory for buprenorphine prescribers and from the *National Directory of Drug and Alcohol Abuse Treatment* facilities for 2015. To collect perceived barriers and facilitators throughout New Mexico, in each of the two groups we recruited 5 physicians from urban and 5 physicians from the rural area. It was presumed that barriers may vary between urban locations (Albuquerque metropolitan area, Santa Fe, and Las Cruces practice areas) and rural practice areas (all other areas in NM). Individual telephone and face-to-face semi-structured interviews were conducted. All the interviews were digitally audiotaped with de-identified recordings stored on an encrypted UNM computer. No one had the access to recordings except myself and Dr. Teddy Warner, my thesis director.

Qualitative interviews typically proceed iteratively with subsequent interviews building upon what is learned in earlier interviews. *Qualitative* approaches tend to be superior to *quantitative* methods for uncovering novel information because they allow for more diversity in responses as well as for the ability for researchers to adapt to new problems and issues during the research process (21). Provider interview questions were informed and modified based on what we learned from interviewing our expert consultants. As each provider interview proceeded, we asked additional questions suggested by interviewee's responses to the listed questions. As different interviews proceeded, we added additional questions to the list of basic questions to be asked of all interviewees, including sometimes adding new barriers to our list of barriers.

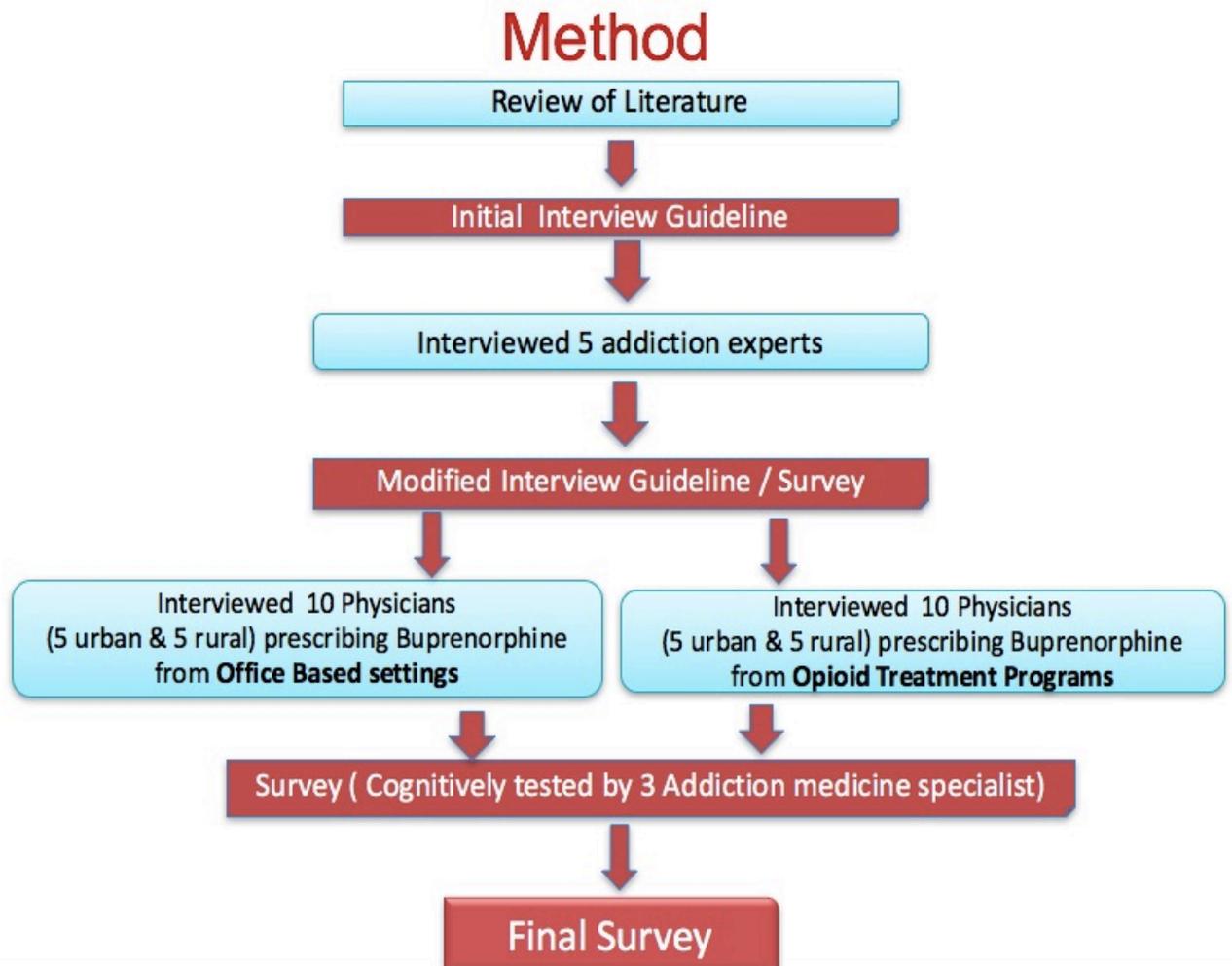
Various specific questions were linked with each source of barriers. After completing each barrier question, we asked a rating-scaled question designed to assess the strength or importance of the various barriers. In qualitative interviewing, emergent questions often occurred that derived from interviewee responses that we were not be able to anticipate, and thus we did not restrict ourselves to particular questions for any given interview. Our approach was to emphasize the need to understand barriers and facilitators to prescribing buprenorphine for opioid disorder patients, that is, to learn about behaviors and patterns that may affected the accessibility of buprenorphine to the opioid use disorder population in New Mexico from the viewpoints of the providers. We analyzed the interview data soon after finishing each interview so that what we learned in each interview informed each subsequent interview in an iterative fashion that is standard in qualitative interviews and focus group approaches (21). Analysis of interview data focused primarily on identifying new barriers or facilitators to add to our list of such, as well as to consider whether new open-ended questions about barriers and facilitators should be asked in subsequent interviews of providers.

All the barriers and facilitators expressed by providers that are interviewed were extracted, and a new survey was constructed with rating scaled questions that ask survey respondents to rate the importance of each listed potential barrier or facilitator in influencing their decision to become buprenorphine prescriber. We expect that the collected information from the 20 interviews have identified the relevant barriers and to understand physician opinions, motives and beliefs

about treating opioid addicted patients in NM. The later interviews did not generate new barriers or facilitators, suggesting strongly that our list had reached saturation. However, we also included the barriers from the previous published literature even if our interviewees do not identify them. After a final survey draft was produced in collaboration with my thesis committee and myself, Dr. Warner and I then cognitively tested the survey draft with 3 volunteer addiction medicine physicians from the UNM Alcohol and Substance Abuse Treatment Program (ASAP). My thesis director, Dr. Warner, is an expert and instructor in survey methods and cognitive interviewing taught me those approaches in this project.

Information related to these barriers gained from the interviews were then used in creating a survey. This survey will be used in NM for a future follow up study to assess barrier frequency and importance in inhibiting prescribing buprenorphine. Based on interviews with 10 urban and 10 New Mexico providers, we now have preliminary survey data (N=20) that can be used to support a future grant proposal to fund a study to assess the prevalence of barriers and facilitators in New Mexico and potentially in other states as well.

Figure 1: Methods Used to Construct a New Survey of Barriers and Facilitators for Physicians in Prescribing Buprenorphine in Treating Opioid Disorder Patients



Chapter 3

Results

We interviewed 12 family practitioners, 1 internist, 2 preventive medicine physicians, 1 psychiatrist, 1 addiction psychiatrist, 1 pediatrician, 1 interventional cardiologist and 1 emergency medicine specialist. Two were also addiction medicine specialists. Ten were strictly prescribing buprenorphine from office based settings, 9 are prescribing mostly methadone and often buprenorphine from a Medication Assisted treatment program (MAT), and 1 physician prescribed just methadone from MAT. Initially, seven general open-ended questions were asked of these physicians to get them to explain their motivation for getting buprenorphine training and for treating opioid use disorder patients. Responses from our first 7 open ended questions asked from 20 physicians in NM are summarized below:

1. Why did you decide (or decide not) to become a buprenorphine prescriber yourself?

Out of 20 physicians interviewed, 35% said that they decided to do the buprenorphine training due to a need in the society; 25% said that they did the training as a part of their job and hence are prescribing buprenorphine now; 15% did the training while working as resident; 10% were motivated and encouraged by other physicians. Only 1 did the training after retirement from his specialty to establish another career pathway. One already has the DEA-X license, and one was not a buprenorphine prescriber.

2. Were there any factors that acted as barriers to you doing so?

Seventy-five percent physicians said that there were no barriers in doing the training; 1 said training itself is a barrier in becoming a buprenorphine prescriber; 1 found difficulty finding a training in NM; 1 drove to Washington DC from NM in 2002 when training was not available easily in all states; 1 said the online course should be used instead of onsite; and, 1 has never done the training but is interested in doing it in near future.

3. Where there any factors that facilitated you becoming a prescriber?

Thirty percent of physicians said that UNM Project ECHO training facilitated them to do a training; 10% said that they had strong support from work; 25 % said nothing facilitated them to do the training; 10% said that they were already working in a methadone and detox clinic which facilitated them to do the training; 1 took the first offered training in San Francisco, CA and all the expenses were covered by the FDA; 1 said working in a rural area where there were no addiction specialist physicians inspired him to do the training; 1 said he already had a DEA-X license; 1 said his clinical practice has established patients so training helped him to take care of these patients and 1 has never done the training.

4. Did you feel more confident in prescribing buprenorphine after doing half and half training?

Seventy percent physicians feel confident that they are able to prescribe buprenorphine after the training; 1 said training is not sufficient or effective and it is just a basic course; 1 did not feel comfortable after doing the training; 1 said the course needs to be more comprehensive and advance; 1 said

training was helpful but it was unnecessary to have it to get a license for prescribing buprenorphine; and one was not a prescriber.

5. What are the things that you like (or might like) or things that inspire you to continue working as a buprenorphine prescriber?

Fifty percent physicians said it is very rewarding to treat these patients and observing a great change in their lives; 10% said that its been recognizing as a disease model now; 10% said its cost effective to treat these patients; 10% said buprenorphine is a very effective drug; another 10% said that they will continue to work as there is a strong need in the society; 1 said establishing care for patients and transferable prescriptions are very helpful; 1 said its pretty flexible and easy to treat opioid use disorder (OUD) patients with a prescribed drug also its highly divertible so OUD patients can get it easily on streets and use it; 1 said there is a significant need of physicians in our society; and 1 was not the prescriber.

6. What are the things that you do not like or things that inhibit you from working as a buprenorphine prescriber?

Twenty five percent said nothing could stop them from prescribing buprenorphine; 15% said patients behavior as being dishonest, nasty attitude or their friends circle; 15% physicians said prior authorization is a hassle; 10% said insurance restriction like partial refill or refill for only 30 days is a problem; 10% said patients have very sad stories which make them emotional; 1 said 30 cap rule is ridiculous; 1 said not a great success in treating these patients; 1 said isolation from medical community and

restriction from other clinicians to take these new patients; 1 said already engaged in other responsibilities so hard to find time to treat these patients; and 1 was not the prescriber.

7. Do you have any comments or explanations about the process of providers getting trained and licensed to prescribe buprenorphine in treating their opioid addicted patients?

Forty percent of physicians mentioned nothing; 10% said training was worth it and a network should be available to support and answer questions; 1 said there is a need to train non-physician staff too and educate patients for both methadone and buprenorphine; 1 said there is a need for more marketing to promote the drug; 1 said the 275 cap rule is a good step; 1 said training needs to be more comprehensive; 1 said training needs to be shortened; 1 said that it should be an online training; 1 said it is easy to do a training; 1 said NPs and PAs should become prescribers; and 1 was not a prescriber.

Responses of each of the 20 physicians interviewed for this study are shown in Table 3 below.

Table 3: Responses of 20 Physicians to 7 Open-ended Questions about Prescribing Buprenorphine for Opioid Disorder Patients.

Physician Interviewee	Question						
	1. Why did you decide (or decide not) to become a buprenorphine prescriber yourself?	2. Were there any factors that acted as barriers to you doing so?	3. Where there any factors that facilitated your becoming a prescriber?	4. Did you feel more confident in prescribing buprenorphine after doing half and half training?	5. What are the things that you like (or might like) or things that inspire you to continue working as a buprenorphine prescriber?	6. What are the things that you do not like or things that inhibit you from working as a buprenorphine prescriber?	7. Any comments or explanations about the process of providers getting trained and licensed to prescribe buprenorphine
1	Encouraged by other physician. Due to need in the community	No	UNM Echo training, Free class	Yes	Rewarding	People are dishonest	Nope
2	Job requirement	No	Travelled to SFO as it was the first training. All expenses were covered by FDA	Yes	Establishing care for patients. Transferable prescriptions	Prior authorization Partial refill	Need to trained non-physician staff, educate physician for both buprenorphine And methadone
3	Job requirement	No	Support from work	Yes	Rewarding	Sad stories of patients	No
4	Motivated after seeing colleague in same practice	No	No	Yes	Rewarding	Prior authorization	No
5	Job Requirement	No	UNM Echo training,	Yes	Rewarding	No	Need more marketing and recruitment.
6	Need in the community	No	UNM Echo training,	Yes	ODD recognized as a disease now	Getting emotional	Changing the cap to 275 is a good step.
7	Need in the community	No	No	Yes	Rewarding	Prior authorization Not having access to speak for more complicated addiction population	Training worth it
8	Need in the community Job requirement	No	Support from work	Not sufficient or effective, it is just basic	Rewarding	None	No

9	Need in the community as mostly Hep c patients with OUD	Training itself as a barrier as you cannot prescribe without it	Working in a rural area where no Addiction providers are present	Yes	buprenorphine is an effective drug	None	Training is good. network is available to ask question
10	Job requirement as trained as a resident	No	DEA-X license	Yes	Significant need of taking care of these patients Low supply-high demand	Insurance did not allow to prescribe for more than 30 days	No
11	Need in the community	No	Easy access to training	Yes	Need in the society	Nastiness of patient	Training worth it
12	Already have a DEA-X license	No	Clinical practice has already some established patients	Did not feel comfortable after doing that training	Need in the society	Too busy in other things	Need more comprehensive training
13	Need in the community Shortage of specialist in community	Looking for a class in NM	No	Training was helpful, Unnecessary to have license Requirement to prescribe buprenorphine	Rewarding, Cost effective to treat these patients	Isolation from medical community, Restriction from other clinician to take these patients	Should be an online class instead of long 8 hour class.
14	Retired from other profession so decided to treat OUD patients	NO	No	Yes	Rewarding	Company of patients	No
15	Due to opioid epidemic in our society	Online course is easy to do	Working in a methadone clinic promotes to become a buprenorphine prescriber	Yes	Rewarding	30 cap rule is ridiculous	No
16	While working as a resident, job requirement	Drove to DC for training in 2002	Working in a detox clinic	Yes	Not see a good result with methadone, few patients do very well on buprenorphine.	Not seeing much success	No
17	During residency see many patients with opioid so decide to treat and get licensed for buprenorphine	No	No , very easy	Course is very basic, need to be more advance	Flexibility Ability to treat OUD patients with prescribe drug, Highly divertible	No	PA, NP become prescriber
18	Course offered by FDA	No	UNM paid for the training	Yes	Consider as a disease now	No	Need to shortened the training

19	Job requirement Need to provide buprenorphine to pregnant patients in MDC	NO	Availability of training through UNM	yes	Rewarding, Bring change in people life	Patient behavior	Easy to do
20	Not a prescriber	Don't know how to take the training and where the training take place Do not use computer	Not a licensed buprenorphine prescriber				

After asking our 20 physicians the 7 open-ended questions for which we summarize responses above, interviewees rated each of our initial list of 32 potential barriers and facilitators using an 11-point rating scale:

- 5 = strong barrier to 0 = no barrier or facilitator to + 5 = strong facilitator

We asked each physician to indicate the degree which they believe, *based on their overall experience in the addiction field*, to what degree each listed factor is a barrier or a facilitator or neither *for providers in general* for getting licensed to prescribe buprenorphine. Mean responses and standard deviations are shown in **Table 4** below. Means above 0 are on average rated as a *facilitator*, and means below 0 are on average rated as a *barrier*, given the scale shown above.

Twenty-one of our 32 listed factors were rated with mean values that are negative, that is, on the barrier end of the scale, and only 10 factors are rated with values above 0 on the facilitator end of the scale. One item had a mean rating of 0.0, indicating on average it was seen as neither a barrier nor a

facilitator. It should be noted that the means are rather moderate in magnitude given the barrier and facilitator labels. For example, the lowest rated barrier had a mean of only - 2.48 on a 0 to – 5 scale, suggesting that on average it is only seen as a moderate degree barrier. Similarly, the highest rated facilitator only had a mean of + 2.64, indicating on average that it was seen as a moderate level facilitator.

Also, it should be noted that both barrier and facilitator factors had variability in their standard deviations. A standard deviation on a rating scaled item can be interpreted as an indicator of the degree of agreement or disagreement, with higher SDs indicating greater variability and disagreement among respondents. On rating scales of 11 points, a standard deviation of about 2.00 would be common, and thus standard deviations above that value should be interpreted as indicating notable disagreement among our 20 respondents. It should be noted from Table 4 below that the majority of negatively rated items (i.e., barriers), as well as the majority of positively rated items (i.e., facilitators) had standard deviations > 2.00, indicating considerable variation in opinion among interviewees. In addition, one should recognize that it may be logically possible for an issue to be a barrier for some providers but a facilitator (or at least neutral) for other providers, and vice versa.

Table 4: Factors Rated by Physicians (N=20) as Barriers (mean ratings < 0.00) to Becoming a Buprenorphine Prescriber

	Barriers (items rated < 0)	Mean	SD
1	Previous restriction for NPs and Pas	-2.48	2.66
2	Limitation by third party payer	- 2.30	1.67
3	DEA oversight	- 2.10	2.33
4	100/30 cap rule	- 1.99	2.00
5	Diversion	-1.83	1.84
6	Refer to other consultant or specialist	- 1.57	2.44
7	Medical records for DEA auditing	- 1.57	2.31
8	Insufficient inventory at pharmacies	- 1.49	2.14
9	Extra vigilant in clinic	- 1.43	1.38
10	Pharmacies do <i>not</i> carry B\buprenorphine	- 1.29	2.31
11	Insurance company's reimbursement	- 0.97	2.49
12	Stigma to my clinic	- 0.79	2.05
13	Buprenorphine prescriber training	- 0.73	1.63
14	Security threat to my clinic	- 0.73	1.08
15	Dispensing buprenorphine daily	- 0.62	2.28
16	Comorbidities of patients	-0.44	2.48
17	Clinical staff are <i>not</i> sufficiently trained	- 0.33	2.74
18	Medicare reimbursement	- 0.24	2.04
19	Frequent visits of patients	- 0.14	2.60
20	Send prescriptions directly to pharmacies via e-prescription	- 0.11	1.17

	or fax		
21	Medicaid reimbursement	- 0.11	2.52

Table 5: Factors Rated by Physicians (N=20) as Facilitators (mean ratings > 0.00) to Becoming a Buprenorphine Prescriber

	Facilitators (items rated > 0)	Mean	SD
1	Treating addicted patients in my practice	+ 2.64	3.32
2	Realizing the high need for addiction providers	+ 2.22	2.53
3	Telemedicine clinic to treat patients	+ 1.47	2.32
4	Treating patients with opioid use disorder is profitable	+ 1.09	2.58
5	Any agency helps in cost	+ 0.98	1.67
6	Patients might experience serious buprenorphine side effects	+ 0.89	1.73
7	Checking <i>Prescription Drug Monitoring Program</i>	+ 0.88	2.26
8	Support from administration	+0.57	3.00
9	DEA-X license renewed every 3 years	+ 0.21	0.83
10	New 275 cap rule	+ 0.02	2.88
11	Effort in applying for an initial DEA-X license	0.00	1.84

Initially, after reviewing all the relevant published literature, our interview guideline started with 28 factors as potential barriers and facilitators. Through our iterative approach we kept adding the factors and after interviewing 5 experts, 20 physicians and checking cognitively with 3 addiction medicine specialists, ultimately our final survey showed 37 factors to be rated on a rating scale which could indicate an issue as being either a barrier or facilitator.

From **Table 5** above, it can be seen that only 11 items were on average rated to be very strong barriers (i.e., means near or $> - 1.00$): (1) Previous restriction for NPs and Providers; (2) Limitation by third party payer; (3) DEA oversight; (4) 100/30 cap rule; (5) Diversion; (6) Refer to other consultant or specialist; (7) Medical records for DEA auditing; (8) Insufficient inventory at pharmacies; (9) Extra vigilant in clinic; (10) Pharmacies do not carry buprenorphine; and (11) Insurances company reimbursement. In contrast from **Table 4**, only 6 factors show mean ratings of near or above $+ 1.00$, indicating they are seen as meaningful level facilitators: (1) Treating addicted patients in my practice; (2) Realizing the high need for addition providers; (3) Telemedicine clinic to treat patients; (4) Treating patients with opioid use disorder is profitable; (5) Any agency helps in cost; and (6) Patients might experience serious buprenorphine side effects.

Chapter 4

Discussion

The current research is *innovative* because it represents a substantive departure from the status quo by identifying the barriers faced by the physicians, which limit opioid dependent patients from seeking buprenorphine treatment. The current research is *significant* because it helped us to create a survey which can be used to identify the extent and importance of the barriers that restrict physicians from prescribing buprenorphine. This contribution is also important because our new survey can potentially be used in any state of the United States to identify these barriers. The survey of providers will be conducted in a follow-up study, and results from the survey will help to design educational and informative programs, which will facilitate and promote buprenorphine prescription.

In New Mexico, the opioid overdose death and ED visits are rising at an alarming rate, which is seriously affecting the residents and the state. Data collected from the current study conducted in New Mexico shows that providers certain barriers exist for physicians in either prescribing buprenorphine or becoming a licensed to be a prescriber.

We were able to identify 21 barriers from the study: (1) previous restriction for nurse practitioners and physician assistants,(2) limitation by third party payer,(3) DEA oversight, (4) 100/30 cap rule (5) diversion, (6) refer to other consultant or specialist, (7) keeping a separate medical records for DEA auditing, (8) insufficient inventory at pharmacies, (9) being extra vigilant in clinic, (10)

pharmacies do not carry buprenorphine, (11) insurance companies (12) Medicaid and (13) Medicare reimbursement issues, (14) stigma to the clinic, (15) buprenorphine prescriber training, (16) security threat to the clinic, (17) dispensing buprenorphine daily to OUD patients, (18) comorbidities of patients, (19) clinical staff are not sufficiently trained, (20) frequent visits of patients and (21) sending prescriptions directly to pharmacies via e- prescription or fax.

Our study also identified 10 facilitators for providers who may desire to prescribe buprenorphine in treating opioid use disorder patients in New Mexico: (1) treating and taking care of opioid use disorder patients in clinical practice, (2) realizing the high need for addiction providers, (3) telemedicine clinic to treat OUD patients, (4) treating patients with opioid use disorder is profitable, (5) funding from any agency, (6) patients do not experience serious buprenorphine side effects, (7) Prescription Drug Monitoring Program, (8) support from administration, (9) DEA-X license renewed every 3 years; and (10) new 275 cap rule.

Also in comparing the results from both our provider groups (physician prescribing buprenorphine from office based settings vs. physicians prescribing buprenorphine from Opioid treatment facilities), we did not find major differences in the answers provided by the physicians except that physicians working in OBS have problems in sending referral to psychologist, social worker, psychiatrist etc. This is not an issue in OTP as all the related specialties work (psychologist, social worker, psychiatrist) together under same roof. However, differences of opinion from those who practice in urban areas compared to those who practice

in rural areas on the DATA 2000 100/ 30 CAP rule were detected. Rural providers are more willing to treat more patients but due to 100/30 cap rule and limited number of appointment slots, they cannot actually see more patients. Some patients died due to long waiting (estimate 18 months long). In contrast, physicians working in urban areas have open slots for appointments and they rarely reach the 100 cap rule limit.

In addition to identifying provider perceptions of the barriers and facilitators in New Mexico during this pilot study, interviews with the providers also gave us some important information and support for recommendations which may help in improving the infrastructure for the NM opioid maintenance treatment program.

Some common thoughts and recommendation given by the 20 providers on the following important topics are as follows:

Buprenorphine Half and Half Training

Many physicians stated that it is much easier to do buprenorphine half and half training at University of New Mexico in Albuquerque, NM compared to the past when physicians had to travel to other states for the training. After completion of the training, UNM Project ECHO helped the physicians to apply for DEA-X license. Few mentioned that training is effective, easy-going but some consider it is not sufficient and needs to be more elaborated.

Also, physician recommend that it is easier to become buprenorphine prescriber if the resident physicians complete the buprenorphine training during their residency.

Recommendations to facilitate prescribing buprenorphine in NM

Physicians who recently started prescribing buprenorphine are hesitant of taking care of complicated patients due to co morbidities. A network should be establishing which direct the complicated patients with co morbidities to experiences physicians and stabilized patient to those physicians who just started prescribing buprenorphine. Another network/ help hot line should be established which can help and answer physician's questions related to buprenorphine treatment 24/7. Hundreds of people die in New Mexico due to overdose deaths while waiting for their appointment. A generalized system should be developed in NM which help opioid use disorder patients to find physicians who have open slots for appointments and are accepting new patients. Similarly, some physicians become buprenorphine prescribers as a requirement from their job, especially if they are working in Metropolitan Detention Center, Federally Health Qualified Clinics or New Mexico Department of Health. Some federally health qualified clinics receives an HRSA grant to treat OUD patients. Non-physicians staff including nurses, physician assistants should be trained too to help in treating and answering physician's questions. Physicians, nurses and physician assistants should educate patients for both buprenorphine and methadone and give them an option to choose any of the medication by themselves. Majority of the physicians mentioned that prior authorization and partial refill is a hassle for physician. Like France, buprenorphine X waiver licenses should not be needed to become prescriber and any physicians should prescribe it from OBS in US. Also, physicians are

hesitant to become buprenorphine prescriber due to DEA auditing. Amendments should be made to make the system friendlier and flexible. Exposure and awareness should be created among physicians to consider addiction as a disease model and not a taboo. In addition, we need a better marketing techniques for buprenorphine promotion in NM. All opioid use disorder (OUD) patients should be treated with respect and dignity. Physicians who are working in Behavioral Health clinics or well-established clinics like University hospital or FHQC have additional support in becoming a prescriber. Working in rural areas where no treatment facilities available for opioid use disorder patients also motivated the physicians to become buprenorphine prescriber. Some physicians get inspired by their colleagues prescribing buprenorphine and become the prescriber. ICD-10 has established codes for OUD which is helpful for the medical record keeping. Physicians treating patients for Hepatitis get motivated to becomes buprenorphine prescribers as many of the Hepatitis B and C patients are also IV drug abusers. Project Echo at UNM is excelling for helping physicians to treat both Hepatitis C and OUD patients. After retirement, some physicians work as a buprenorphine prescriber and generate a sound income. The ability to treat patients with buprenorphine is flexible and easy to follow compared to methadone. Also, buprenorphine is cost effective compared to expenses accounts for complications and manifestations of opioid use disorder. Being highly divertible is a positive aspect for buprenorphine as its motivated the patients to seek help and get legal buprenorphine prescription from physicians. One physician mentioned that buprenorphine is more effective for higher

socioeconomic patients who have OUD due to prescription painkillers and is more beneficial for smokers than non-smokers.

Major and Minor barriers identified during Interviews

There are multiple objectionable restrictions from the government like 100/30 cap rule, DEA –X license or auditing. Patients social circle and past experience are major barrier for their recovery. Narcotic anonymous groups are not as beneficial and It is also hard to titrate buprenorphine in patients who are already taking benzodiazepine, sleep pills, alcohol or other antipsychotics drugs. Some physicians believe that treating opioid used disorder patients is not profitable due to inflation and reimbursement. In fetal-maternal clinics, security threats to the staff are mostly from partners and not from opioid use disorder pregnant patients. In jail buprenorphine are only provided to female inmate pregnant patients. After delivering babies, no further buprenorphine treatment is given. Some physician mentioned that the level of support is adequate to become a buprenorphine prescriber. However, due to work load many physicians are unable to take care of opioid use disorder patients from office based settings. In New Mexico, there are some OUD patients who have no medical insurance and either did not qualify or have never applied for Medicare or Medicaid. Such patients have never received any kind of maintenance treatment. Physicians treating substance abuse patients become isolated from rest of the medical community and some clinicians are hesitant to take OUD patients as a referral. Some insurance companies restricted the treatment for 15 days or a month supply creating a huge barrier for both physician and patient for continuity of care. Incompliant

patients who are missing follow-ups is also a barrier for a continuity clinic. The 30 cap rule is the major barrier in both urban and rural settings. The 100 cap rule is a barrier in the rural area due to insufficient number of physicians in remote areas. The 275 cap rule is effective but it has its own limitations. Probation, pay role and incarceration are the common barriers in treating already established patients on buprenorphine. Referring to other specialties like psychologist, counselor, social worker or any physician specialist is not easy and convenient from office based settings. The DEA approach is not useful and diversion is another barrier for lower socioeconomic status.

Study Limitations

Our study has some limitations. Initially we decided to interview two groups, one who prescribed methadone and one who were buprenorphine prescribers. In the beginning, we interviewed one methadone prescriber and found that the physician had a very limited or zero knowledge on buprenorphine. While recruiting more methadone prescribers, we found out that 90% of methadone prescribers had already a DEA-X waiver to prescribe buprenorphine. We then changed our selection strategy and recruit two buprenorphine prescriber group, one working in office based setting and one working in MAT program.

Because, New Mexico has very few MAT's (less than 20) recruiting buprenorphine prescribers from these facilities was very difficult. We sought help from our experts and also contacted physician with the help of National Directory of Drug and Alcohol Abuse Treatment facilities 2015. Also as there are only hundred and eleven active buprenorphine prescribers in the state, it was also

challenging to recruit them in the study. We only recruited 20 physicians throughout the state, and so generalizability is another issue. For the qualitative study, it was sometimes difficult to filter the interviewee thoughts clearly. On some occasions, the conversation went off the tangent and it was difficult to judge whether it was a personal experience, a true barrier or a difference of opinion. Finally, data was extensive, which made it difficult to analyze.

Conclusion

Because this is a pilot study our results are not conclusive. Our team is committed long term to minimize the barriers that are now making buprenorphine treatment inaccessible to large numbers of opioid use disorder patients in New Mexico and other states. Identification of such barriers in this study has allowed us to design a survey which can potentially be used anywhere nationally to identify the barriers that may vary from state to state. A statewide survey of providers is now called for to get better estimates of provider ratings of barriers and facilitators in trying to become licensed to prescribe buprenorphine in treating their opioid use disorder patients. This statewide survey must include both Buprenorphine providers and providers who do not prescribe Buprenorphine to enable understanding of barriers. A follow-up grant funded study should be then conducted by designing educational and informative programs that will help to reduce barriers and will encourage physicians to become licensed buprenorphine prescribers. Finally, if the number of physicians who are licensed to prescribe buprenorphine is meaningfully increased, then investigators will follow trends in opioid deaths and ED visits to determine if the overall objective of

reducing these barriers and thus reducing opioid related death rates is achieved in the years ahead. In addition, the data acquired for this study could also support a separate follow-up study to assess barriers to buprenorphine prescribing across multiple states.

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Appendix A: Recruitment letter for Physicians



The University of New Mexico
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MSC 09 5040
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Albuquerque, NM 87131-0001
505-453-8710; FAX 272-8045

Name
Address
Address
Address

Dear Dr:

We need your help, please! We would greatly appreciate 30 minutes of your time to interview you about your experiences related to treatment of patients with opioid substance abuse disorder. Physicians identified from the New Mexico list of licensed physicians are being solicited for these interviews, including physicians who have been licensed by the DEA and are actively prescribing Buprenorphine. However, we also need to interview physicians who treat opioid addicted patients without using Buprenorphine.

If you are willing to consider being interviewed, please call Dr. Kanwal Qidwai (cell: 713-449-3536) or email her (kqidwai@salud.unm.edu) to schedule an interview time and place convenient to you, or she can interview you on the phone if that works better for you. As my co-investigator, Dr. Qidwai is a 3rd year resident physician in the Preventive Medicine Program of the Dept. of Internal Medicine at UNM School of Medicine, and next year she will commence a Fellowship in Addiction Medicine.

This is an unfunded preliminary study which will help us to understand the barriers faced by physicians for prescribing Buprenorphine in New Mexico. The data will be used to design follow-up studies to improve treatment of people with opioid use disorder for which we will later seek funding from the National Institutes on Drug Abuse.

Because this study is unfunded, we have no money to offer you as compensation. Immediately after the interview, your name and other identifiers will be separated from our interview notes, and from digital recordings of the interviews. Interview tapes will be destroyed by June 30, 2017.

Of course, you may choose not to be interviewed without any adverse consequences. No one except me and Dr. Qidwai will have access to the identities of physicians whom she interviews, nor of course, to any individual level data obtained from interviews. Aggregate results of this interview study will be used as preliminary data in future grant proposals, presented to various professional audiences, and submitted for publication consideration.

This study has been deemed "exempt" from further IRB oversight, and this letter serves as the approved Informed Consent Form. Completion of the interview will constitute your provision of informed consent for our interview study. If you have questions about this study, please contact me (cell: 505-453-8710; email: twarner@salud.unm.edu). If you want to speak to someone about this study other than someone on the research team, call the Human Research Review Committee at 505-272-1129.

Thanks very much,

Teddy Warner, Ph.D.
Research Professor
Department of Family & Community Medicine
School of Medicine
University of New Mexico
(cell: 505-453-8710; email: twarner@salud.unm.edu)

Kanwal Qidwai, M.D.
Resident Physician PGY-3
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Appendix B: Survey of Providers of People Who are Addicted to Opioids

Survey Objectives. Our survey is trying to identify barriers and facilitators for prescribing buprenorphine for providers who treat patients with opioid use disorder.

By **barrier**, we mean events, actions, rules, processes and regulations that make the process of prescribing Buprenorphine for patients with opioid use disorder more difficult.

By **facilitator**, we mean events, actions, rules and regulations that make the process of prescribing Buprenorphine for patients with opioid use disorder easier.

We need to assess providers who prescribe Buprenorphine and providers who do not.

Identifying such barriers and facilitators may help in the design of programs in the future that may help recruit and support providers to use Buprenorphine in treating their patients.

This survey takes most providers about 10 minutes to complete.

Thanks very much for taking your time to complete our survey!

Survey Instructions. On the next 2 pages is a list of factors that *may or may not be* barriers or facilitators for providers who have already become licensed to prescribe Buprenorphine or providers who are trying or considering becoming licensed to treat the patients with opioid use disorder with Buprenorphine. For each item listed, please use the rating scale provided at the top of each page:

- 5 = strong barrier to **0 = no barrier or facilitator** to **+ 5 = strong facilitator**,

to indicate the degree to which you believe, *based on your overall experience in the addiction field*,

that each listed factor is a **barrier** or a **facilitator** or neither for providers in general

for getting licensed to prescribe Buprenorphine.

Factor	Strong barrier			Neither			Strong facilitator				
	-5	-4	-3	-2	-1	0	+1	+2	+3	+4	+5
1. Providers <u>not</u> realizing that our society has a high need for addiction providers											
2. Providers having to treat patients with opioid use disorder in their practice											
3. The effort in <u>applying</u> for initial DEA-X license											
4. <u>DEA oversight</u> is too burdensome or <u>not</u> acceptable to providers											
5. Treating patients with opioid use disorder would be stigmatizing to a provider's clinic											
6. Time and effort needed to do Buprenorphine prescriber training is too great											
7. Initial 30 cap rule limiting the number of patients that providers can treat during their 1 st year of licensure											
8. 100 cap rule limiting number of patients that providers can treat after initial year of licensure											
9. New 275 cap rule limiting number of patients that providers can treat after getting a waiver											
10. Having to maintain a separate medical record of Buprenorphine prescriptions for DEA auditing											
11. Treating patients with opioid use disorder being a security threat to a provider's clinic											
12. Patients possibly giving or selling their Buprenorphine to people in the community											
13. Patients may experience serious side effects from taking Buprenorphine											
14. Clinical staff being <i>not</i> sufficiently trained or experienced to support prescribing Buprenorphine											
15. Having to treat other comorbidities of patient with opioid use disorder											
16. Insurance companies possibly <i>not</i> reimbursing for treating patients with opioid use disorder											
17. Insurance companies possibly limiting how to treat patients with opioid use disorder (e.g., prior authorization, refills for Buprenorphine films or tablets)											
18. Medicare possibly <i>not</i> reimbursing for treating patients with opioid use disorder											
19. Medicare possibly limiting how to treat patients with opioid use disorder (e.g., prior authorization, refills for Buprenorphine films or tablets)											

Factor	Strong barrier			Neither			Strong facilitator				
	-5	-4	-3	-2	-1	0	+1	+2	+3	+4	+5
20. Medicaid possibly <i>not</i> reimbursing for treating patients with opioid use disorder											
21. Medicare possibly limiting how to treat patients with opioid use disorder (e.g., prior authorization, refills for Buprenorphine)											
22. Any agency other than Federal or State helps with cost for treatment											
23. Clinic administration may <i>not</i> support providers treating patients with opioid use disorder											
24. Having to send Buprenorphine prescriptions directly to pharmacies via e-prescription or fax											
25. Treating patients with opioid use disorder is profitable											
26. Having to dispense Buprenorphine tablets or films daily in the clinic to patients with opioid use disorder											
27. Patients with opioid use disorder needing more frequent visits with providers											
28. Needing to be extra vigilant in the clinic with patients with opioid use disorder patients due to forging behaviors											
29. Having to check the <i>Prescription Drug Monitoring Program</i>											
30. Needing the ability to use telemedicine clinic to treat patients with opioid use disorder											
31. Local pharmacies <i>not</i> carrying Buprenorphine											
32. Pharmacies that do carry Buprenorphine <i>not</i> having sufficient inventory of Buprenorphine											
33. Needing to refer patients with opioid use disorder to consultants or specialists for higher level of care											
34. On site access to counselling & case management											
35. Having to treat patients with widely different socioeconomic status											
36. Having to do urine drug testing											
37. Some other barrier or facilitator (please state):											

Please continue to the last page of this survey.

We need you now to answer just a few questions so that we understand the backgrounds of providers answering this survey.

1. What is your gender: ___ Male ___ Female

2. What is your age: ___ years

3. What is your medical specialty?

4. In what city or town do you *practice*?

5. How many years have you practiced medicine after completing training?
 ___ Years

6. How many years have you treated patients with opioid use disorder?
 ___ Years

7. How many years have you prescribed Buprenorphine?
 ___ Years

8. Please *estimate* how many total patients for whom you have prescribed Buprenorphine:
___ Patients

Thanks again very much for completing our survey!