

1-1-2013

Qualitative Reports Of Michigan Medical Marijuana

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**QUALITATIVE REPORTS OF MICHIGAN MEDICAL MARIJUANA
PATIENTS AND CAREGIVERS INCLUDING
REDUCED OPIATE USE, DISPENSARY OPERATIONS,
LEGAL CONCERNS, AND MARIJUANA STRAINS**

by

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DISSERTATION

Submitted to the Graduate School

of Wayne State University,

Detroit, Michigan

in partial fulfillment of the requirements

for the degree of

DOCTOR OF PHILOSOPHY

2013

MAJOR: SOCIOLOGY (Medical)

Approved by:

Advisor

Date

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DEDICATION

All my work is dedicated to my wonderful children: Christopher, who grew up much too fast for this project; Andrew who was such a good little boy, playing quietly month after month, while I worked in my home office; but, especially to Katherine Joyce who left us after just five days in 2004. Katie had a very short life, but she made a difference, providing the inspiration for my return to school and showing everybody that she touched during her time on this Earth the real reason we are here: To do good works and contribute to the human condition by acquiring and disseminating knowledge, leaving a legacy of hope, and furthering the spirit of progress for our children and their children's children. I will be joining you soon, baby, there are just a few things daddy needs to do first.

The words of the teacher...Meaningless! Meaningless! Utterly meaningless! Everything is meaningless.

What do people gain from all their labors at which they toil under the sun?

Is there anything of which one can say, "Look! This is something new?"

So I applied my mind to study and to explore by wisdom all that is done under the heavens.

What a heavy burden God has laid on mankind!

I have seen all the things that are done under the sun;

all of them are meaningless, a chasing after the wind.

What is crooked cannot be straightened; what is lacking cannot be counted.

Then I applied myself to the understanding of wisdom, and also of madness and of folly,

but I learned that this, too, is a chasing after the wind.

For with much wisdom comes much sorrow; the more knowledge, the more grief....

So I saw that there is nothing better for a person than to be happy

and to do good while they live...and to enjoy their work...

The Book of Ecclesiastes

ACKNOWLEDGEMENTS

I express my eternal and undying love and thanks to my wife, Rochell Holmes Peters, JD, CPA for her love, support, patience, and her tireless financing during this long ordeal.

I also express my profound appreciation and respect to all of the professors who touched my life over these many years, in particular my Master's Thesis mentor and advisor, Nash Boutros, MD, and all my PhD Dissertation Committee members: The Chair, Mary Sengstock, PhD who gave me a chance to succeed and guided me the entire way and who, along with the other member of my "inside committee" Janet Ruth Hankin, PhD, introduced me to Medical Sociology, read my analyses for several years, and still kept me on the narrow path to graduation as a sociologist. They gave unflinching and honest support without fail and were always available, and always gave exceptional, often deeply profound, and even occasionally kind advice. I am in their debt in particular but owe much too every member of my committee and thank Professor Jesse Vivian, J.D., RPh who introduced me to interdisciplinary studies all the way back in 1991 and Professor Heather Dillaway, PhD who put up with my objections in class and patiently convinced me of the scientific value of depth interviews. Thanks for everything! I will not disappoint you.

Finally, I thank all the people who helped with this study and gave so generously of their time and knowledge especially Timber, Kevin, Jamie, Ken, Bob, Matt, and Rich. May all of you continue to grow in love, peace, and good health.

*Sow your seed in the morning, and at evening let your hands not be idle,
for you do not know which will succeed,
whether this or that, or whether both will do equally well.*

The Book of Ecclesiastes

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Chapter 1: BACKGROUND

Introduction:

The use of marijuana has been a particularly contentious issue in the United States for many decades. This is unexpected since, until the 1937 Marijuana Stamp Act (P.A. 238, 75th Congress, 50 Stat. 551, Aug. 2, 1937) marijuana was common and grown throughout the country as a commodity that provided oil, fiber, food, and medicine. Marijuana use in world history is also extensive, predating the written historical record by many thousands of years. This substance, once commonly used by physicians for a variety of medical treatments, has gone from a commodity used across the globe for a number of purposes, including for medicinal purposes as a medicine, to totally banned in almost every country. A resurgence in the use of marijuana in the 1960's was met by the counter-force of U.S. federal law and a variety of international treaties instigated by the United States government which legislated in 1970 that marijuana was a "schedule I drug" with "no legitimate medical use and a high propensity for abuse" (P.A. 91513, 91st Congress, 84 Stat. 1242, Oct. 27, 1970).

Despite marijuana prohibition, recently there has been an increase in claims about potential medical uses for marijuana. By 2013, the perceived efficacy of medical marijuana as a palliative for a number of diseases and conditions and even as an actual treatment prompted 17 States and the District of Columbia to legalize the medical use of marijuana in opposition to federal law while two States, Washington and Colorado, have legalized marijuana for all purposes. These diverse views on marijuana have caused

numerous conflicts on the political scene, as well as confrontations between extremists on both sides.

Although much has been written about marijuana use in contemporary popular media, these have tended to focus, until very recently, on validating the governments unambiguous anti-marijuana position. A calmer, more reasoned and balanced analysis of the different perspectives of individuals who have specific concerns regarding the use of marijuana is needed. The major problem is that until very recently the perspective of marijuana users has not been the focus of the media, academia, medicine, and scientific research. Meanwhile, the courts, law enforcement, and other government agencies have used harsh tactics to subject marijuana users to penalties and thereby marginalize them and made research on the population of users, and on the banned substance itself, extremely difficult. As a result, there has been almost no dispassionate analysis, almost no research, no funded clinical studies, and little research whatsoever since the 1950s on the people who have committed themselves to the use, provision, and supply of marijuana or the people claiming a medical need to use medical marijuana.

The researcher of this study is medical marijuana patient in Michigan his physician approved certification card was issued by the State in 2008, the same year the Michigan Medical Marijuana Act was enacted into law by public referendum. For this dissertation, the initial idea was to explore one central question: is medical marijuana a legitimate medicine or a ruse to legalize marijuana? This question encapsulates the societal dialectic on the issue of marijuana use with a clear split between users and supporters of Marijuana and non-users and detractors.

However, it quickly became apparent, the data being collected from medical marijuana patients was decidedly one sided and was going to strongly affirm the efficacy of marijuana as medicine. Thus the research question developed into a advocacy oriented approach with the search for finding the “ruses” in medical marijuana use changing to the more grounded, exploratory task of presenting the less researched side of the marijuana question; the perspective and views of marijuana users. Thus, there is no representation that this data is unbiased. In fact, this data collected for this dissertation were all collected from patients and providers and is decidedly one-side of this complicated issue that should be read in that context. In presenting the views of medical marijuana patients and caregivers, the aim of this paper became, and is, at least in part, a vehicle for the purpose of claims making and legal reform in favor of the pro-medical marijuana position and against the anti-marijuana position.

The methodology of the data collection employed in this study arose primarily from an assumption that two distinct and polarized groups are represented by pro- and anti-marijuana social forces and that this societal split has been exacerbated by the increasing number of states that have legalized or allow the use of medical marijuana. The historical and social literature research led to this assumption even before the earliest collection of data which is that the pro-marijuana forces have not been given an equal voice in the ongoing social debate about marijuana. Literature research very quickly and unambiguously revealed that little is known about the medical marijuana using population of the United States and less about the medical marijuana population in the state of Michigan. Then, from the very earliest collection of data, it became very obvious that the answer to the initial question: Is medical marijuana a “ruse” to legalize

marijuana or is marijuana actually being used as a medicine by some patients was going to be very clear: Despite the claims of federal law, the popular media, political figures, and law enforcement, marijuana *was and is* being used as medicine, by at least some individuals, at least some of the time. However, since the pro-marijuana forces have not been given an equal voice in the ongoing social debate about marijuana, there has been insufficient research on the topic of medical marijuana use and on the medical marijuana population.

Therefore, the primary purpose of this study was to identify the unique perspectives of the marijuana using population, including the producers. Despite considerable research on the negative effects of marijuana in the journals and presented in the media, there is, by comparison, almost no research on medical marijuana and even less research on the opinions and feelings of the population of marijuana users who feel that it is medically necessary. Therefore, uncovering the perceptions, concerns, thoughts, ideas, and words of an understudied segment of society, the medical marijuana population in Michigan was the main objective of this study.

In addition, the imbalance in the available research between pro and anti-marijuana views within the government, law enforcement, popular culture and media became a primary driving force for this research. The observation that the pro-marijuana forces have not been given an equal voice in the ongoing social debate left a great deal of room for research of this topic. Very little effort has been expended to discover the positive aspects of marijuana or the perspective of medical marijuana users and producers whose unique perspective about legal enforcement, organizational

structures, and the use of marijuana as medicine is relevant to the debate. While there is certainly considerable research on the negative effects of marijuana in the journals, presented in the media, and funded by various federal agencies, there is almost no research on medical marijuana, and even less research on the opinions and feelings of the population of marijuana users who feel that it is medically necessary. This creates an unbalanced split in society between the “pro” and “anti” marijuana groups.

The Cannabis Dialectic:

The dialectical form of argument is an attempt to resolve a highly polarized dispute by reasoned debate of the two sides and the formation of a generally agreed upon, logical conclusion. Hegel (1831, *The Science of Logic*), as later popularized by Kant and Marx, termed one side the “Thesis” and the other, the “Antithesis,” with an ultimate “Synthesis” usually resulting from a reasoned Socratic debate. A Hegelian Dialectic requires an intractable dispute not readily resolved, either because the premises are not predicated on logic, or there is not a single, logical conclusion. This true polarization of perspectives results because each side is convinced of the righteousness of their position this certainly describes the longstanding arguments about medical marijuana. The characteristics and views of patients and caregivers on the legalization and medical marijuana debate are important to a better understanding this “cannabis dialectic.”

The two sides in the social debate about marijuana have predictably had very different responses to the legalization of medical marijuana in California. It was ratified by ballot initiative (Proposition 215, Nov. 5. 1996). It was passed by the electorate with approval from 56% of California voters. *Rolling Stone* magazine argued in response to

the proposition that the war on marijuana exists for “political purposes” and was “completely outside of medical considerations” (Akhavan 1997). On the other hand, *The New Republic* argued that Proposition 215 serves as a front for drug legalization advocates and that medical cannabis clubs are populated by a “sorry lot of smokers who are not sick” (Akhavan 1997).

Because of this dialectical social split, public perception about the actual characteristics of patients is extremely polarized with each side crafting an image of the marijuana population. On one side, pro-medical marijuana activists characterize the issue using broad, largely unsubstantiated claims about the medical efficacy of marijuana and heart breaking stories of desperately sick patients who just want access to their “medicine.” They claim to see a group of desperately ill patients who want to be left alone, so they can die in peace. The other side claims to see a group of malingerers, criminals, and drug addicts, who need to be regulated and controlled. They highlight the demonstrated dangers of marijuana, deny the efficacy of marijuana as medicine, and respond with loud cries of fraud alleging that the entire movement is a covert strategy to legalize all drugs for recreational purposes. Despite the starkly contrasting images each side portrays, there is no academic research describing the Michigan medical marijuana population from the perspective of patients and providers, and almost no research attempting to describe the patient population in other States. The perspective of actual medical marijuana patients in this ongoing and widely commented upon public debate about marijuana has been almost completely overlooked despite the vitally important, albeit biased, views of this selected population.

Meanings Attached to Marijuana Use:

The social group of medical marijuana users and suppliers, and the meanings they assign to the role of being a medical marijuana user have therefore gone through a dramatic transformation in the last few years. The search for meaning in this group has not been completely overlooked and has been a topic in sociology since Becker's "*Becoming a Marijuana User*" in the 1950's (Becker 1953). Becker used a dramaturgical approach derivative of Ervin Goffman's methodology to describe how participants adopt the role of marijuana users. The goal of *this* dissertation was similarly to present an interpretive structure that describes the meaningful social actions and interactions of legal medical marijuana use and reveals the meanings that users attach to the use of different types of medical marijuana. Though it would be fascinating to study the country as a whole and look at the regional differences associated with the meanings of medical marijuana, the focus of this study was limited to Michigan.

Clearly, in the minds of the medical marijuana community, there is a strong belief that marijuana is a valid, safe medication that helps a number of conditions. While, those who believe in continued universal prohibition perceive marijuana as a dangerous drug with significant adverse health consequences and its potential use leads to the abuse of even more dangerous drugs. Thus the ultimate question for "medical marijuana" is whether marijuana is actually being used as a medicine or being abused as an intoxicant. The validity, safety and efficacy of marijuana as medicine is the pivotal issues for medical marijuana. If marijuana is a safe and legal drug that treats a number of medical conditions then the arguments of the anti-marijuana groups becomes substantially compromised. On the other hand, if marijuana is a dangerous drug with

significant side effects that do not actually treat or ameliorate the symptoms of several medical conditions then the arguments of the pro-marijuana groups becomes substantially compromised.

The topics of the data collection were greatly influenced by the narrow time frame and the unique social and legal climate in which they took place. Data collection was done during the time when the medical marijuana dispensary distribution network in Michigan was active and concluded one month before the Michigan Supreme court decision in *People vs. McQueen* outlawed dispensaries in Michigan. Therefore, much of this study sheds light on a period of time prior to the current interpretation of the law. This data is still valuable insofar as it provides a social and legislative model for legal marijuana distribution in Michigan after *McQueen*.

The marginalization of marijuana users is a relatively modern development. In many social/political circles, marijuana is considered criminal and distasteful for any reason medical or otherwise. However, the use of marijuana is as pervasive and as persistently stubborn as the discrimination against marijuana users. The war on drugs continues even as many of the leaders of our society defend their experiences with marijuana. While there is a clear trend towards marijuana use being less and less of a scandal for political figures, it still creates a media frenzy when people who must have transparent social backgrounds and ideologies are discovered to have used marijuana purely for recreational purposes:

-Current President Barrack Obama Who stated at a debate in 2007: "Of course I inhaled, that was the point" (Venkataraman, 2007);

-Former President Bill Clinton who admitted in 1991: "I did smoke marijuana, but I never inhaled" (Kurtzman, 2000);

-Former Vice-President Al Gore who stated in 1987: "When I was young, I did things young people do. When I grew up I put away childish things" (Gore, 1990);

-Former Speaker of the House and former Republican candidate for President Newt Gingrich who stated in a column: "[smoking marijuana]." was a sign we were alive and in graduate school in that era" (Gingrich, 2010). He was joined by countless doctors, lawyers, professors, and engineers, among others.

The history of Marijuana as a plant with Medicinal properties reaches back through thousands of years of history, moves up through the very foundations of our nation, and has played a surprisingly important part in U.S. history. The current state of marijuana use as a federal crime, when there is evidence it has a possible legitimate medical usage, is an interesting and unique social phenomenon. The modern social stigma on users, including those who use it for relief of suffering, has developed over time. Its development in history itself frames the current dichotomy in opinion about this controversial plant. One side of this social debate has dominated popular culture, media, and government efforts for many years. This paper is one answer to these many years of efforts to demonize marijuana users and is committed to presenting the perceptions and views of users and suppliers of medical marijuana in Michigan.

Chapter 2: LITERATURE REVIEW

Introduction:

The history of hemp began thousands of years ago, long before the start of recorded history. Before it was a target in the War on Drugs, hemp was an important cash crop, with many uses and many products were derived from the plant. The cultivation and use of marijuana in both World and American history is startling when the contemporary stigma of marijuana is dissected. Today's legal issues, in particular the entire history of the War on Drugs and the more recent issue of medical marijuana, when viewed in historical context, provide some unexpected insight. One of the keys to better understanding the population of medical marijuana users, including obtaining a preliminary understanding of the demographics, the social and economic correlates and the meanings that patients attach to the use of marijuana, requires an exploration the meanings attached to marijuana and hemp use, both by the users and by those who stigmatize the users.

There is little modern research on the medical marijuana population and that which exists has employed qualitative interview designs (Chapkis 2008). There has only been one study (published in a non-peer reviewed journal) detailing the demographics of the marijuana population in California (O'Connell 2007) and no such study has been published on the Michigan medicinal marijuana population. This lack of research is a consequence of a long and complicated history of hemp and cannabis in the United States. Therefore, to understand the status of research and how the current legal climate affects the type of data that can be collected in support or refutation of "medical" marijuana. It is important to review the status of this substance in our history.

The History of Hemp:

Marijuana has been used in many ways for thousands of years and may even have been the first plant cultivated by hunter-gatherer groups (Herer 2000, Sagan 1986). “Primitive” hunter-gatherer bands did not wander aimlessly through the wilderness, but often completed a yearly circuit of their ranged habitat, returning to various areas during the times wild crops were ready for harvesting. Primitive humans, therefore, picked berries in one area. Then, when the supplies were depleted, they would pick wild rice in another, and it is likely they did the same thing when the marijuana plants were in bloom (Diamond 1998). Hunter-gatherer groups eventually settled in areas such as the Nile River Valley and the Fertile Crescent region of modern day Iraq located in the valley between the Tigris and Euphrates rivers. Each of these river valleys which are often called the ‘cradles of civilization’ overlap with the natural range of cannabis. This fact, considered in light of the ease of marijuana cultivation, the multiple uses of the plant, and the substantial increase in yields that can be achieved with minimal cultivation intervention, gives considerable weight to the notion that marijuana may have even been the first crop ever cultivated.

Marijuana is a dioecious plant which means it has clear and obvious male and female genders that are quite unlike any other cultivated or wild-type crops. In particular, the mature (female) flowers of the marijuana plant are eagerly consumed by practically every mammal and even some birds (Begg 2005). There is no doubt the attraction of these flowers would have made the plants useful for lure as “baiting” which is still practiced today.

The strongest evidence that marijuana was actively cultivated in this way by early humans is indirect but persuasive. As with any plant, active cultivation, regular weeding, fertilizing, protection against predation and so on will dramatically increase yields, but marijuana is unique in this regard. Only a small amount of attention and cultivation work results in an increase in crop yield, especially yield that is not lost to predation that is remarkable (Rosenthol 2010). In addition to this fact, anthropological evidence suggest that hemp was the first plant to be domesticated for human use, and these claims certainly abound at a number of activist web sites. This contention is supported by one of the earliest pieces of agricultural evidence ever discovered. A hemp cord imprint on a shard of pottery was discovered in Central Asia dating back to 25,000 B.C. (Herer 2000). This suggests the cultivation and use of hemp in central Asia has been pursued for at least 27,000 years.

The earliest evidence for the use of marijuana as a medicine was found in ancient Egyptian excavations dating from as early as 1600 B.C. One recovered document claimed that marijuana was used for pain relief, Asthma, and Gout. Ancient Hebrew excavations confirm this text and provide other texts, recommending the use of marijuana in childbirth around this same time (Herer 2000).

The idea for using marijuana in a recreational manner does not appear in the historical record until the Greek historian Herodotus described the Scythians communal use in 440 B.C. Herodotus noted that the nomadic culture sat around the fire, “creeping under the felt booths.” They threw collected cannabis tops into a dish placed atop red hot stones: “Immediately it smokes, and gives out such a vapor as no Grecian vapor

bath can exceed.” This activity “delighted” the Scythians causing them to “shout for joy” (Id).

By 1492, each of Columbus’ three ships carried some 80,000 pounds of hemp, primarily in the sailings, ropes and riggings (Booth 2005). In the United States, hemp was an important cash crop for the Colonies. The first law on agriculture ever promulgated in the New World was in America’s Jamestown Colony, Virginia in 1619 ordering all farmers to grow Indian hempseed. There were several other “must grow” laws over the next 200 years (farmers could be jailed for not growing hemp during times of shortage in Virginia between 1763 and 1767), and during most of that time, hemp was legal tender. Citizens could even pay their taxes with bales of hemp (Id).

Throughout history, Hemp has been a constant part of the growing and expanding global society and was used for clothing, rope, medicinal purposes and paper. The Magna Carta and the U.S. Constitution were written on hemp paper, although this has been recently disputed. In 2006, the tour guides who present the Declaration of Independence and the U.S. Constitution at the National Archives claimed the original documents were written on hemp paper. However, the National Archives web site now claims that hemp paper was *not* used and that copies of the documents were transcribed onto parchment rather than hemp paper (National Archives 2013). This recent change of the historical record by the National Archives in Washington D.C. scrubbing cannabis from U.S. history is interesting in light of the marginalization of marijuana that affects medical marijuana users and which is particularly interesting in light of the fact that historically marijuana was not merely considered useful but essential. This idea, strange to contemporary perception of marijuana, is exemplified by

two of the men that our society holds up as examples of what a citizen of the United States should emulate.

Thomas Jefferson, the drafter of the Declaration of Independence and 3rd President of the United States was a strong advocate of hemp growing. In one speech Jefferson said, "Hemp is of first necessity to the wealth & protection of the country." In his *Garden Book* Jefferson writes, "An acre of the best ground for hemp, is to be selected and sewn for a permanent hemp patch" (Jefferson 1849). According to presidential historians another quote has been misattributed to Jefferson, "Some of my finest hours have been spent on my back veranda, smoking hemp and observing as far as my eye can see" (Monticello 2011). The authoritative cite for these Jefferson quotes was provided in an earlier draft of this paper at: www.wiki.monticello.org/mediawiki/index.php with a copy of the full speech given by Jefferson and a complete scanned copy of his "Garden Book." However,, the information was apparently altered after 2011 by the webmasters at Monticello. The above link is now broken, and all references to "hemp" use have been removed from the site except a link that redirects the above link (which was last available in 2011) containing a paragraph denying that Jefferson ever said anything about smoking hemp.

Despite the (apparent) rewriting of the historical record, there is even better evidence that President George Washington, the first President, grew (and smoked) marijuana for its psychoactive properties. A scanned copy of Washington's handwritten diary from the library of Congress states: (the slaves working his farm) "began to separate the male from the female hemp plants rather too late" (Washington 1765). This strongly suggests Washington was growing hemp to use in smoking preparations

since keeping the female hemp plants from being seeded is only important if the intention is to smoke the female flowers. A grower would want seeds if he were extracting various food products or oils and the grower would not care whether there were seeds if the intent was to grind the seeds and stalks into rope or textiles (Rosenthal 2010). The use of marijuana was not remotely marginalized during the youth of the United States but was considered useful and productive.

Similarly, the medical use of hemp products was commonplace in Colonial and early America. Over 100 articles recommending hemp for medicinal purposes were published between 1840 and 1900 alone (Herer 2000). Hemp was an important part of the pharmacopoeia from 1870 up until 1937, when the Marijuana Tax Act effectively banned the plant from public consumption regardless of its intended use (Chapkis 2008). Hemp extracts were used by physicians as a painkiller during childbirth, as a palliative for gonorrhea symptoms and to effectively treat asthma and anxiety patients. The medical uses of hemp were very well-documented in standard pharmacological texts. The question then remains why there is such a social stigma and strong legal prohibition on users of marijuana in the United States today. How did this plant go from being used as legal tender and a common medical treatment to a criminal and tightly regulated product?

Racist Origins of the “War On Drugs?”

After the early 1900's, the story of marijuana in World History took a turn, making it even more accessible to analysis using the sociological lens and, in particular, the conflict paradigm. As in contemporary America, the South-Western states developed increasing problems with the huge influx of “undocumented” Mexicans following the

Mexican revolution of 1910. With the Depression, which hit the United States about 20 years later, the problems became more severe as jobs and welfare resources became scarce. The people began to elect representatives who promised to solve the problem and marijuana use among Mexican immigrants was a useful foil.

As early as 1905, newspapers began a campaign to negatively portray marijuana as a drug used by the lower classes. One column claimed marijuana was linked to “super-human, soul-bursting feats of valor by Latin American revolutionaries” (Gieringer: 28, 1999 quoting: “Terrors of Marihuana,” in the Washington Post, Mar 21, 1905 p. 6). The desire to clear the country of illegal Mexican immigrants became more important than the desire to continue using a plant that was claimed to be commonly used by those immigrants. California passed the first State marijuana law, outlawing “preparations of hemp, or loco weed.” Other states quickly followed with marijuana prohibition laws in Wyoming (1915), Texas (1919), Iowa (1923), Nevada (1923), Oregon (1923), Washington (1923), Arkansas (1923), and Nebraska (1927) (Herer, 2000).

Commentaries about the dangers of marijuana became increasingly common in years leading up the 1937 Marijuana Stamp Act as the anti-marijuana claims makers built their case. Many popular newspaper articles at the time described the violence caused by marijuana. One columnist wrote:

Hasheesh will turn the mildest man in the world into a blood-thirsty murderer. The man who takes hasheesh ‘runs amuck’ with his bloody knife in one hand and his strangling cloth in the other, and he kills, kills, kills, until the hasheesh has burnt out its deadly flame (Gieringer 29, 1999).

In the Eastern States, the “issue” of marijuana use was attributed to “negro” jazz musicians from New Orleans, to Detroit, Chicago and Harlem. One 1935 newspaper

editorialized: “Marihuana influences Negroes to look at white people in the eye, step on white men’s shadows and look at a white woman twice” (Abel, 1980).

This sentiment of degradation and marginalization toward the Mexican classes was often promoted in the media at the time.

Marihuana is a weed used only by people of the lower class and sometimes by soldiers, but those who make larger use of it are prisoners sentenced in long terms...[we are seeing]...the increasing use of marihuano [sic] or loco weed as an intoxicant among a large class of Mexican laborers, (Gieringer: 20, 1999).

And while there is no doubt that Mexican immigration increased greatly after the 1910 Mexican revolution, it was not until the late 1920s and 1930s with the Great Depression that this became classified as a ‘social problem.’ Significant anti-Mexican sentiment quickly developed as competition for scarce jobs became fierce.

However, other research has refuted the ‘racism’ meme. The argument that marijuana was used as foil against Mexicans is undercut by the fact that none of the major anti-Mexican groups concerned with Mexican labor and crime problems mentioned their use of marihuana at the time (Meier and Ribera 1993).

The Campaign Against Marijuana:

The claims of anti-marijuana crusaders at the time, like the contemporary claims that marijuana is “medical” were not substantiated by any scientific research or medical testing. This allowed the propagation of patently ridiculous claims such as: “People who smoke marihuana finally lose their mind and never recover it, but their brains dry up and they die, most of the time suddenly” (Gieringer, 1999). The papers of the time also claimed that the marijuana was more potent than morphine and that “the habitual

user of marihuana [sic] finally loses his mind and becomes a raving maniac” (Gierenger 1999).

The campaign against marijuana was accelerated by the campaign of Harry Anslinger, head of the federal Bureau of Narcotics from the 1930's to the 1960's. Anslinger claimed that police officials in cities of those states where it [marihuana] is most widely used estimate that “fifty per cent of the violent crimes committed in districts occupied by Mexicans, Spaniards, Latin-Americans, Greeks or Negroes may be traced to this evil” (Chapkis 2008). While this may well have been the case, there was no research supporting the claims. Separating the forces that marginalize groups such as poverty, unemployment, and maladaptive social influences from the propensity to turn towards mind-altering substances can be very difficult. Rather than asking whether illegal marijuana use was co-incident with other crimes and if those tending to be violent criminals might also be more prone to violate the law and use marijuana, Anslinger and the media claimed that marijuana was the “cause” of violent crime: “[H]abitual users of the drug are said eventually to develop a delirious rage after its administration during which they are temporarily, at least, irresponsible and prone to commit violent crimes (Id).

Anslinger's 1961 Book: *The Murderers: The Story of the Narcotics Gangs* describes the alleged physical effects of marijuana creating misconceptions about the effects of the drug that are pervasive even today and which include “vivid kaleidoscopic visions... and an increased feeling of physical strength and power.” (Anslinger 1961)

Hollywood also entered the battle at this time with iconic films like “Reefer Madness,” in 1936, which was originally a serious attempt at propaganda against

marijuana (Slooman 1998). This film was used as a scare tactic and includes scenes where the use of marijuana causes a hit-and-run accident, murder, suicide and insanity. The climax of the movie features a young woman “high on marijuana” inexplicably leaping to her death through the window of a high rise while her boyfriend, a wild eyed, twitching man in a courtroom is sentenced to an asylum for the “criminally insane for the rest of [his] natural life.” The movie ends with the camera zooming in on the announcer who sternly warns while pointing his finger at the audience:

If their stark reality will make you think, will make you aware that *something must be done* to wipe out this ghastly menace, then the picture will not have failed in its purpose....Because the dread Marihuana may be reaching forth next for your son or daughter....or yours....or YOURS!

With these powerful images, it is not surprising that the drug was soon considered the “Assassin of Youth” (another 1930’s era anti-marijuana film), and that it had to be stopped. The anti-marijuana campaign and the claims making by government, law enforcement, and other interests worked. The 1937 Marijuana Tax Act passed Congress and instituted an elaborate set of rules that effectively made hemp cultivation illegal in the United States (Marihuana Tax Act, Public Law 238, 75th Congress, 50 Stat. 551 (Enacted: Aug. 2, 1937)).

Meanwhile, the medical use of marijuana was suddenly claimed to be non-existent. Anslinger himself stated: “The medical profession after many such experiments was forced to drop the narcotic as a possible analgesic because of this unpredictable quality” (Id: 27-28). This claim contradicted the physicians who testified before federal committees in defense of medical marijuana and the position of The American Medical Association (AMA) which came down strongly *against* the removal of marijuana from the physician’s tool chest in the 1930’s (Chapkis 2008). However, the

medical uses of cannabis could not withstand the concerted onslaught of negative associations with marijuana and political motivations overshadowed medical concerns.

The sudden and severe public reaction to this "new" drug in the 1930's was intense considering that no one in America had even heard the word "marijuana" until the late 1920s. The very word "marihuana (later spelled "marijuana") was invented in the early 1930s to "confuse Americans who had positive associations with hemp, a major cash crop, and cannabis, a well-known medicine and mild intoxicant" (Chapkis 2008). The federal strategy was to assign various social problems to the "new" drug "marijuana" which permitted legislation banning an otherwise commonly known and accepted substance (Herer, 2000).

Nixon and the Modern War on Drugs:

In the 1969 case of *Leary vs. United States*, a critical part of the 1937 Act was ruled unconstitutional. The government quickly responded with the Controlled Substances Act of 1970 which declared marijuana a schedule 1 drug with "no legitimate medical purpose" (21 USC 81 et seq) and instituted severe penalties for the use and possession of marijuana.

Despite the federal position, the 1960's saw a time of greatly increased use of marijuana, primarily by those in the anti-war movement as a counterculture response. With this increasing influence of the "Hippy Culture" and the "Peacenicks" use of marijuana, President Nixon ordered the Shaffer Commission on Marijuana and Drug Policy to issue a report. The Commission studied the issue and concluded:

Marijuana users are essentially indistinguishable from their non-marijuana using peers by any fundamental criterion other than their marijuana use....Neither the marijuana user nor the drug itself can be said to constitute a danger to public safety (Nixon1972).

President Nixon ignored his commission and instead began America's longest and most costly war, the War on Drugs.

In contrast to the caricatures about violent marijuana users, the War on Drugs has led to real violence involving marijuana. Unlike the faux stories in the papers during the 1930s, today people really are dying on an almost daily basis over a drug that has few side effects, has never caused a substance related death, and may even have medicinal properties. The War began as most wars do with relatively minor skirmishes in the earliest part of the 20th century with State actions in response to Mexican migration. The War grew and today it does not respect territory or nationality. In August of 2010, Mexican National Security Director Guillermo Valdes Castellanos claimed that 28,000 people have been killed since 2006 when President Felipe Calderon began cracking down on the drug cartels (Brice 2010). Daily shootouts at the Mexican border, mass graves (Reuters 2011), and the increasing violence of the drug gangs are adding to nativist fears which are hardly unfounded. The killings regularly spread across the border.

The cost in lives taken by law enforcement and rival gangs delivering a product that is both illegal and popular is not the only cost of the war on drugs. A 2010 study by Harvard economist Jeffrey Miron estimated that legalizing marijuana would inject nearly \$7 billion a year into the U.S. economy through tax revenues and decreased incarceration costs (Miron, 2010). However, an argument could be made that as an economist, rather than a sociologist, Miron underestimates the savings and the ultimate societal costs of prohibition. In 2008 alone, there were over 800,000 arrests for marijuana. With costs of \$27,000.00 per year per inmate the total cost potentially related

to those arrests amounts to more than \$22 billion (Bureau of Justice Statistics, 2010). It is easy to see how the massive amount of money spent on hunting down marijuana and incarcerating marijuana users influences the perception that marijuana, and its users, are criminal and a menace to society.

The unintended consequences of the anti-marijuana law and policies also include more than mere financial costs. As a trial lawyer for several years, this researcher has witnessed some of the adverse consequences of marijuana prohibition, particularly among minority populations. In my observations, even before beginning this research, it is beyond doubt the persecution of those who use marijuana diminishes that population's confidence in the police and governmental institutions and causes increased racial, ethnic, and socioeconomic polarization with the widely held perception that disadvantaged groups are disproportionately targeted. By allocating societal resources towards military, police and prison operations and away from medical, mental health, and private/public charitable endeavors, this problem has become greatly compounded with an ever increasing prison population (Peters 2010). These problems reflect the current societal and legal stigmas on the use of marijuana and any medical use of marijuana is tainted by the war on drugs. The perception created by the media and the government may be relatively new and contrary to the earliest history of the United States, but it is now pervasive and causes considerable legal and emotional problems for medical marijuana users.

The anti-marijuana view has been promoted by the fact that scientific research on marijuana is strictly limited by the government. The research acquisition process is so cumbersome that few scientists have been able to successfully navigate it. The

Marijuana Stamp Act of 1937 outlawed the growing of hemp unless the grower possessed a stamp, but then the government never issued the stamp. Similarly today, the government today claims that scientists are free to conduct research on marijuana while at the same time denying legal research marijuana.

The appropriately dated written statement of Robert Meyer, Director of FDA Office of Drug Evaluation before the House Subcommittee on Criminal Justice and Drug Policy on April 1, 2004 is illustrative of the government position on marijuana research:

Researchers who wish to conduct clinical studies of marijuana must first contact NIDA to make an inquiry to NIDA to determine the availability and costs of marijuana. If NIDA determines that marijuana is available to support the study...If the researcher is proposing a study in humans, after obtaining the right of reference to the DMF, the researcher must proceed through the FDA process for filing an IND application under 21 CFR part 312...In addition, all researchers must obtain from DEA registration to conduct research using a Schedule I controlled substance (Meyer 2004).

In order to better understand the gravity of complying with this overlapping web of regulations and hurdles, a very brief overview of the process put in place by the DEA just to obtain the licensing that is required is germane. Issuance of a controlled substances license, the last requirement listed in the above quote, enables a researcher to submit an application to obtain marijuana from the National Institute of Drug Abuse (NIDA). However, just the *Table of Contents* from this section in the Code of Federal Regulations on what is needed to “obtain from DEA registration to conduct research using a Schedule I controlled substance” comprises 35 statutory sections and runs for more than six pages of single spaced type. Nor are bureaucratic hurdles the only obstacle. The main barrier to marijuana research is the NIDA policy which openly admits they will only grant a controlled substances license and the legal marijuana on which to conduct research, to individuals who are studying the *harmful* effects of

marijuana. Studies using research marijuana on the potential *beneficial* effects are stymied in the United States

The War Against Marijuana Research:

There are several instructive case studies that illustrate the anti-marijuana bias in research approval and funding. In 1994, Dr. Abrams of the University of California received the first marijuana from NIDA for medical research in more than 10 years. However, to get funding for his study which had been approved by the FDA more than 2 years before, he was forced to reframe the research questions. The FDA approved study called for an investigation into the safety and efficacy of marijuana for AIDS related wasting syndrome. However, NIDA is only interested in studying the harmful aspects of drugs (NIDA 2011). In order to get the marijuana from NIDA, Abrams had to reframe his research questions to investigate whether marijuana interfered with the protease inhibitors used to treat HIV (Chapkis: 2006 at page 66 citing Abrams, 2004). Despite the manipulation of his research, Abrams was able to “sneak a peek” and show a significant weight and BMI gain for AIDS patients using medical cannabis (and no effect on protease inhibitors). At the same time, drug Czar Barry McCaffrey publically stated that “Drug policy must be based on science, not ideology” (Chapkis).

In another example of federal drama that began in 2001 and recently ended in total victory for the government, Dr. Craker of the University of Massachusetts applied for a license to produce alternative cannabis for medical research (Chapkis 2006). This is a critically important issue in medical cannabis research because all research in the U.S. is limited to the few strains grown at the University of Mississippi by NIDA (NIDA,

2011). Craker hoped to establish a second production facility where actual medical grade cannabis could be cultivated for scientific research.

The DEA first claimed to have lost his petition. One year later as the professor was assembling all the documents to resubmit the proposal (they would not accept a photocopy of the documents they had lost and demanded originals) he received a copy of his original application sans any cover letter but time stamped with the original application date a year before. He resubmitted the application and more than 20 months later received a response requiring “credible evidence” that researchers were insufficiently served by NIDA marijuana. In other words, the federal government was now demanding proof of a negative which is almost like demanding proof of non-divinity. How could Craker possibly prove the researchers were not served by NIDA marijuana when the absence of available marijuana limited the number of researchers in the field? Nevertheless, the evidence was submitted and once again DEA held his application for more than a year. Finally, three full years after the initial application, Dr. Craker sued the agency in federal court alleging in 2004:

They always say we need more research, but at the same time, they block it. The government is placing ideology above the health and safety of patients” (Abrams 2004).

On December 6, 2009 in the waning days of the Bush administration, a DEA administrative law judge issued a ruling GRANTING Craker’s application. However, this decision was overruled by the DEA Administrator in an Order which became final on January 14, 2009, just six days before President Obama was inaugurated. A Motion For Reconsideration was timely filed and (leaving no opportunity to extend the time for this

litigation) the DEA granted permission to file a Brief In Support of Reconsideration by March 11, 2011 (Craker 2010). At this point, the 70 year old Craker finally gave up.

For the reader not schooled in the Federal Rules of Evidence, it is important to understand precisely what the DEA and NIDA did in this case. First, the agencies delayed responding to a request for more than 3 years. Then when the applicant filed a case in federal court alleging undue delay, the agency claimed a “final disposition” had not been granted at the administrative level (Federal Rules of Appellate Procedure, Number 15). This means the applicant’s court case must be dismissed because only a final order and action of an administrative agency can be appealed to the federal district court. Then, once the federal case is safely dismissed they delay again, and again, extending the litigation for more than 11 years (Craker 2011). On March 3, 2011 Dr. Craker announced he was finally giving up his quest to grow medical grade cannabis for research (Miga 2011).

This calculated lack of ability to study medical grade marijuana has hampered both the understanding of the substance and its acceptance. The legal permutations that Dr. Craker endured are ubiquitous when dealing with medical marijuana and attempting to conduct research on medical marijuana. The lack of research on medical marijuana has caused many people searching for relief to turn to a synthetic, and legal form of THC, Marinol.

Synthetic THC (tetrahydrocannabinol), Marinol:

Not only did NIDA seal off access to marijuana for clinical trials in the 1970’s, in 1986, the government diverted 90% of the funding for marijuana research to the development of synthetic THC (Chapkis 2006). Marinol is a synthetic THC drug

approved by the FDA for use as a palliative for nausea and vomiting associated with cancer chemotherapy. The synthetic THC in Marinol is purified and does not contain any other cannabinoids. In contrast, cannabis contains dozens of separate chemicals, many of them psychoactive. Users claim this combination of chemicals creates a different reaction in patients than synthetic, purified THC.

This observation launches the authors of *Dying to Get High* into a detailed description and a general demurer to the federal agency preference for “purified” compounds delivered by a pill to “botanical” compounds delivered by a plant. “[Drug] warriors are left with little more than an appeal to the superiority of the man-made over the natural and of the pharmaceutical over the botanical” (Chapkis, 2006). The authors observe there is an almost “preternatural” belief in the superiority of purified pharmaceuticals over naturally occurring botanicals which:

...is not a scientific fact, but rather part of an ideological apparatus used to create an imaginary line separating safe and effective pharmaceuticals from crude and dangerous botanicals (Chapkis, 2006 at page 71).

The federal government has spent billions of dollars to purify THC by funding the drug Marinol. In favoring a patented pill over a naturally occurring botanical, the government ignores the physical and psychological buffering characteristics of various cannabinoids, rejects the synergistic effects of isomerically and stereo chemically related naturally occurring compounds, dismisses potential benefits of ingesting other compounds and chemicals resulting in better regulation of bioavailability. All of this is done in order to favor a synthetic compound and a valuable patent with only a few years of research over a natural compound to which humans have had thousands of years of experience.

Purified, concentrated, synthetic THC does not occur in nature and the majority of patients who have experience with both Marinol and medical marijuana favor the naturally occurring compound as easier to regulate and for producing far fewer side effects (Armentano, 2005). For example, Grinspoon (2001) stated:

I have yet to examine a patient who has used both smoked marijuana and Marinol who finds the latter more useful; the most common reason for using Marinol is the illegality of marijuana. If patients were legally allowed to use marijuana relatively few would choose Marinol.

The odd result of Marinol containing concentrated, synthetic THC being approved by the FDA as a “safe and effective” Schedule III drug while diluted natural, organically grown cannabis is unsafe and has no known medicinal use as a Schedule I drug is an interesting comment on how our society views “drugs” versus “pharmaceuticals.” Corporate interests and large drug manufacturers with profitable patents are greatly preferred over smaller operations even when the corporate product is more dangerous.

When Marinol was finally synthesized, the side effects of the concentrated product that contained only THC, and none of the other modulating chemicals in natural cannabis, were found to be dramatic. The package insert of Marinol states that the drug “may be habit forming...may cause side effects such as:

“feeling high” (i.e. easy laughing, elation, and heightened awareness), abdominal pain, dizziness, confusion, depression, nightmares, speech difficulties, chills, sweating, psychological and physiological dependence.” In case of accidental overdose, a potentially serious oral ingestion, if recent, should be managed with gut decontamination. In unconscious patients with a secure airway, instill activated charcoal via a nasogastric tube. A saline cathartic or sorbitol may be added to the first dose of activated charcoal. Patients experiencing depressive, hallucinatory or psychotic reactions should be placed in a quiet area and offered reassurance (Marinol 2011).

While more dangerous and less tolerated, Marinol is not even as effective as medical marijuana: “In practice it has been found that extracts of cannabis provide greater relief

of pain than the equivalent amount of cannabinoid given as a single chemical entity [such as Marinol]” (Whittle 2001).

Since almost all marijuana research in humans has used this form of synthetic THC delivered orally, in pill form, there are very few reported studies on the use of smoked marijuana. For example there is only one reported study using smoked marijuana in Multiple Sclerosis (M.S.) which is a condition which considerable anecdotal reports suggest may be improved by the use of marijuana. In fact, 97% of M.S. patients reported that smoked marijuana improved their condition (Consrue 1997). Despite the growing evidence, no blinded, randomized clinical study using smoked marijuana has ever been approved in the United States for problems associated with M.S. Grant, Atkinson, & Gouaux (2012) provide a recent review on the accumulating anecdotal reports on the potential medical benefits of marijuana. However, the lack of proof for the medical benefits of marijuana remains a hurdle for those who feel they could benefit from using cannabis for treatment.

Due to NIDA's Policies The Medical Claims about Marijuana Remain Unproven:

As new medical uses for marijuana have been discovered, people suffering from illnesses have illegally medicated themselves. By the early 1970's, treatment of glaucoma, chemotherapy induced nausea, spastic disorders, AIDS wasting syndrome and other less severe illnesses were being illegally treated by the therapeutic use of marijuana (Chapkis 2008). There have also been claims that marijuana relieves pain, nausea, swelling, inflammation, and seizures, decreases ocular pressure in glaucoma (c.f. MCLA 333.26421 et seq), helps regulate blood sugar (Izzo 2009) and can even treat cancer by shrinking metastatic brain and breast cancer tumors (Angelo 2009).

Authorities responded partially to growing demand for medical marijuana in 1969 by supplying a few selected patients and researchers with government-grown marijuana originally slated for use in scientific experimentation. The University of Mississippi in Oxford raised thousands of cannabis plants behind a twelve foot tall barbed wire fence for the National Institute of Drug Abuse (NIDA).

Evaluating medical marijuana research is almost impossible because only this particular marijuana grown by NIDA at this facility can be used for research involving the actual use of marijuana in the United States. NIDA openly admits that their task is to study only the harmful effects of drugs, and they will not provide funding- or research marijuana- for any study that does not support this proposition (Craker 2005, testimony of NIDA Administrator day 2).

While maintaining these strict barriers to research, the regulatory agencies claim that marijuana research is not actually being blocked. On February 16, 2011, Drug Czar Gil Kerlikowske was interviewed by *The Daily Caller's* Mike Riggs. Kerlikowske claimed "there are over 100 groups doing marijuana research." In fact, according to clinicaltrials.gov as of February, 2011 there are presently only six FDA-approved trials taking place anywhere in the world involving subjects' use of actual cannabis. Of these, two are completed, one is assessing the plant's pharmacokinetics, and one is assessing pot's alleged harms (Armentano 2011). Limitations on marijuana research means that little current usable data on the effectiveness of medical marijuana can ever be collected in the United States.

Immunosuppression:

Research on medical marijuana is important for several reasons including safety. There have been claims of reduced immune function with heavy marijuana use which, if true, are important to explore before recommending marijuana to patients who are already ill and immune compromised. The “fact” that “marijuana weakens the immune system” has become a much touted quote by the anti-marijuana groups and the government. For example, theologian and Pastor James Dobson (head of the conservative Christian organization “Focus on the Family”) in a Washington Times op-ed piece stated his medical opinion categorically that “marijuana weakens the immune system” (Adams 2006). While there is certainly evidence for this interesting line of study, selectively suppressing immune function is also an important medical protocol for many types of disease (Earlywine 2002) because an overactive immune system may cause diseases as harmful as a weakened immune system.

This creates a striking nexus between medical marijuana and the claims of immune suppression insofar as auto-immune diseases and many long term debilitating diseases appear to align with the diseases and conditions that advocates claim is treated by medical marijuana. Autoimmune diseases that advocates claim are treated by marijuana include: Type 1 diabetes (in which the immune system attacks and destroys the insulin producing Islets of Langerhorn cells in the pancreas); Rheumatoid Arthritis (in which the immune system attacks the connective tissue in the joints); Multiple Sclerosis (in which the immune system attacks the myelin sheaths lining the nerves that innervate skeletal muscles) and many others. A more complete list of diseases caused by the immune system misidentifying various parts of the body includes more than 50 conditions (List 2011). Immune function is a double-edged

sword that is critically important to human life, but the immune function can also be harmful and suppression of immune function can be beneficial.

Thus, the question framed in this way becomes whether the immunosuppressive effects of cannabis are beneficial or harmful. In contrast to human studies, there is a fair amount of experimental data from experiments on cell lines. However, these results have been inconsistent on whether the immunosuppressive effects of marijuana are beneficial or harmful. Some studies suggest that cannabis decreases immune function by decreasing T-lymphocyte, and Natural Killer T-Cells (NTK's), in healthy subjects (Pacifici 2003). T-Lymphocytes and NTK's are important immune system cells responsible for developing immunity and resistance to viral infections, and a decrease suggests the impairment of normal immune function. However, the authors note that they were only allowed to experiment on various cell lines so "the clinical relevance of these findings in humans has not been established" (Id). Other studies contradict the findings in cell assays and also suggest the reduction of these important immune system cells is associated with a dramatic reduction in IL-2 and an increase in IL-10 levels (Croxford 2005). Interleukin-2 cells are associated with cell mediated inflammation and apoptosis (programmed cell death) which is strongly implicated in diseases of the immune system such as Alzheimer's disease, Multiple Sclerosis and Diabetes (Croxford Id). IL-2 cells (decreased by marijuana) promote inflammation and death of deficient cells while IL-10 cells (increased by marijuana) are anti-inflammatory cells. In other words, although there is good evidence immune function is impaired by marijuana there is also good evidence that *what* is impaired are primarily the inflammatory modulators responsible for auto-immune diseases caused by an

overactive immune system. With little current research, it is difficult to pinpoint what components of medical marijuana create precisely what effects.

Chemical Components and Effectiveness of Marijuana:

Of the more than 100 components of marijuana, only two have ever been studied in any significant way: Cannibidol (CBD) and Tetrahydrocannabinol (THC). The most widely noted Cannabis effects include both euphoria and sedation and both occur simultaneously in the user. However, these effects appear in different proportions depending on the strain and cultivation techniques. (c.f. Rosenthol, 2002). Some of these effects are what users claim makes marijuana an effective treatment of certain conditions by easing the suffering that is caused by certain diseases and by providing palliative comfort. These effects also depend on the social context in which the marijuana is consumed, the experience of the user, and the psychoactive and physiological effects of various components in the marijuana (Id).

When considering the effectiveness of medical marijuana, the specific effects of the individual chemical components are important. According to experienced users and a variety of non-systematic reports, high THC content is associated with euphoria while higher CBD (Cannabidiol) is associated with sedation (Rosenthal 2010). Delta 9-THC is a moderately psychoactive cannabinoid receptor with a relatively low affinity for endogenous cannabinoid receptors (CB1 in the central nervous system and CB2 distributed in the gut and throughout the body). The CB1 Cannabinoid receptor is found widely distributed throughout the brain and is activated by exogenous (from outside the body) THC and endogenously (from inside the body) by the neurochemical anandamide (Vincenzo 1994). In contrast, to THC, CBD is not very psychoactive at all but appears to

modulate various physiological processes (Santos 2010) including the effectiveness of THC. When the CB1 receptor is activated, this decreases GABA availability in the brain (Pagott 2006). GABA is an inhibitory neurotransmitter, so the net effect of consuming THC is a decrease in inhibition. In short, the effect of THC in decreasing the inhibitor is thought to be responsible for the increased euphoria and the selective enhancement of attention, concept formation and sensory awareness reported by users while CBD modulates this interaction and may also have other effects.

Although CBD does not bind, inhibit, or activate CB1 receptors, it may increase receptor permeability with a net effect of enhancing the effect of THC. Perhaps even more important for medical marijuana, CBD does weakly activate the 5-HT receptor which is the target of the widely prescribed anti-depressant selective serotonin reuptake inhibitors and may activate other cannabinoid receptors that have not yet been identified (Ryberg 2007). Therefore, CBD works as a long-term anti-depressant and also has anti-cholinergic (blocks acetylcholine), anti-pyretic (reduces fever) and anti-inflammatory effects (Id).

The key point is that the two primary components: THC and CBD are found in widely varying quantities depending on the particular strain of marijuana and the harvest techniques (Gonzoles 2007). Medical marijuana growers, seed banks, and many experienced users claim that the ratio of THC to CBD determines the effect of the medical marijuana, and that the early harvest of a particular strain results in lower CBD to THC content while a later harvest results in higher CBD to THC content. The Michigan Medical Marijuana Association (the MMMA site is located at

www.michiganmedicalmarijuana.org)¹ and contains detailed forums for “Collective Growing” (with 120 topics, 1200+ Replies), “The Grow Room” (924 topic, 1800+ Replies), “General Growing Information” (454 Topics, 1600+ Replies) and “Seeds, Strain Clones” (700 Topics, 1800+ Replies) (MMMA, 2011). This information helps growers create the “best” and most potent combinations of chemical compounds in the plants.

A product with higher THC content is reported to have a more uplifting effect and is thought to impart some other effects such as: increased imagination enhanced selective sensory and cognitive awareness, increased laughter and even euphoria (Gonzales 2007). Because there is no regulation in the growth of medical marijuana in Michigan with the current system, the level and potency of cannabinoids in marijuana varies considerably, not only in ratio, but also in potency. Very detailed information about growing marijuana and the claimed effects of different strains are available on many internet discussion boards and seed banks, but there is almost no clinical research supporting or refuting these claims (c.f. Rosenthal 2002).

This lack of research is one of the central problems with marijuana research in the United States and is irredeemably compounded by the fact that the very limited supplies of marijuana available for clinical research is *much* less potent than the marijuana available to the typical medical marijuana patient. As we have seen, NIDA has the sole right to supply marijuana for research purposes in the United States and operates the only federally authorized marijuana grow operation at the University of Mississippi (21 USC. 801 et seq). NIDA research marijuana has a THC content

¹ The Michigan Medical Association (MMMA) is not to be confused with the other MMMA (Michigan Medical Marijuana Act).

between 1.5% and 8.37% with 99% of that supply falling in the 1.5% range (FOIA 2005) compared to the 25-30% THC levels commonly available at dispensaries. These figures on the quality of research marijuana available in the United States have remained unchanged up to the present time, even while strains available on the street have become considerably more potency, because NIDA has not grown any additional research marijuana since at least 1998 (Pro-Con 2008).

The fact that research on different strains is so limited was confirmed by a 2009 NIDA Request for Proposal (RFP (No. N01DA-10-7773) seeking competitive bids on a production facility to produce research marijuana). The proposal states that NIDA wanted to produce "125,000 marijuana cigarettes in four potencies from "placebo" (0% THC) to "high" (3.5-5% THC), plus 500-1,000 cigarettes at greater than 5% THC. In other words, NIDA is, or at least was, planning that less than 1% of marijuana available for research in the United States will be greater than 5% THC² even though the marijuana commonly used in the United States is at least 5 times as potent. Therefore, research on the perceived effects of potent medical marijuana currently being used by medical marijuana patient population is clearly warranted.

In addition to the potency levels of THC and CBD in marijuana, there is another complication in studying the effectiveness of medical marijuana. There are 100 plus components in marijuana, but only a few have been studied beyond characterizing them

² This RFP was located on a private job site and the author investigated further. Government officials referred me to the NIDA Request For Proposal (RFP) page which does not contain any information whatsoever about this RFP. Another advised me that this RFP was currently under review. There was no reply to my follow up query on whether the proposal was public information subject to FOIA . The private job search site was located at: <https://www.fbo.gov/index?s=opportunity&mode=form&id=13b43512c37e45befa6e8f9556d276b0&tab=core&cvview=1> but the RFP has now been apparently scrubbed from government sites.

in chemical essays or introducing them to various cell cultures. Further, NIDA does not measure or report the level of CBD or other cannabinoids in its research marijuana. Thus CBD and other THC's beyond delta-9 (delta-8, delta-7, etc.) have had almost no research at all and none in humans even though they are also psychoactive, albeit with considerably less affinity for the cannabinoid receptor than delta-9. Other Cannabinoids such as Cannabinol (CBN) are also psychoactive but have not been investigated in humans in even a single study. CBN is a degradation byproduct of THC (McParland 2001). Since the widely varying compounds in cannabis are found in different quantities depending on the particular strain of marijuana and the harvest techniques (Gonzales 2007) this makes any research on marijuana as a medical compound extremely difficult. Research with NIDA marijuana is akin to studying a drug using sub-clinical doses and a product more likely to cause a headache than to produce any medicinal or therapeutic effects (Armentono, 2010).

Neuroimaging studies provide further evidence for the suggestion that marijuana is highly heterogeneous with findings of activation patterns throughout the brain apparently depending on what type of marijuana is ingested. However this hypothesis has never been tested since there is such heterogeneity of compounds in marijuana, it is not surprising that both the perceived effects and the neuroimaging results would also be heterogeneous. The most common findings from brain activation studies includes increased resting prefrontal, insular (responsible for emotion regulation and homeostatic mechanisms) and anterior cingulate (responsible for emotion, attention, motivation and error detection) (Santos 2010). These findings are very inconsistent which,

paradoxically, makes them consistent with the theory that a diversity chemicals in marijuana is responsible for different reported subjective effects of marijuana.

If marijuana is a legitimate therapeutic agent, then a widely divergent set of claims about the type and quality of the efficacy of medical marijuana would suggest that some varieties of marijuana may be more therapeutic for some conditions and less therapeutic for other conditions. For example, there may be marijuana strains best suited for treating muscle spasms, and other strains best suited for treating pain.

In addition to the effects of euphoria and sedation, there are other effects to marijuana. In particular the Cognitive and Clinical Psychology Genre primarily funded by the National Institute of Drug Abuse (NIDA) has outlined many negative effects from using marijuana. This line of research focuses on “a motivational syndrome,” the problems of addiction, how marijuana suppresses the immune system, potential long-term cognitive deficits, and the Gateway Hypothesis. These potentially negative effects have been repeated in well-funded study after well-funded study and are important because they are the primary reason why marijuana, medical or otherwise, has such a negative social image.

Marijuana and Diminished Social Function:

Demographic studies of marijuana users have long shown a fairly strong correlation between cannabis use, particularly early cannabis use, and diminished social activities, lower educational attainment and decreased monetary success. The hypothesis is that poor social skills, smaller academic potential and/or membership in a relatively lower social class is connected to greater cannabis consumption. The interpretation favored by anti-marijuana groups is that cannabis use *causes* lower social

performance (Kandel 1986). This perspective has been supported by longitudinal studies which attempt to adjust for variables such as family income and other confounding covariates (Fergusson 1997; Elickson 1998). These studies on a motivational syndrome were primarily approved and funded in the 1980's and used large national databases purporting to show a negative correlation between marijuana use and educational attainment (Lynsky 2000). Although these studies attempt to adjust for covariates, suggesting the problem is consequential rather than contributory, they cannot rule out the possibility of an underlying common factor. In other words, despite decades of well-funded research attempting to pathologize cannabis use, it still is possible that youth who use an illegal substance carrying extraordinary social and legal penalties may have a lower regard for educational attainment and other measures of success used by our society. This contributes to the stigma of marijuana usage, including the self-selected group of medical marijuana users even though they are usually older and suffering from specific diseases which are not necessarily predicted by socio-economic class or social attainment.

Cognitive Functioning:

The literature is also muddled in the area of cannabis induced cognitive decline. Some studies claim a "small but apparently permanent effect on memory, information processing, and executive function" (Kalaunt 2004). Others claim TCH causes "minimal cognitive deficits" and is a "minimal confounder in experienced marijuana users" (Chait 1990). One author found a "significant difference in cognitive function between long-term users and short-term/nonusers of marijuana" (Solowji 2002), but this study had several methodological problems. First, it did not control for age-related differences in

memory and cognitive function, suggesting that the “difference” between long-term and short-term users was due to the older population of long-term users. Second, it only included patients who were “seeking treatment for long-term cannabis addiction.” Third, the short term duration (overnight) between administration and testing could have been confounded by the lingering presence of cannabinoids in the subject’s system (Nyquist 2002). The conclusion of Pope on the alleged cognitive deficits of long-term cannabis use is particularly illuminating:

Cognitive deficits may be caused or exacerbated by withdrawal effects from the abrupt discontinuation of cannabis; these effects typically peak after 30-7 days of abstinence. It is less clear, however, whether heavy cannabis use can cause neurotoxicity that persists long-term after discontinuation (Pope 2001).

The fact the academic debate continues decades after the government and news media has reported the long-term cognitive effects of cannabis as fact supports Pope’s summary conclusion: “long-term effects, if they exist, are subtle and not clinically disabling” (2001). This leads to another fact that the media and government have continually promoted, the addictive quality of marijuana.

Addiction:

Another widely claimed effect that greatly contributes to the negative image of marijuana in our current society is the claim about addiction. Though an addiction risk in humans has never been conclusively shown with marijuana use, there are varying claims including that cannabis dependence is the most common type of drug dependence after alcohol and tobacco (Anthony 1991). One study claims that 2% of the entire adult population is currently “addicted” to marijuana while 4% of the adult population is now or was in the past “addicted” to marijuana (Swift 2001). The risk of

such dependence is claimed to be 6% for any persons who have ever tried marijuana and 9% for those who tried marijuana for the first time in adolescence and rising to one in three for daily users (Anthony 2006). With more than 40% of the U.S. population admitting to having smoked marijuana at least once, 5% of the population admitting to daily use, and a national population of 300,000,000, this equates to some 15,000,000 patient beds.

However, one of the most important criteria in establishing that a substance is “addictive” is evidence for the presence of physical withdrawal symptoms. “Dependent” cannabis users who have been abruptly withdrawn from high daily doses of THC report decreased mood, increased irritability, anxiety, appetite disturbance and depression (Budney 2004). Some writers have characterized these effects as similar to caffeine withdrawal (Grinspoon 1997). Anyone who has suffered a “caffeine headache” must agree that caffeine is addictive, yet on the scale of addiction it is quite low. Similarly, the withdrawal effects of marijuana are low enough that most medicinal marijuana users experience few withdrawal symptoms and what is experienced is usually much less than with many pharmaceutical compounds and even less than with caffeine. Yet, the purported addictive properties of marijuana have fueled government law enforcement, the drug treatment industry, and movie producers of government sanctioned propaganda (c.f. Budney, 1999- funded by NIDA grant R29DA08655; Hughes, 2002- funded by NIDA grant *DA00490 inter alia*).

Here again is the difference in our society between criminalized marijuana and the accepted pharmaceutical. The medical studies suggest that marijuana activates the same dopamine reward system as heroin (Wichelgren 1997), but that since the

metabolites of marijuana leave the body slowly there are very mild withdrawal issues comparable to denying an “addict” his daily cup of caffeine and primarily manifesting in restlessness, irritability, and some insomnia which invariably disappears after a few days (Grinspoon 1997). Most patients do not refuse a medicine that can help with suffering because of a side effect (withdrawal). Indeed a huge portion of pharmaceutical drugs have much more addictive properties than marijuana. Alcohol is well known to be highly addictive as are stimulant drugs frequently forced on young children (almost exclusively young boys) and opiate narcotics which are widely accepted in contemporary society. The negative is perhaps not that medicinal marijuana might be addictive, but instead that it is marijuana.

The Gateway Hypothesis:

There are numerous studies on the “Gateway Hypothesis” that the use of marijuana leads to use of “hard” drugs like heroin and cocaine (DiSimone, 1998, Mills & Noyes, 1984 et al). The “Gateway Hypothesis” could even be viewed as the centerpiece of the government campaign against cannabis and whether marijuana use leads to the use of “hard” drugs or whether there might be a different, precisely opposite claim, was a central topic of the data collection in this paper. The DEA claims:

Marijuana is a frequent precursor to the use of more dangerous drugs and signals a significantly enhanced likelihood of drug problems in adult life... Marijuana use in early adolescence is particularly ominous. Adults who were early marijuana users were found to be five times more likely to become dependent on any drug, eight times more likely to use cocaine in the future, and fifteen times more likely to use heroin later in life (DEA, 2011).

Some studies have found that regular or heavy cannabis use is associated with an increased risk of using other illicit drugs, abusing or becoming dependent upon other illicit drugs and using a wider variety of other illicit drugs. Again, almost all of these

studies are funded by NIDA. Even though such risks decline with increasing age, a number of studies conclude the findings support a general causal model on the cannabis gateway hypothesis (Fergusson 2006) while others dispute the methodology and interpretation of these findings (Kandel 2006). Most reviews acknowledge the interesting correlation but reach an inconclusive result.

The state of the current data on the issue of the Gateway Hypothesis in cannabis use is highlighted in a 2009 review article (Hall). Hall and his colleagues attempted to reconcile the well-known fact that cannabis use usually precedes the use of other illicit drugs, and that earlier and heavier cannabis use is more predictive of future illicit drug use. They examined three theories that explain these findings:

- 1) that the relationship is due to the fact that there is a shared illicit market for cannabis and other drugs which makes it more likely that other illicit drugs will be used if cannabis is used;
- 2) that they are explained by the characteristics of those who use cannabis; and
- 3) that they reflect a causal relationship in which the pharmacological effects of cannabis on brain function increase the likelihood of using other illicit drugs (Hall).

Hall concluded that the evidence from longitudinal epidemiological studies, simulation studies, discordant twin studies and animal studies indicates pre-existing traits along with social and peer influences caused by early and/or heavy entry into the drug culture are the primary influences in later abuse of other illicit drugs. Although this article does not dismiss the evidence from animal studies suggesting regular cannabis use may have pharmacological effects on brain function that increase the likelihood of using other drugs, the authors conclude that this “minor” effect is a secondary concern in human subjects.

These findings are supported by other studies, including a 2007 paper about using marijuana to decrease alcohol intake suggesting that chronic alcoholics may use marijuana to substitute for alcohol (Lenza 2007). Another very early study used synthetic THC with a group of psychiatric patients that happened to include some alcoholics in the acute phase of recovery and found improvement in alcohol withdrawal symptoms in 85% of the cases (Thompson and Proctor 1953). One writer to the American Journal of Psychiatry claimed he had clinical experience suggesting marijuana is a viable treatment for alcoholism (Scher 1971). He also claimed that marijuana and alcohol are “mutually exclusive agents.” In other words, he argued that greater use of marijuana is associated with less use alcohol.

In contrast to the “Gateway Hypothesis”, there have also been claims to the opposite effect, in particular the claim by patients that marijuana reduced opiate use which is contrary to many previous studies on marijuana use and abuse (Golub & Johnson 1994). As an increasing number of states allow the use of medical marijuana, the conflict between advocates and detractors of marijuana has only intensified.

State Medical Marijuana Laws:

As the first state to outlaw marijuana, California was also the first state to pass a medical marijuana law. The California medical marijuana resolution, Proposition 215 was known as the Compassionate Use Act and was passed by the voters in November, 1996. Since then, a cottage industry has grown up to service the marijuana industry and well over a billion dollars in taxes have already been collected by the State of California (Stateman 2009). California could have been the first state to completely decriminalize marijuana in November, 2010, but the referendum narrowly failed. Instead Colorado and

Washington State first legalized marijuana in 2012. However, federal prohibition continues and the States have come increasingly into conflict with the central government.

Michigan Medical Marijuana:

On November 4, 2008, the people of the State of Michigan passed a referendum that enacted a medical marijuana law. Until this law, users of marijuana in Michigan were unanimously labeled as criminals. The medical marijuana population was officially created when the State of Michigan joined a growing number of states, 15 (17 by 2013), and the District of Columbia, that have that openly defied United States federal law by permitting the use of marijuana for medically certified patients. The Proposal 1 ballot initiative in Michigan passed with the approval of 63% of the electorate and effectively became part of the State constitution that can only be overturned by a two-thirds majority vote in both houses of the State legislature (Michigan Constitution Article 2, Section 9).

After passage by the people, Proposal 1 became the Michigan Medical Marijuana Law creating two new categories of people: "Patients" are certified by a medical doctor to use marijuana and "caregivers" may register up to five patients and supply them with marijuana. These are not arbitrary statistics, but are carefully defined by the state.

A medical marijuana patient must be certified by a doctor to have a:

Serious and debilitating medical condition...[such as]... Cancer, Glaucoma, positive status for Human Immunodeficiency Virus, Acquired Immune Deficiency Syndrome, Hepatitis C, Amyotrophic Lateral sclerosis, Crohn's disease, agitation of Alzheimer's disease, nail patella, (MCLA 333.26421 et seq).

Not only must the patient be suffering from one of these conditions, but the state of the illness must be serious enough that they are currently in treatment and that the condition is causing:

cachexia or wasting syndrome; severe and chronic pain; severe nausea; seizures...epilepsy; or severe and persistent muscle spasms, including but not limited to those characteristic of multiple sclerosis (MCLA 333.26421 et seq).

These medical conditions create a difficult living environment and the groups of people suffering from these conditions are often already marginalized by society due to their illness and poor health even before attaining the status of medical marijuana user.

Under the Michigan Medical Marijuana Act (MMMA), a medical doctor with a physician-patient relationship may provide the patient with a signed statement that in the physician's professional judgment, the patient has a debilitating medical condition and that the medical use of marijuana is likely to provide palliative or therapeutic benefits for the symptoms or effects of the applicant's condition (MCLA 333.26424(f)). Michigan initially regulated this process through the Michigan Department of Community Health, but the responsibility was passed to the Michigan Regulations Bureau in 2011 by the new Republican Governor Rick Snyder (Cleary 2013, Ramsdel 2012).

The status of caregiver is also regulated and carefully defined by the Michigan Medical Marijuana Act. A caregiver is a person who grows or supplies marijuana to a patient he or she has registered with the Regulations Bureau. A caregiver may register up to 5 patients with the bureau and may grow up to 12 plants and possess up to 2 ½ ounces of marijuana for each patient registered. This means a caregiver who is also a patient may grow up to 72 plants (6 X 12) and possess up to 15 ounces (6 X 2 ½) of marijuana.

Presidents Clinton and Bush (H.W.) actively tried to subvert state laws through raids on state approved marijuana dispensaries and grow operations. The Supreme Court decision in *Gonzales v. Raich* affirmed the right of the federal government to conduct operations based on federal law alone even when there was a conflict with state laws. In response, medical marijuana states began withdrawing support from federal police agencies and setting the stage for increasing conflict between state and federal government not seen since the 1950's desegregation battles. The standoff continued for several years with state law enforcement withdrawing support and cooperation from federal law enforcement and growing public support for medical marijuana with each DEA raid (Pew 2013, Gallup 2012).

Finally acting in response to the majority, the federal government backed off. With national polling data showing support for medical marijuana as a favorable percentage in the mid 80's (Langer 2010), the only surprise was that it took over a year for President Obama to fulfill one of his campaign promises to end raids on state sanctioned medical marijuana patients. President Obama made at least five statements on medical marijuana during the 2008 campaign (Laugesen 2011). Taken together, they promise tightly regulated medical marijuana at the federal level and state that prosecution of state sanctioned patients is "not a good use of federal resources" (Venkataraman 2007). In February of 2009, the Obama administration, through Deputy Attorney General David Ogden, sent letters to all U.S. District Attorneys directing:

As a general matter, pursuit of [drug enforcement] priorities should not focus federal resources in your States on individuals whose actions are in clear and unambiguous compliance with existing state laws providing for the medical use of marijuana (Ogden 2009).

Marijuana operations not in clear compliance with state laws continue to be subjected to federal law enforcement raids.

Despite the apparent release of many legal prohibitions, there is still no published literature on the Michigan Medical Marijuana patient population except the following very basic statistics published on the Michigan Licensing and Registrations Bureau web site as of May 31, 2013 (LARA 2013):

- 402,688 original and renewal applications received since April 6, 2009.
- 128,441 active registered qualified patients.
- 26,875 active registered primary caregivers.
- 25,788 applications denied -- most due to incomplete application or missing documentation.

Michigan is one of the few States to even keep official records. The statistics from most States are not available from official sources. Nor are statistics describing the population of users of medical marijuana

Distribution of Marijuana Under The Michigan Medical Marijuana Act:

As the interpretation of the Act continues to unfold in Michigan, a variety of medical marijuana distribution methods appeared almost organically and spontaneously to fill the new demand. They appeared even though regulations concerning medical marijuana centers were left conspicuously out of the referendum because “dispensaries” were not polling well (MPP 2013). The story of medical marijuana centers in Michigan is interesting but a story with consequences for the people impacted by the deliberate ambiguities left in the law to insure passage and by how the case law developed in Michigan.

Therefore, before proceeding further, the context in which the data was collected needs further elucidation. This study did not take place in a laboratory with carefully isolated and controlled variables that were carefully separated from the natural

environment. The data was collected from real people, with real life problems and real, legitimate concerns. During the time of the interviews, the patient and caregiver participants were confronted with a constantly changing legal environment, a State Attorney General who was and is anti-marijuana, and an erratic, often unclear and conflicting series of appellate court decisions. A myriad of legal, legislative and policy decisions affected the participants and determined the topics covered in the interviews. In particular, several of the major themes and issues in the interviews depended on the dynamic interaction between the topics being discussed and the developing case law. The issues pertaining to the access and use of marijuana were particularly sensitive to the changing legal interpretations. Therefore, it is necessary to conduct a thorough review of the Michigan Medical Marijuana Act and the case law as it developed during the course of the interviews.

The theme of interactive responses to changes in the law was actively sought from the beginning of data collection in order to explain and describe how patients and caregivers adapted to the changing interpretations of the Michigan Medical Marijuana Act. Particular attention was given to the structures and functioning of the alternate medical marijuana distribution centers that arose in Michigan following passage of the Act. The principles of reciprocal change have rarely been as obvious as in the responses from patients and caregivers and from law enforcement and prosecutors to the Michigan Medical Marijuana Act. Therefore in order to set the stage for the interview data, a review of the law and legal environment created by the Michigan Medical Marijuana Act along with the case law that developed around the Act is provided. As well as, a discussion of alternate interpretations of the Act, and an investigation as a

purely legal issue into the rise, variable fortunes, and ultimate fall of alternative medical care provider distribution networks in Michigan following enactment of the Michigan Medical Marijuana Act.

People vs. McQueen: The Supreme Court outlaws dispensaries in Michigan:

By the fifth year of enactment of the Michigan Medical Marijuana Act, the Supreme Court of Michigan had given minimal guidance until deciding *People vs. McQueen* in February of 2013. In *McQueen*, the Supreme Court voted 4-1 against allowing medical marijuana dispensaries to operate in Michigan. The court quoted section 4e in full twice during the opinion without providing any legal analysis of the section. Then, in a very unusual move, the court put the ruling on dispensaries in an Appendix at the end of the opinion after the judge's signature. This avoided any need for the court to provide an analysis of Section 4e. In general, courts organize the rulings or decisions in a "Holdings" section or at least in a conclusion section prior to the judge's signature on the opinion. However, in this opinion, in the Appendix, after the judge's signature the court stated:

Section 4 does not offer immunity to a registered qualifying patient who transfers marijuana to another registered qualifying patient, nor does it offer immunity to a registered primary caregiver who transfers marijuana to anyone other than a registered qualifying patient to whom the caregiver is connected through the MDCH registration process.

This statement is unsupported by any legal reasoning or analysis and was apparently placed in an "Appendix" for the sole purpose of avoiding the provision of any legal analysis to support the court's position. Use of an Appendix to issue a "Ruling" is an extraordinary move not supported by any known precedent. In fact, an analogy may be drawn to the Marijuana Stamp Act, where marijuana cultivation was allowed, but only

with a stamp that the government then refused to issue. The Supreme Court of Michigan in *McQueen* effectively issued a Judicial Stamp Act by ruling that the Michigan Medical Marijuana Act permits patients to legally purchase marijuana, but anyone selling or even providing the patients with that marijuana except the narrowly defined “caregiver” to whom they are registered with through the State, commits a felony.

In the legal analysis that the court avoided Section 4e clearly states:

“A Caregiver may assist a patient in the medical use of marijuana.” (MCLA 333.26424 section 4e, emphasis added).

In other words, the plain meaning of the statute that was relied upon by each of the “Caregiver” interviews and most of the “Patient” interviews is that “A” Caregiver may assist “A” patient in the medical use of marijuana. The word “A” does not precisely mean “any” but obviously refers to a larger and broader classification than “THE (emphasis added) caregiver” connected through the caregiver registry system. The preceding sections 4a- 4d state that: “The caregiver (shall not be criminally liable) for assisting a qualifying patient to whom he or she is connected through the department's registration process (MCLA 333.2624 section 4a-4d, emphasis added). Unless the legislature clarified this term, then the plain meaning of the statute is that “A” or “Any” Caregiver can assist “A” or “Any” patient in the medical use of marijuana. In case there was any doubt what this passage means and precisely what is covered in the meaning of “medical use,” the law explains in the next sentence:

“Such assistance shall not be considered the sale of a controlled substance.” (MCLA 333.2624 section 4e).

In other words, the plain meaning of the law clearly states that a caregiver, may sell marijuana to a patient and such assistance “shall not be considered the sale of a controlled substance.”

The decision of the Michigan Supreme Court was viewed with universal outrage by the participants in this study, several of whom complained that the decision does not enhance the Court’s stature among the several States with one referring this researcher to the below cited University of Chicago study. The Michigan Court has long had a reputation nationally as a political entity with few legal scholars on the bench, low standards and a marked lack of judicial independence. According to a University of Chicago study, the Michigan Supreme Court ranks at the very bottom, number 52 out of 52 in the survey: “Which States have the best (and worst) Supreme Courts?” (University of Chicago 2008).

In *People vs. McQueen*, the court ruled that the plain meaning of Section 4 provides for immunity from arrest or prosecution for the use of marijuana by patients registered with the State of Michigan through the caregiver registry system. Notwithstanding the language in section 4e, the court further “ruled” (in an Appendix) that caregivers are only protected if they are providing marijuana to the patient to which they are registered under the caregiver system.

Section 4 also provides specific guidelines to patients and caregivers on allowable plant counts and usable marijuana weight limits.

Section 8 provides different and less comprehensive protections for transactions and patients which occur outside of the section 4 caregiver registry system. The Supreme Court in *People vs. Kolanek* held previous to *McQueen*:

The stricter requirements of section 4 are intended to encourage patients to register with the state and comply with the act...if patients choose not to abide by the stricter requirements of section 4 they will not be able to claim this broad immunity but will be forced to assert the affirmative defense under section 8 (at page 2).

The affirmative defenses are asserted after arrest, before a court, and provide protections for the use or possession of marijuana in a quantity that was not more than “reasonably necessary to ensure the uninterrupted availability of marijuana” (*Kolanek*, id) but which is not otherwise protected under Section 4. In other words, if a caregiver has too many plants under Section 4, engages in any transaction outside the caregiver registry network protected by Section 4, or a patient possesses too much usable marijuana under Section 4, the caregiver or patient may still assert the medical necessity defense under Section 8 before a court and have the case dismissed if the amount was “reasonably necessary to ensure the uninterrupted availability of marijuana” for the patient.

The Supreme Court cases of *McQueen* and *Kolanek* are, in one sense, the “end” of the story. Given the status of marijuana under federal law, any appeal to the United States court system would be ridiculous. Although there are legislative efforts underway in Michigan to change the law to allow dispensaries, the interpretation of the current iteration of the Michigan Medical Marijuana Act has finally been clarified. Dispensaries and all transfers of marijuana, except in a few very narrowly prescribed circumstances, are now illegal in Michigan. This was not the case during the data collection in this paper, and the progression of legal cases that led us to *McQueen* is a necessary predicate to understand the context of the interviews.

Michigan Medical Marijuana Act Case Law and History 2008 – 2013:

While the Michigan Medical Marijuana Act was enacted in November 2008 by public referendum with the support of 63% of Michigan voters, very few Michigan Supreme Court cases have clarified the law in the last five years even while contradictory appellate court decisions continue to be issued. In short, the case law in Michigan on the question of medical marijuana has not developed in a straight line of logical or legal reasoning.

Thus the legal realities for Michigan medical marijuana was constantly changing during the course of the interviews, providing an opportunity to employ two related fields of study. “Sociology of the Law” and “Law and Society” are related interdisciplinary programs that incorporate theoretical paradigms from sociology, law, science, and the humanities. “Sociology of the Law” is the use of sociological techniques and theory to study the legal system or portions of the legal system as an integrated, but discretely defined, social institution while “Law and Society” explores the reciprocal relationship between the effect of the law on the overall social system, or a segment of that social system, and the impact of the social system on the development of the law (Sutton 2004). Changes in society cause changes in the law and this causes further changes in society. Similarly, changes in law cause changes in society which causes further changes in the law. The changing laws affected the patients and caregivers and heavily influenced the open ended interviews as participants adapted to the constantly changing interpretations of the Michigan Medical Marijuana Act.

Therefore, an understanding of the changing legal analyses of the Michigan Medical Marijuana Act is necessary to fully understand the personal and professional

views of Michigan medical marijuana patients and caregivers as they developed over the course of the interviews used in this study. Further, a full legal review requires a detailed history of the case law that developed around the Act, a discussion of alternate interpretations of the Act, and the investigation of the rise, variable fortunes and ultimate fall of medical marijuana dispensaries and alternative medical care provider distribution networks in Michigan following enactment of the medical marijuana act in 2008 and the 2013 decision in *People vs. McQueen* outlawing dispensaries and any transfers of marijuana outside the limited number of patients connected to a caregiver through the state registry system.

People vs. Feezel No 138031, June 8, 2010 (Michigan Supreme Court) effectively reversed the 0-tolerance provisions of *People vs. Derror* 475 Mich 316 (2006). The issue was whether a metabolite of THC (11-Carboxy-THC), which is often measured in blood tests, was a “controlled substance” and thus subject to Michigan’s 0-tolerance policy barring any Michigan driver from operating a vehicle ‘in the presence of’ a controlled substance.’ The court overruled *Derror* thereby providing considerable protections for Michigan medical marijuana patients from the 0-tolerance policy.

Many of the rulings from this time forward, until 2012, were in the appellate court. As with many statutes, the first set of questions dealt with by the court was the issue of retroactivity. In *People vs. Campbell* (Case no. 291345, decided: July 13, 2010, approved for publication August 26, 2010, Michigan Court of Appeals), the court held that the Michigan Medical Marijuana Act is not retroactive and that any physician’s recommendations used in a Section 8 defense must have come before any arrest or prosecution for possession or cultivation of marijuana. See also *People v. Reed*, Case

No. 296686, August 30, 2011 (Michigan Court of Appeals). This is a common ruling on statutes that do not specify they are retroactive.

Next, the Michigan Appellate court attempted to interpret the section 8 defense: In *People v. Redden*, Case No. 295809, September 14, 2010, the Michigan Court of Appeals held that an assertion of the Section 8 affirmative defense requires a bona-fide doctor-patient relationship and that the Defendants have to see the physician for good faith medical treatment and not merely to obtain marijuana under false pretenses. This case included a controversial concurring opinion by Judge O'Connell and was remanded to the trial court where an order of dismissal is pending Supreme Court decisions on the Section 8 and Section 4 defenses.

In *People vs. King* Case No. 294862, February 3, 2011, the Michigan Court of Appeals held (in obvious contradiction of the plain meaning and wording of the statute) that Section 4 and Section 8 required the same plant counts and weight limits and that only those complying with the Section 4 limits could assert the Section 8 defense. This was overturned by the Michigan Supreme Court (*King*, supra).

In *People vs. Anderson* Case No. 3000641, June 7, 2011, the Michigan Court of Appeals upheld the longstanding rule that courts have discretion to impose summary disposition on any case where there is no genuine issue of material fact (MCR 2.116 C(5)). In other words, although patients and caregivers may assert the Section 8 defense for a jury, a judge may still deny the use of the defense where no reasonable juror could find on behalf of the party asserting the defense. This has been long-standing law in Michigan as reiterated in *King*.

In the first direct case impacting the issues of access to marijuana and the delivery of that access in the context of alternate provider organizations, the Michigan Court of Appeals in *State of Michigan vs. McQueen* (Case No. 301951 Decided: August 23, 2011) held the “medical use of marijuana” does not include patient-to-patient sales of marijuana under the Michigan Medical Marijuana Act.” This was the same case that became the definitive Supreme Court case of *People vs. McQueen*.

In *People vs. Koon* (Case No. 301443, Decided: April 17, 2012) the Michigan Court of Appeals distinguished *Feezel* which had held 11-Carboxy-THC in a driver’s body (this is different from the metabolite that was judged by the Michigan Supreme Court) was not evidence of a violation of the 0-tolerance of drivers using controlled substances policy in Michigan. Medical marijuana patient Koon had active THC in his blood and the court held that the 0-tolerance for controlled substance use in a driver was applicable. In effect, this decision means that medical marijuana patients may not legally drive in Michigan since almost all patients regularly and chronically have measurable levels of THC in the blood. The case is also being appealed to the Michigan Supreme Court.

In *People vs. Bylsma* (Case No. 302762), Decided: September 27, 2011, the Michigan Court of Appeals held that the defendant could not assert a Section 8 defense because he had violated an Attorney General opinion that each set of twelve plants permitted under the Act must be kept in an enclosed, locked facility that can only be accessed by one individual. This was overruled by the Supreme Court on December 19, 2012, *Supra*. However two months later in *People vs. Danto*, November 8, 2011, the Michigan Court of Appeals held that “marijuana” and “plants” were identical in the

medical marijuana statute which states: “for each registered qualifying patient who has specified that the primary caregiver will be allowed under state law to cultivate marijuana for the qualifying patient, twelve marijuana plants kept in an enclosed, locked facility.” The court held this requires that both dried marijuana and plants must be kept in a “locked enclosed facility” and denied the defendant the right to assert the medical marijuana affirmative defenses at trial. This case is also on appeal to the Michigan Supreme Court.

The second medical marijuana case decided by the Michigan Supreme Court was *People vs. Kolanek and King* Case No. 142695, (Michigan Supreme Court, May 31, 2012). These two cases were decided on the narrow grounds of whether the assertion of the Section 8 affirmative defenses in the Michigan Medical Marijuana Act also required a defendant to comply with the requirements of Section 4. Despite an appellate court opinion to the contrary (c.f. *People vs. King* Michigan Court of Appeals), the Supreme Court held that the plain meaning of the statute established two different sections and two different sets of requirements and protections to assert a medical defense to the use of marijuana. This was viewed as extremely positive in the medical marijuana community and several interviews conducted in the May, 2012 time frame included discussions about this case.

The Michigan Supreme Court ruled in *Kolanek* and *King* that there are two separate sections of the Act, and that the caregivers who fall outside the weight or plant count limits may still assert the section 8 affirmative defenses at trial. Both *King* and *Kolanek* were remanded for further action consistent with the opinion but only *Kolanek* was permitted to assert the Section 8 affirmative defense because *King* was held to

have lost the argument of whether a material fact for the jury existed since the lower court ruled as a matter of law that no reasonable jury could have found in his favor. Kolanek is currently at the trial court again while King filed for another appeal and the case is again working its way through the legal system.

On December 19, 2012, the Michigan Supreme Court unanimously overruled *People vs. Bylsma* in part stating, that although Bylsma had more plants than permitted to him under the Section 4 immunity defense, he was still entitled to assert the Section 8 affirmative defenses. Bylsma will have to show he possessed the marijuana in a quantity that was not more than “reasonably necessary to ensure the uninterrupted availability of marijuana.” The court remanded the case for the trial court to conduct an evidentiary hearing on that issue. This case was also extensively discussed during the interviews, particularly in the caregiver interviews involving growers and medical marijuana facility operators who were very concerned about allowable plant and weight counts.

These laws on medical marijuana have confused many patients, including the participants in this study. During the time before the Supreme Court rule in *McQueen*, there were several unanswered questions about the appropriate interpretation of this referendum. The Michigan attorney general has been critical of the Act while various circuit court jurisdictions have exercised their discretion in vastly different ways. Several Oakland County Circuit Court judges have added their own interpretations to the Michigan Medical Marijuana Act and the court is known to be very anti- medical marijuana. Therefore it is not surprising that not a single volunteer came forward to be interviewed who lived in Oakland County. One court ruled against patient-to-patient

transfers (*People v. Nater*, Case No. 10-234179-FH, January 12, 2011 (Oakland County)). Another ruled directly against dispensaries and other alternative medical provider delivery services *People v. Vlasenko* 11-236616-FH, August 17, 2011 (Oakland County) stating that: “There is no language in the Michigan Medical Marijuana Act that provides protections for dispensaries.” In *People v. Hicks*, Case No. 2010-232705-FH, March 15, 2011 (Oakland County), the court held that the defendant did not have a sufficient medical history to justify his use and possession of marijuana, and that his medical marijuana card was thus invalid. Therefore, he had no right to present a section 8 defense. In *People v. Prell*, Case No. 2010-233008-FH, March 4, 2011, the court refused to accept the testimony of the defendant’s certifying physician in support of his Section 8 defense.

Gaps in The Literature and Rationale:

As we have seen, in a very real sense, the bulk of the literature on medical marijuana research is a giant gap. There is little research about the medical marijuana population nationwide and no published research about the Michigan population. There has been no clinical research approved in the United States using medical grade marijuana and very few randomized controlled studies in the entire world on the effects of marijuana. In fact, more than 95% of the studies purporting to investigate marijuana are not studies of natural smoked marijuana but of synthetic, oral pharmaceuticals such as Nabilone, Dronabinol, or Levonantradol (Armentono 2011, Earleywine 2002). There is no published research on the impact of marijuana use on prescription medications or the hypothesis that marijuana might reduce prescription opiate intake except a single publication derived from this dissertation (Peters, 2013). There is no research on the

operation of medical marijuana dispensaries in Michigan and almost no research on the topic in other States. There is no research on the opinions of the Michigan medical marijuana population and almost no research in other States. The Michigan Medical Marijuana Act (MCLA 333.26421 et seq) was passed in November 2008 and, to date, there are no published studies on the medical marijuana population in Michigan. The state of California was the first to pass a medical marijuana statute in 1996, and there are still only a handful of peer reviewed studies on this population and no controlled clinical studies.

There are dramatic claims from seed manufacturers, trade publications, and growers about the different types and strains of marijuana, but there is no controlled scientific research on them. More research is warranted on the population of medical marijuana patients and on the perceived positive and negative effects of medical marijuana.

Delta-9 tetrahydrocannabinol (THC) which binds to endogenous cannabinoid receptors (CB1 and CB2) and cannabidiol (CBD) which modulate various neurochemical and physiological processes (Santos 2010) have been studied to some extent, but the ratio of THC to CBD and the subjective effects of each is a potentially important piece of the medical marijuana research puzzle; the investigation of which has been grossly deficient. As we have seen, NIDA will only supply research marijuana which averages in the 1.5% THC range while medical marijuana dispensaries often provide products with up to 25% THC. There are some studies using CBD in human subjects (Mechoulam 2002, Kowel 2013) and quite a few using synthetic THC (Lile, 2013) but almost no studies on the combined effects of THC and CBD.

Most of the studies on the dozens of psychotropic agents in marijuana beyond CBD and THC have been limited to characterizing them in chemical assays or introducing them to various cell cultures. Research into the other psychoactive THC's (delta-8, delta-7 etc.) along with cannabidiol (CBD) and cannabinol (CBN) is currently lacking in the cannon of work on medical marijuana (McParland 2001). There is even less work on the potential effects of other cannabinoids, terpenes, and flavinoids of the cannabis sativa plant as it is found in nature.

Despite the relatively large size of the population, medical marijuana patients have not been extensively studied by any measure. The dramatic lack of research on the topic is highlighted by comparing it to other sociological topics that have been a focus of research. For example, a search of the sociological abstracts for the term "transgender" reveals over 1,000 hits while a similar search for "medical marijuana" reveals 25 hits, most addressing policy issues like drug legalization or the neurobiology of marijuana use. Only 6 studies directed at the population of medical marijuana patients could be found in the sociological abstracts (Boudrias 2004, Chapkis 2007, Chapkis & Webb 2005, Goode1970, Hathaway & Rossiter 2007, and Lenza 2007). In contrast to medical marijuana, the population of transgendered individuals in the entire United States is estimated to be only between 3,000 and 10,000 (Paisley 2006). In other words, with 17 States now participating in some form of legalized medical marijuana, and a medical marijuana population that is at least 100 times *larger* than the transgender population, there has been at least 100 times *less* research on the group that is the topic of this paper. Clearly more research is warranted.

There are only about 69 peer reviewed randomized controlled medical studies involving the actual use of marijuana and investigating the effects, benefits and dangers. This could be put into perspective in many ways. This warrants further reviews of the benefits dangers and social effects of marijuana.

More than 90% of the studies that purport to investigate marijuana are actually studies investigating purified pharmaceuticals such as Nabilone (Schedule II Synthetic THC), Dronabinol (Schedule II Synthetic THC isomer), and Levonantradol (Schedule I Synthetic Analog NOT used in clinical applications but widely used in medical research; the isomer is some 30 times more powerful than pure THC). Several excellent and detailed bibliographies referencing marijuana studies are available online. The most comprehensive is some 60 pages long and categorizes all the human cannabis research ever done with links to the full study (Clinical Studies 2011). The categories include: (1) The medical condition studied (i.e. nausea and vomiting- cancer chemotherapy, nausea and vomiting- radiotherapy etc.); (2) the modality of the study (i.e. controlled, uncontrolled, case reports and surveys); and (3) the substance studied (i.e. Nabilone, Dronabinol, Levenantradol, sublingual tinctures, and Smoked marijuana) (Id). Further study is warranted on actual cultivated marijuana in actual human subjects.

Another reason to study marijuana as it is actually used in situ is the fact that health care, mental health, drug policy concerns, and criminal law issues can be informed by better understanding the perspective and demographic characteristics of the medical marijuana population. Better understanding will also guide important social and government policies. The conflict between pro-medical marijuana activists and anti-medical marijuana regulators is one of the most polarized debates in our society

touching on major public policy decisions.. While pro-medical marijuana activists claim that medical marijuana patients are desperately sick and desperately in need of their “medicine,” anti-medical marijuana regulators claim that marijuana patients are malingerers, drug addicts and frauds who just want to get high. The former has an incentive to prevaricate and even fabricate in order to gain access to their favored intoxicant while the latter is motivated to expand their power, scope, and influence as is characteristic of most bureaucracies according to many observers who have variously described them as “imperialistic” or “expansive” (Weber 1922). The question of whether the individual should have the freedom to endanger one’s life or health by taking an intoxicant or medication is a legitimate social concern; and at least as much so are the antisocial consequences of government action. There is an argument that the tendency for expanding bureaucratic influence is arguably counterproductive to the civil society. Current anti-drug policies and laws provide government workers with an expanding client base via increasing prison, parole, and drug treatment populations (Peters 2010). In short, deciding whether marijuana is a legitimate medication or if the patient population is composed of malingerers and frauds aids the decision making process on several much larger questions such as projections and staffing for prison, health care, and rehabilitation populations.

Research on the population will also inform pending and future legal disputes. Medical marijuana has already generated significant and important case law on the Commerce Clause and State’s Rights issues.³ Some fundamental constitutional and

³ The two most prominent cases so far are U.S. vs. Oakland Cannabis Buyers Cooperative 542 U.S. 483 (2001) which rejected the common law necessity defense for a medical marijuana buy clubs and Gonzales

federal principles have not yet fully been decided by the Courts such as the scope of States rights and the 10th Amendment, along with related and wholly unresolved conflict of laws issues between the State and federal government. California's Proposition 215, Michigan's Ballot initiative and all the other State laws that have legalized and regulated medical marijuana stand in opposition to federal law which specifically categorizes marijuana as a Schedule I drug with no legitimate medical use and a high propensity for abuse (21 USC 811). A better understanding of the perspective of the medical marijuana population may aid the legislative and judicial decision-making process in these matters by assessing the dangerousness, criminal history and propensity for law breaking in the population.

Conclusion of Literature Review:

From the time long before humans began settling into villages and towns, to the Magna Carta and to the 80,000 pounds of hemp on the Nina, Pinta, and the Santa Maria, hemp has played a pivotal role in world history. From the time of the U.S. Constitution, to Washington and Jefferson, all the way to the present day, hemp (which was renamed "marijuana" in the 1930's) has continued to be of critical importance to the nation. In the late 1920's, southwestern States began outlawing marijuana as an attack on Mexican immigration and "negro" jazz singers. Meanwhile, the claims makers in the media, law enforcement, and in Hollywood began making the case against marijuana in earnest and by 1937, culminating with passage of the Marijuana Stamp Act. By the 1960's more and more people began using marijuana again as a counter-culture protest which was answered first by the Controlled Substances Act of 1970 and then by Nixon's

v. Raich 545 U.S. 1 (2005) which upheld the commerce clause power of the federal government to regulate intra-State distribution of medical marijuana despite contrary State laws.

1972 declaration of a “war on drugs.” The “war” continues even today and despite federal obstacles to research, and the massive effort expended to show the harms of marijuana, there are increasingly compelling claims that marijuana can be used medicinally. Medical marijuana laws in Michigan and 16 other states are challenging federal jurisdiction and developing a body of case law that will have unpredictable interactions for many different people, social groups, and institutions. Further research on the population of medical marijuana patients is warranted.

Since there is little or no ability to study medical marijuana using double blind, clinical paradigms used in most pharmaceutical drug studies because the United States government has limited medical studies on the efficacy of marijuana as medicine using a variety of procedural and regulatory obstacles. This study, therefore, pursues a different modality of inquiry. When ethical, moral, practical, or legal concerns prevent scientists from employing the entire scientific method, social scientists can still investigate matters such as the efficacy of a claimed medical procedure or drug by systematically obtaining the perspectives of the patient’s themselves (Westfall, 2004).

In August, 2013, Dr. Sonjay Gupta, CNN’s Chief Medical Correspondent aired a special known simply as “Weed.” Dr. Gupta has long been an opponent of medical marijuana, claiming that “the scientific research does not support the use of marijuana as medicine.” He held this view until he took the time to interview some actual patients and review the actual medical marijuana research in the United States and around the world. That was when he finally realized *why* there is so little research supporting medical marijuana. His epiphany was discovering that there is so little research

supporting marijuana use as medicine because the U.S. government has deliberately created a self-fulfilling prophecy by preventing this research since the 1960's.

We have been terribly and systematically misled for nearly 70 years in the United States, and I apologize for my own role in that. I had steadily reviewed the scientific literature on medical marijuana from the United States and thought it was fairly unimpressive. Marijuana does not have a high propensity for abuse and it does have legitimate medical uses. In fact, sometimes it is the only thing that works. There were in fact hundreds of journal articles, mostly documenting the benefits. Most of those papers, however, were written between the years 1840 and 1930 (Gupta 2013).

This 'new' information caused him to revise his original conclusions and his documentary describes in detail the federal obstacles to marijuana research already reviewed. His biggest objection, and the reason he changed his mind about medical marijuana, is the fact that NIDA will only approve a drug study on the harmful effects of marijuana which does indeed create a 'fairly unimpressive' body of research on the beneficial effects of marijuana, which is a gap this dissertation attempts to begin to fill.

CHAPTER 3: METHODS

Introduction:

This study employed in-depth, recorded interviews of medical marijuana patients. A total of 31 medical marijuana patients gave recorded interviews with twenty recorded participants who were “regular” patients and eleven who were patients and also producers or “Caregivers” under Michigan law so that all Caregivers interviewed for this study were also card holding patients. Several dozen shorter, often impromptu discussions were also conducted but not recorded for various reasons. Pursuant to IRB protocols, all persons who gave interviews from which data was collected via handwritten notes during or afterwards, or who were recorded and transcribed were provided IRB approved information sheets. Often impromptu discussions took place while awaiting the scheduled recorded interview or while visiting various marijuana vendors, seminars, and political rallies around the State of Michigan.

Sociology of Medical Marijuana:

Sociology is a discipline that explores the social interactions between people, groups and institutions as the primary unit of study. In almost all scientific disciplines, the goal is to reduce the object of study to the most basic components. That is, the goal of science is usually to focus the “lens of inquiry” as finely and as detailed as possible and to “zoom-in” on what is being studied. However, Sociology “zooms-out” the lens of inquiry and attempts to take in the larger picture to include the social forces that affect human social behavior. The focus is not only on human behavior but also the larger focus of the social influences on that behavior using what C. Wright Mills called the “sociological imagination.” Engaging the sociological imagination teaches us to step back from the

most typical unit of study, individual human behavior, and consider the broader social and group influences on that behavior. Thus, sociologists study the social interactions of the organism, not the organism itself. In this case, the unit of study was the newly created group of Michigan medical marijuana users and informed producers.

The qualitative sociological methods of in-depth interviews and observation used in this study started with anthropological research on primitive and exotic cultures (Neuman 2006). Beginning with the Chicago School "Field Work" in the 1920's and accelerating with conflict theorists in the 1960's, particularly the feminists, qualitative methodologies in anthropology began to be applied to the study and understanding of contemporary cultures and groups (Creswell 2008). The goal of anthropological research is to "grasp the native's point of view, his relationship to life, to realize *his* vision of the world" (Malinowski 1922). Thus, the goal of qualitative research is often expressed as an impressionistic or interpretive task of finding individual meaning that empowers "certain agents to create representations and thereby to authoritatively pronounce on the shape and structure of the world" (Hess-Biber & Levy, 2004). The interpretive researcher is encouraged to view the world as the participants view the world and to see what the participants see. In short, the fundamental characteristic of qualitative research, whether used to study "primitive" cultures or contemporary cultures and groups, is the "commitment to viewing events, actions, norms and values from the perspective of the people being studied (Bryman 1988).

Interpretive research is the "systematic analysis of socially meaningful action...in order to understand the interpretations of how people create and maintain their social worlds" (Hess-Biber & Levy 2004 page 88). Hermeneutics is the dominant interpretive paradigm

which advises the researcher to discover the meaning embedded in the text. The text in this study came from recorded and transcribed interviews of medical marijuana patients and caregivers and from memoranda prepared following some of the unrecorded interviews. Objectivity is not completely discarded in interpretive research; however, it is often understood that all value points are equally valid and that nobody has a superior position, value or point of view that is better than any other (Hess-Biber & Levy 2004 page 94).

Interpretive research is used frequently in research on traditionally oppressed groups such as African-Americans and women, especially where such research can be used to identify the roots, causes and forms of oppression. Critical theorists and researchers see their role as destroying the myths and empowering people to change society. This is achieved by bringing forward the ideas and perspectives of the oppressed group and by giving them a voice (Rubin & Rubin, 2005). The paradigm used in this research with medical marijuana patients is construed as a critical perspective since one primary goal was to report on the perspective of a group that has been legally and socially discriminated against. Society has created meaning for them that includes labeling them as deviants, drug abusers, and criminals. The users of marijuana for medical reasons have been arrested and vilified in print and visual media since before the 1930's. In fact, one would be hard pressed to find another group in the United States who has experienced more legal and social discrimination than marijuana users over the last 90 years. Thus, the research methodologies, the analysis of socially meaningful interactions and the goal of providing an understanding of a disenfranchised social group provide a better understanding of human behavior and social interaction.

Recruitment:

Recruitment of prospective participants was an ongoing venture and a particularly difficult and delicate job for a group like medical marijuana patients. IRB approved flyers were posted at Compassion Clubs and other sites where medical marijuana patients were known to congregate. IRB also permitted referrals from medical marijuana producers and suppliers including compassion club owners and operators, growers, certifying physicians and others who become known to the researcher. During the course of the research, potential referral sources were presented and utilized. These sources included various Compassion Clubs who held monthly public meetings, medical marijuana certification physicians, and contacts with various producers. Making contact with several owners and operators of compassion clubs, dispensaries, growers, and caregivers greatly simplified participant recruitment and resulted in substantially more referrals for interviews than were actually conducted.

Table 1 Interview Recruitment Sources		
<i>Number</i>	<i>Interviews</i>	<i>Method of Recruitment</i>
n=7	1-3, 7, 8, 20-21	Flyers (not purposive)
n=7	6, 11, 16,19, 23, 24, 30, 31	Personal contact with the PI during the research (Purposive)
n=26	4, 5, 9, 10, 12-15, 17, 18, 22, 25, 26, 27, 28, 29-31	Referrals (Purposive)

A total of seven participants, and the first three participants who provided recorded interviews, were obtained by posting flyers at medical marijuana dispensaries, compassion clubs and other areas where medical marijuana patients were known to gather. Additional contacts were requested at the conclusion of each interview and the remaining 24 participants were recruited using a partially-purposive snowball

methodology. This means that efforts were made to obtain a recorded interview sample population that roughly looked like the Michigan medical marijuana population on gender and qualifying medical condition. However, proper caution must be taken in interpreting these results since the sample in no way represents a probability sample.

<i>Referring source</i>	<i>Participant by Identifying Number</i>	<i>No. Participants Referred</i>
Non-referenced Participant	4,5	2
Non-referenced Participant	30, 31	2
11	9, 10, 12, 13, 14, 15, 17	7
16	25, 26	2
24,26	18, 22, 27, 28, 29	5

Interview number 4 and 5 were referred by one of the early respondents who functioned as an information source. Interviews 9, 10, and 12-15 and 17 were referred by interview 11, a delivery service operator. Interviews 25 & 26, a couple who operated a dispensary, were referred by interview 16, another dispensary owner. Interviews 18, 22, 27, 28, and 29 were referred by interviews 25 & 26. Interviews 30 and 31 were referred after a discussion with one of their work associates at the dispensary operated by interviews 25 and 26.

The initial research protocol to interview five medical marijuana patients and caregivers, advertising flyer, and participant information sheet was approved on February 16, 2011 by the Institutional Review Board at Wayne State University. Amendments expanded the number of participants and added additional prospective interview slots for activists and other knowledgeable persons who did not need to be carded patients.

The interviews were a convenience sample but “partial purposive sampling” was used because the interview sample group quickly diverged from the known population parameters, especially along the domains of gender and qualifying condition to use medical marijuana. The percentage of female patients and the occurrence of very serious conditions in the patient population are known from government sources in Michigan and comprise just 30% of the card holding patients in Michigan and less than 5% of patients with stage IV cancer or multiple sclerosis (LAR 2012). Therefore, the sampling methodology is characterized as “partial” purposive. Because although there was not a clear defining exclusion principle, there was a strong counter-resistance to the tendency of being primarily referred to the sickest patients. The referral sources and participants were repeatedly told we were looking for “the common and regular” medical marijuana patient. Therefore, due to selective exclusions, and with a goal from the beginning on the goal of obtaining a somewhat representative sample, the majority of the female volunteers and referrals were not interviewed and only two cancer patients and 1 Multiple Sclerosis (M.S.) patient were interviewed. Considerably more female patients volunteered or were referred to be interviewed than males even though only 30% of the population is female (LAR, 2012). Therefore 35% of the sample (11 of 31) chosen to be interviewed were female even though significantly more females volunteered to be interviewed than males. Similarly, while the actual population of patients is less than 5% cancer or multiple sclerosis fully 20% of interview volunteers and over ½ the referrals had one of these conditions. However, slightly less than 10% of the sample chosen to be interviewed had cancer or M.S. (3 of 31).

In short, considerably more women than men volunteered to be interviewed even though women are a minority in this population while a disproportionate number of cancer and M.S. patients were referred or volunteered to be interviewed. The initial goal was to determine if medical marijuana was a “ruse” or whether people were actually using marijuana as medicine. As stated previously, this soon changed to a more interpretive structure with a goal of finding the views and perspective of the “regular” medical marijuana patient not just to provide evidence for the efficacy and utility of medical marijuana by interviewing a population that was unbalanced on gender and qualifying condition. Therefore after the first couple of interviews and a larger number of volunteers and referrals began to come forward, the rejection criteria became more selective and there was a deliberate effort to over-sample certain categories such as qualifying conditions like chronic pain which is over 70% of the population (LARA 2012) and under-sample other categories such as females which is just 30% of the population, so that the final sample was more qualitatively similar to the known population parameters.

This was not always a simple task because there was a very strong tendency for medical marijuana patients, particularly activists with a financial incentive in the medical marijuana industry, to refer the most serious patient cases. However, while the sample is not a random sample, it was not a pure convenience sample either with gender, severity of medical condition, and type of medical condition all roughly balanced in proportion to the known population parameters. Interviewee characteristics are shown in Table 3.

Table 3: Interviewees by qualifying medical condition		
<i>Medical Condition</i>	<i>Interviewees</i>	<i>Percentage</i>
Severe Pain/Post-Surgical Trauma	8	(25%)
Cancer	2	(6%)
Multiple Sclerosis	1	(3%)
Minor Back, Neck or Muscle Pain	2	(6%)

Arthritis	7	(23%)
Minor Headaches	1	(3%)
Severe Headaches (Cluster/Migraine)	2	(6%)
Minor Knee pain	3	(10%)
Severe Knee or Hip Pain	3	(10%)
Other	2	(6%)

Consenting Procedure:

Participants who volunteered for interviews initiated contact and were then provided information about the study. Those who agree to a taped interview and provided contact information were provided the information sheet before any data was actually collected or recorded. Consent to participate in the study was obtained verbally once the participant read the information sheet and any questions or concerns were addressed. Unsigned Information Sheets were used because the main risk of the study was a breach of confidentiality and the use of an Information Sheet protected the anonymity and confidentiality of the respondents. Participants were given the opportunity to review the transcript of the interview and explain or supplement the answers although only one participant took advantage of this opportunity.

Creating the Questions, Gathering Information:

During the course of two years of research, dozens of patients, caregivers, dispensary principles, growers, lawyers, professors, reporters, public organizers, lobbyists, and physicians shared opinions and feelings on the use of medical marijuana and the implementation of the Michigan Medical Marijuana Act. In most of these impromptu discussions actual data was not collected, but, the information was often used to formulate the themes for the recorded interviews. When notes were *not* taken during or after an informal interview an Information Sheet was not always provided. When the

Information Sheet was not provided to individuals and notes were not taken during or immediately after the interview, the information gained was not used in the final report of findings since this data was insufficiently systematic to warrant reporting as "Findings." Further, the prospective participants were insufficiently informed of their role as research participants to justify using this as primary data. However, the transcripts of the recorded interviews are filled with prefaced questions such as: "I had heard that..." Thus, this data from the discussion where an Information Sheet was not provided was formative in refining the Interview Guide and the topics to be discussed with the recorded participants.

There were also several dozen unrecorded discussions where notes *were* taken during, or memoranda *were* drafted or dictated after, the discussion. These individuals were considered interview participants and were given an information sheet, and freely gave consent for their information to be used as data in the study. Some of these were short conferences, perhaps while in the waiting room at a dispensary or before the start of a conference or political rally while other information was gathered over multiple conferences and some even lasted several hours. Over 100 pages of handwritten and dictated notes and memorandum were accumulated during the information gathering process and reviewed during the writing and hypothesis formulation process for this paper. However, the primary use of this information was to help develop the formal codes for the transcribed, recorded interviews and not as a separate, systematically collected set of data points.

Study Procedure:

Interviews took place at a location of the patient's choosing. Approximately a quarter of the interviews were in a public location such as the library (n=2) or a restaurant

(n=4). The majority of the interviews took place in the participants home (n=18) while the rest (n=7) took place at a medical marijuana center. Six of the interviews were tandem or dual interviews with two married couples and a long-time intimate couple. In these interviews, both members of the dyad were medical marijuana patients and both were interviewed concurrently.

Interview Guide

The interviews were conducted using an eight page Interview Guide as a template (Appendix 1). However, these interviews were not heavily structured. Instead, they were guided by the Interview Guide and developed as semi-structured qualitative interviews whose purpose was to learn the patient and caregiver perceptions about the effects, use, acquisition, and provisioning of marijuana. Therefore, the format of each interview was unique and the topics ranged depending on the participants interests and knowledge. Each participant had areas of interest and stronger feelings about certain topics than others. After the first few interviews, when it became manifestly clear that the originating question about whether marijuana is actually being used as medicine was going to be affirmative, the interview format changed slightly to provide more room for the participants to express their individual concerns, perceptions and experiences. The interviews were recorded and transcribed. Most of the patient interviews took approximately an hour while most of the caregiver interviews took one to two hours.

Each recorded interview began with the question: “What is your qualifying condition to use medical marijuana in Michigan?” This was followed by a detailed medical history, and then the participant’s perception about his or her use of medical marijuana, including beneficial and harmful effects, method of use and frequency of medical

marijuana use, as well as, an interactive discussion of the certification process, and each individual's visit to the medical marijuana doctor. The topics of stigma, dealing with the children of patients, use of different medical marijuana strains, and initiation into the use of marijuana and medical marijuana were added later to the interview guide. Finally, demographic information such as income, class, political affiliation, work and school history, and religion were briefly discussed.

Some topics were not even considered as a research theme or question until several transcripts were reviewed. They showed a clear theme. For example, almost every participant spontaneously provided detailed stories of social isolation, and the loss of family, friends and significant others over opposition to the participant being a medical marijuana user or patient. Therefore, the Interview Guide was changed to add the topic of stigma. Similarly, a review of the transcripts revealed a clear tendency of several participants to revert to euphemistic expressions about the efficacy of marijuana that took a few readings to identify. Participants extemporaneously described marijuana as an all-natural remedy, and some talked about marijuana as an almost sacred herb that promotes peace and harmony. Ultimately in a few cases, the participants began extolling the benefits of free love and sex that the individual participants felt were fostered by the use of marijuana. This topic was recognized as a similar ideology to that expressed by hippie culture. Thus discussions in this genre were coded under the heading "Hippie Talk."

Four topics were chosen to present as findings for this paper: reduced opiate usage, unequal enforcement and stigma, availability, and quality. Each chosen topic or theme (as well as subtopic and themes) is given a separate Chapter in the "Results"

section. Narrative passages from the transcripts provide multiple perspectives that were used in a discussion of the interconnected themes (Creswell 2003).

Data Analysis:

The interview transcripts were subjected to a first pass of open coding followed by more tight and specific codes at the conclusion of data collection (Creswell, 2003). The initial categories were the twelve main topics listed in Table 4 and were covered in the interview guide which was constantly revised as more information was discovered:

1	Perceived adverse effects of marijuana;
2	Perceived beneficial effects of marijuana;
3	Certification procedure including fraud in the process and experiences with medical marijuana physicians;
4	Children of medical marijuana patients whether they know of patient status, whether this affects them, and how they were told;
5	Patient Demographics;
6	Initiation into the use of marijuana and medical marijuana;
7	Patient views on the cannabis dialectic;
8	Patients qualifying medical condition;
9	Strain specific effects of marijuana as perceived by the user;
10	Qualifying medical condition;
11	Stigma experienced by medical marijuana users;
12	Use of medical marijuana such as frequency, modality etc.

The process of qualitative data analysis involves making sense out of text data, preparing the data for analysis, and interpreting the larger meaning of the data (Creswell 2005). The process is iterative and reflective which means that data analysis is circular with new information feeding back and causing the researcher to change tone and the questions for the next interview.

Preparation for data analysis begins even before the researcher begins collecting data with narrowing of the research topic and a literature review of previous data points

that have been collected on the topic. Once data collection begins the process of analysis continues and deepens. As data is collected from qualitative interviews, this new information is used to refine the existing themes and questions and even formulate entirely new themes and questions through a continual process of data collection and reflection. Data is collected, interviews are conducted and the information is used to modify the existing questions and themes.

The process continues until saturation of the data is achieved. Some of the findings reported in this study were obvious almost immediately and saturation of the data occurred relatively quickly. For example, the first four interviewees spent some time talking about the fact that marijuana use let them decrease their opiate use and this continued throughout every single one of the thirty one interviews where the patient's complaint was chronic pain. However, it was not until very late in the interview process (specifically interviews 25 and 26) that the structure of dispensaries and alternate marijuana delivery organizations came into focus. Complete saturation of the data on this topic did not occur until the final two interviews. Saturation of the data for different strains of medical marijuana did not occur during this study and this report is very preliminary. This subject is strongly recommend for further interview studies that focus on comparing patients with more serious qualifying conditions to those with less serious conditions.

Development of Interview Themes:

In Qualitative Research, the themes are often said to 'jump out' of the interview transcripts or observation notes (Rubin & Rubin 2004). In this study, over 1,200 pages of interview transcription was completed and typed over the course of 31 interviews. During the course of the interviews, the Interview Guide was further developed via hand-written

notations, memoranda and further research. The interviews were then transcribed and the relevant portions of the transcript were coded under 19 major themes that had been discussed during the interviews. Four categories in the major themes were later collapsed from the 19 categories into a total of 15 thematic categories that are listed and described in Table 5 **Final Codes** below along with the pages of transcript devoted to that topic over 31 interviews.

The quotations, discussions, and questions from the transcripts were included in a “Qualitative Data Analysis” directory which was used in the analysis and comprises the portions of transcript cited in the results section as shown in Table 5 :

<i>Code</i>	<i>Description of Discussion</i>	<i>Pages of Transcription</i>
Adverse Consequences	Negative effects from use of marijuana	30
Beneficial Effects	Positive effects from use of medical marijuana	25
Cannabis Dialectic	Social split between pro and anti-marijuana groups including discussion of larger social issues like legalization and the effect government control	57
Children	Explaining patient status, diversion issues, use by children	40
Demographics	General demographic questions	172
Doctor’s Visit	The Medical Marijuana certification process	41
Dispensaries	Formation, operation and structure of medical marijuana centers in Michigan	63
Fraud	Evidence for fraud in the certification process and no legitimate medical need	41
Reverse-Gateway	Medical marijuana reducing opiate usage	47

Hippie Talk	Discussions of free love, peace, communal living, open sex practices, new age, Eastern religions including references to 'all natural' or 'chemical free' life while using.	28
Initiation	First time using marijuana and medical Marijuana	14
Michigan Marijuana Act	Implementation, rule changes, case law	12
Stigma	As experienced and perceived by users	6
Strains	Discussions about different types of marijuana including modality of use such as concentrated oils and tinctures	59
Use of marijuana	A catch-all category including types and modalities of the use of marijuana	117

Using MS Word, each of these themes was given a separate directory name and the transcript excerpts were labeled, and then cut and pasted into the appropriate file. Because of the fluidity of the qualitative interview process, this was by necessity a flexible process. For example, the section on the "Certification Process" was collapsed entirely into "Doctor's Visits." Similarly, sometimes a transcript excerpt was placed into more than one file. For example, discussions about the "Doctor's Visit" often segued into "Fraud" because the physician's certification is closely related to the seriousness of the patient's qualifying condition and because some patients claimed the doctor's visit was itself an example of "Fraud."

Some categories were not used in the final analysis of the results: "Adverse Consequences" had 30 pages of transcription, but most of it was questions about any adverse consequences from marijuana use followed by a denial of any adverse

consequences although a few patients complained about coughing and headaches from “smoking too much.”

The topic of “Children” was fascinating and was almost chosen as one of the four to present in this dissertation, but space constraints prevented this. Questions about the children of medical marijuana patients were not pursued until later in the interviews, beginning with interview 18 and most of the 40 pages of transcript devoted to this topic were from just 4 interviews. This topic is strongly encouraged as a future area of research.

The topic of “Demographics” was not an important topic for a qualitative study except insofar as it revealed the participant population which was 99% white (30 of 31) and 35% female (12 of 31). The interview population was also highly educated (see Table 9).

The most significant results were collapsed into four main categories corresponding to the four sections in this dissertation on “Findings.”

Table 6: Findings Reported In this Study	
<i>Final Findings</i>	<i>Original Questions Category</i>
Reduced Opiate Use	<ul style="list-style-type: none"> • Beneficial Effects • The Cannabis Dialectic • Reverse-Gateway <ul style="list-style-type: none"> • Hippy Talk
Unequal Law Enforcement and Legal Concerns	<ul style="list-style-type: none"> • Cannabis Dialectic <ul style="list-style-type: none"> • Doctor’s Visit • Michigan Marijuana Act <ul style="list-style-type: none"> • Stigma • Dispensaries
Medical Marijuana Distribution	<ul style="list-style-type: none"> • Dispensaries • Michigan Marijuana Act
Strains of Medical Marijuana	<ul style="list-style-type: none"> • Use of Medical Marijuana <ul style="list-style-type: none"> • Strains

Therefore, the Results section was primarily derived from the data that was copied into the 15 Thematic Categories (Table 5) and then interpreted and condensed into the final findings (Table 6).

Patient and Caregiver Interview Characteristics:

There were two categories of interviews:

Table 7 :Interview Types	
Regular patients	n=20
Caregivers	n=11

A “regular” patient was an individual with his or her certification card from the State of Michigan who had been approved to use medical marijuana by a physician who judged he or she had a serious or disabling medical condition, the symptoms of which could be helped by the use of marijuana. These interviewees did not have any significant contacts with the medical marijuana industry in Michigan except as consumers and their interviews took approximately one hour.

The remaining interviews (n=11) were with patients who were also individuals classified as caregivers under Michigan law. The Caregiver interviewees were all producers and activists in the medical marijuana community. Proposal 1 under Michigan law allows each patient designate a caregiver who may grow, purchase, or otherwise obtain marijuana for his or her patient and legally receive remuneration from the patient. These interviews took approximately two hours, and included the personal observations about the categories and types of patients they had observed.

Table 8: Caregiver Interviewees by medical marijuana experience
<i>“How many patients have you personally observed or advised about the use of medical marijuana?”</i>

<u>Number of Caregivers</u>	<u>Number of Patients claimed to have advised others about the use of medical marijuana</u>
1	A few dozen
4	Lots...too many to count
2	Hundreds
2	Thousands

The Caregivers interviewed were not representative of the population of medical marijuana patients as they were mostly highly educated producers, leaders, and activists in the medical marijuana community. Only three Caregiver interviewees did not have a college degree, two of these were young females recently graduated from high school who intended to go to college while the 3rd was a middle-aged, self-identified hippie who had a tie dyed shirt and rainbow pony tail. Three of the eleven recorded Caregiver interviews held a Master's Degree.

Table 9: Interviewees by Education			
<i>Interviewee Characteristics:</i>	<i>High School</i>	<i>College</i>	<i>Masters</i>
Patient Interviews (n=20)	11 (55%)	7 (35%)	2 (10%)
Caregiver Interviews (n=11)	3 (27%)	5 (46%)	3 (27%)

Interviewees Previous Experience with Marijuana:

Twenty-eight of the Thirty-one respondents (both Patient interviewees and Caregiver interviewees) reported using marijuana before they developed their qualifying condition. Two others were born with their qualifying medical condition and began using marijuana before age 15. This convenience sample is too small to provide a meaningful average (mean) age of entry into the use of marijuana and this was certainly not the purpose of this study. However, the median (middle number in the range) and mode (most common number in the range) is interesting: According to the interviewees, both

the median and mode of entry into the use of marijuana was age 15. Four respondents reported first using marijuana at age 9, two at age ten, and one at age six.⁴ All but two had been smoking regularly on a daily or weekly basis since their initiation. Several claimed they started smoking marijuana at age 18. Only one first tried marijuana at age 25 and one stated she was in her 60's the first time she used marijuana. Five patients or caregivers were unclear on the age they began or did not wish to divulge this information.

Observations of "Medical Marijuana Dispensaries" as Alternate Medical Care Providers:

The interview process provided a number of opportunities to physically inspect approximately twenty medical marijuana centers across the State of Michigan including visiting facilities located in Lansing, Flint, Detroit, Grand Rapids, Ann Arbor, Northeastern Michigan, and Northern Michigan. The results included personal observations, formal recorded interviews, and the ability to gather information from lawyers, medical marijuana center principles, and employees working within the medical marijuana industry in Michigan. Personal observations backed up by formal recorded and unrecorded interviews were used in specific circumstances particularly in order to describe the physical operation of medical marijuana centers in Michigan.

Methods- Conclusion:

This study employed in-depth interviews with a non-probability sample of Michigan medical marijuana patients and caregivers which is a unique and little studied population. A total of thirty one medical marijuana patients gave recorded interviews for this study including twenty "regular" patients and eleven producers or "Caregivers." Several dozen

⁴ This interviewee grew up in a "hippie commune" and believed her initiation may have been several years earlier but listed age 6 because this was her first memory of smoking marijuana.

short, information sessions were also conducted and used to modify the interview guide and refine the initial codes into the final codes that were used. The recorded interviews were then transcribed and the interview guide codes (Table 5) were developed in a highly iterative process into the final codes (Table 6). Each transcript was then read and the relevant excerpts from the transcript were copied into the appropriate final code category for data analysis.

CHAPTER 4: USE OF MARIJUANA DECREASED OPIATE USE: THE “REVERSE GATEWAY EFFECT”⁵

The most prominent and earliest theme uncovered was the almost universal claim by patients and caregivers that medical marijuana reduced or eliminated use of prescription painkillers, in particular orally administered opiate narcotics. This claim is at odds with previous studies on marijuana use and abuse. In fact, there are numerous studies on the Gateway Hypothesis that the use of marijuana leads to use of “hard” drugs like heroin and cocaine, but very limited research on the potentially beneficial effects of marijuana. The Gateway Hypothesis is the centerpiece of the campaign against marijuana. The Drug Enforcement Administration (DEA) argues:

Marijuana is a frequent precursor to the use of more dangerous drugs... marijuana users are five times more likely to become drug dependent, eight times more likely to use cocaine, and fifteen times more likely to use heroin later in life (DEA 2011).

However, proving the Gateway Hypothesis has been problematic. There is no question the use of marijuana is associated with later use of more dangerous drugs in specific cases, but it has not been proved that these individuals were not influenced by other factors. Some studies find support for a general causal model that marijuana use leads to use of “hard” drugs (Fergusson 2006) while others dispute the methodology and interpretation of these findings (Kandel 2006). Most reviews acknowledge the interesting correlation but reach an inconclusive result. One of the more convincing recent studies used a meta-analysis of longitudinal, animal, epidemiological and twin studies to determine causality of the gateway effect claims (Hall 2009). Hall showed

⁵ An earlier version of this Chapter was published by the author as “Patients and Caregivers Report Using Medical Marijuana to Reduce Prescription Opiate Narcotics” *Humbolt Journal of Social Relations* Issue 35:29-41 (2013). The term “reverse-gateway” was coined by an early physician participant who was not recorded.

that pre-existing traits, along with social and peer influences caused by early and/or heavy entry into the drug culture are the primary influences in later abuse of other illicit drugs. He concluded that regular cannabis use may have pharmacological effects on brain function that increase the likelihood of using other drugs, this “minor” effect is a “secondary concern” in human subjects (Hall 2009).

The claim that marijuana use decreases the use of other drugs was called the “Reverse-Gateway Hypothesis” in several conferences including all four discussions with medical marijuana certifying physicians in Michigan. All the physicians agreed with the Reverse Gateway Hypothesis and claimed that the “overwhelming majority” of their patients seek marijuana in order to decrease their prescription use, especially opiate narcotics.

Therefore, since the primary aim of this paper was to present the patient perspective and perceptions about the effect of medical marijuana, the effect of marijuana use on prescription drug use was the first finding. All patients and caregivers who had experience with opiate narcotics expressed the view that medical marijuana is not a Gateway Drug that increases the likelihood of illicit drug use but a Reverse Gateway Drug that permits a decrease in concurrent opiate narcotic drug utilization.

No studies were located on the issue of using marijuana to substitute or decrease opiate narcotics or any prescription medicines. However, there is a growing body of research showing marijuana may reduce the negative side effects of various symptoms and signs associated with narcotics use and withdrawal, especially nausea (Todaro 2012) and headaches (Robbins 2009). Thus, the additional untested claim that marijuana use may also decrease opiate narcotic consumption by acting (like

alcohol) as a mutually exclusive agent cannot be ruled out. A claim that greater consumption of marijuana is associated with less consumption of opiates appears to be plausible. This paper is the first to report the medical marijuana patient's claim that marijuana acts as a mutually exclusive agent with opiates and thereby decreases the use of opiates with greater use of medical marijuana.

Finding 1 on Decreased Opiate Use is an example of Applied Medical Sociology:

Medical sociology is an application of sociological methods and theory to the evaluation of the role of social factors in the development of disease and illness. "Sociology of medicine" is the study of the organization, structure, relationships, norms, values, and beliefs of medical practice as a form of human social behavior (Cockerham 2010). Medical sociology is also interested in the causes and consequences of social effects on the health of particular groups and the larger society which is often referred to as "sociology in medicine" (Cockerham 2010). Medical sociologists often collaborate with physicians to study the social cause and determinates of diseases or conditions and tend to be motivated by a medical problem, rather than a direct social consequence (Cockerham 2010). This study primarily focuses on Medical sociology, or the sociology in medicine. These interviews are examining the social effects on the medical marijuana users of Michigan.

The interview results from this study are reported in two sections as outlined above in the "Interview Types" section. Results from "Patients" are reported in Section One while results from "Caregivers" (Producers and activists) are reported in Section Two. Eleven of nineteen patients and eight of nine caregiver interviewees who talked about the topic had experience with opiate narcotics. All patients and caregivers who

had experience with prescription opiates made sweeping claims that they personally reduced opiate consumption and/or had personally observed patients reducing opiate consumption as a result of using medical marijuana. Many provided personal, specific and detailed examples of patients using medical marijuana to substitute for other drugs, particularly prescription opiate narcotics. The only patients who did not claim they substituted marijuana for opiate narcotics were patients who were not originally taking opiates.

PATIENT RESULTS

A. Patients reported completely eliminating prescription opiate narcotics by substituting medical marijuana.

Several patients claimed they had been able to completely eliminate narcotics by substituting marijuana. One participant, a male P8 in his 40's with dual hip-replacements and severe arthritis described months of his life in a "complete daze" taking Darvon, Oxycodone, and sublingual Codeine. He mentioned several times that he was only able to completely discontinue these drugs because of marijuana:

I: You mentioned, and I want to just get it out on the record, you have been able to decrease or discontinue narcotic medications because of having medical marijuana?

P: That's exactly right.

I: You have been able to completely discontinue?

P: Yeah.

Many patients were almost unable to contain their glee when they reflected on their drug use before and after access to medical marijuana. One male, in his 50s, a College Graduate was suffering lumbar pain post-surgery after he broke his back at work. The

medical history was consistent with low back herniated discs and lower right side peripheral neuropathy:

I: Are there other drugs that you are not on now that you might be if you didn't have marijuana?

P: Yes I no longer take, the... frankly, I want to jump up and dance because of that. You know. I took those pain pills and all those other pills for so long. But, no more Tramadol [a prescription opiate pill] for me! I don't have to see the doctor at the prescription mill for any pills, so no.

I: So, no antidepressants, no pain medications, no Tramadol just marijuana.

P: That is correct

Four of eleven patients who claimed experience taking opiate narcotics agreed they were able to completely eliminate the pharmaceutical opiates by using medical marijuana.

B. Patients reported reduced use of prescription opiate narcotics by substituting medical marijuana.

Other patients whose condition was more life altering claimed they had been able to reduce their use of opiate narcotics by substituting marijuana. Seven of eleven patients reported they were able to reduce the number of pills taken, but did not completely eliminate the use of opiates because the pain was still existent.

In two interviews, the respondents claimed they had significantly reduced opiate narcotics use while simultaneously claiming they had recently added a morphine pump to their medication regimen. The morphine pump was described as considerably less psychoactive and did not have the side effects associated with opiate pills.⁶ During the interviews it became clear that the participants believed the medical marijuana in conjunction with the morphine pump made it possible to decrease opiate usage.

⁶ An intrathecal pump delivers morphine at about 1/300 the dose used for oral administration.

In an interview with P12, a female in her 30s with Multiple Sclerosis it was disclosed:

P: When I was on oral meds I was just not with it. You could talk to me and have a conversation with me and 10 minutes later I wouldn't remember what you said, and then I'm on the liquid morphine it's like a whole new world to me.

I: Is that because it is a steady supply and not an up-and-down situation? what do you attribute that to?

P: They said when you're taking oral meds it has to go through your whole entire body...head to toe. When they put the pump in, it goes to my back. I don't have to swallow. It doesn't have to go through my whole entire body. I don't feel high all the time like I did when I had to take the orals every six hours, every day

She claimed her ability to get off some of “the orals” was directly related to use of medical marijuana:

I: Have you been able to reduce or discontinue any of your medications as a result of your use of marijuana?

P: Yes, absolutely. I used to be on probably about 20 different pills, and I am down to I think 7 or 8.

I: So by two-thirds?

P: Oh, absolutely yes, yep

A male patient in his 40s, P14, who suffered severe post-surgical lumbar trauma, also related a history of taking “handfuls” of narcotic pain medications. He described taking large numbers of narcotic pills every day and claimed a dramatic reduction in his pill use due to the availability of medical marijuana:

I: Is it your claim you have been able to reduce or discontinue some of your narcotics and high schedule medications because of your use of Medical Marijuana?

P: I was taking 20 pills a day, almost 20 pills a day and now I am down to 12

Patients frequently provided specific and detailed quantitative information about their reduction in opiate use based on their perceptions and memories. This patient believed his morphine pump was particularly effective in conjunction with medical marijuana to reduce oral narcotics use.

I: So, do you think you would have graduated to the morphine pump earlier if you had not had access to medical marijuana?

P: Of course. The pump and the pot work together a lot better than the pills. It takes out the pain, but it doesn't mess up your mind.

The combination of morphine and medical marijuana, in the perception of several patients allowed a reduction in prescription opiates, allowing them to function more clearly. This preference was obvious not just with back pain, but also with other maladies, such as Cancer.

Both Cancer patients interviewed were Stage IV with severe pain and mental distress. They spent some time describing their experiences with prescription narcotics. Medical marijuana was literally their last stop, and both talked extensively about the importance of being able to reduce their narcotics intake and about the amounts of narcotics they were prescribed. First was PP22, a 60s aged female cancer patient.

I: Well, let's talk about that what kind of drugs were you taking?

P: I was taking Vicodin extra-strength three times a day backed up by an Ultram which is an anti-inflammatory, and also a Duragesic patch with 50 micrograms that I change every three days. It gives me a constant flow of medicine.

I: Have you had to take a lot of narcotics?

P: I had to take a tremendous amount of narcotics. Tremendous, tremendous, tremendous amount

Both cancer patients claimed they were able to significantly reduce their narcotics use by substituting marijuana. P60s was able to take less of the "tremendous" amounts of

narcotics that she had as part of her treatment. This was echoed by P27a female cancer patient in her 50s :

P: When I use the oil and smoke, I find it. I realize – wow. It is two hours past the time when I would've normally taken my Fentanyl [a potent opiate and general anesthetic]. I have two 100 milligram patches Fentanyl that I use at a time. As well as, 40 or 50 milligram of Oxycodone [a/k/a Oxycontin, a potent oral opiate] immediate release on top of that.

I: Were you able to decrease any of your treatments since you started using medical marijuana?

P: Well, that I have been able to do, yes, absolutely. Like I said before, be, be less dependent on those pills...which makes me happy. But as far as changing any protocol like at the cancer center, then no.

Results were consistent across several medical conditions. Of the eleven patient interviewed who were prescribed opiates/narcotics for their condition, regardless of whether the medical condition was trauma, Cancer, Multiple Sclerosis, Arthritis, or some other pain inducing condition, they unilaterally made nearly the same claim. If the patient had a history of prescription narcotics utilization, after integrating medical marijuana into their treatment they had been able to reduce or eliminate opiate narcotic pills by using medical marijuana.

C. Caregiver Results: Caregivers agreed that medical marijuana is routinely substituted for prescription narcotics.

In addition to 20 patients, eleven caregivers (producers, activists and patients) were also interviewed. They were also asked about their observations on the use of marijuana in order to reduce opiate use.

One of the 11 caregiver interviewees (P19) was a male in his 20s who worked as a medical marijuana dispensary operator did not agree that medical marijuana regularly decreased opiate use.

I: [of the “thousands” of people you have talked with about medical marijuana] How many people have you personally witnessed able to reduce or discontinue medications, pharmaceuticals, because they started using medical marijuana?

P: Personally, about 10.

He thought this was a fairly low percentage of patients because narcotics addiction is so powerful.

His position involved in administrative matters, and he did not routinely talk to patients about their

medical condition. His personal history did not include personal experience with opiate narcotics

P: I would say about sixty percent [of medical marijuana patients] are taking pharmaceutical pills still.

I: So well over half you think?

P: Oh, yeah.

I: And, how many of these sixty percent have been able to reduce the number of pharmaceuticals they’re taking?

P: Probably not many, I would say probably five percent. The rest are still so hooked on it; that it is really hard.

The other 10 other caregiver interviewees reported they had experience talking to patients specifically about their medical conditions and also had personal experience taking opiate narcotics. They all claimed that medical marijuana was used to decrease opiate narcotics.

The interview with Participant 1 was indicative of many of the users. She was a young white female in her early 20s a High School Graduate, who suffered fibromyalgia and Scheuermann's disease (mid-back kyphotic or “hunchback” changes that are often

very painful) and worked as a medical marijuana dispensary employee in a medical marijuana dispensary in Northeastern Michigan. She and her parents were both caregivers who worked at the medical marijuana facility. Her specialty was baking THC candy and other edible medical marijuana preparations (“medibles”). She described her condition as including extreme and disabling pain that caused her to miss a significant amount of high school and develop an extensive medical history. She talked for some time about her medications that included “huge amounts” of Vicodin, and several other narcotics, anti-depressants, Flexerol, and non-steroidal anti-inflammatory medications. Both her personal experience, and her broader experiences working with the patient population supported the hypothesis that marijuana might be useful to “decrease” narcotics intake:

I: Have you been able to decrease other treatments since you started using medical marijuana?

P: I use nothing but medical marijuana.

I: You don’t use any narcotics?

P: Nope. Nothing.

The young woman’s observations about the patient population matched her personal medical history:

I: I have heard some doctors mention that perhaps marijuana is a reverse-gateway drug, that is. It doesn’t cause you to try other drugs, but it helps you get off some of the drugs you are already on.

P: Oh, yeah. Especially working, you know at a Compassion Club. I, well, have seen that a lot. People will are coming to us mostly because they don’t want to be on any more, or so many. I mean I started [using medical marijuana] because I didn’t want to be on those pills.

P1's experience with "Wanting to get off those pills" became one of the most common themes in the interviews.

The second caregiver interview (P2) was a female in her late teens that suffered from chronic knee pain and worked as a medical marijuana employee had the least experience in the medical marijuana industry of all the interviews classified as "Caregiver" interviews. She had only worked in a dispensary for six months, but extemporaneously set the tone for later interviews despite critical questions and pointed probes:

I: Have you ever seen anybody use marijuana as a gateway to use harder drugs?

P: I have because I feel like that's what we've been told our whole life, and so that's just how it is. That's what we've been told, but I mean they don't. It is not true.

I: Can you be more specific what did you see? What have you heard?

P: I mean, my whole life going to D.A.R.E. classes for instance? That marijuana is a gateway drug, and then I believed that for the longest time you know, and then I previously worked at [Medical Marijuana Center name withheld] in [City name withheld] and I saw everybody coming in there for it, and just like especially the old people. It really touched me because they come in complaining mostly about Vicodin, and 'how they put me on this and that, and it was killing me.' Lots of older people would come in and tell me about how medical marijuana saved their life by letting them get off that stuff.

Both groups of interviewees, Patients and Caregivers, used very similar language such as "saving their life" or "lets me live my life" or "lets me function in my life" in describing how medical marijuana is used to substitute for opiate narcotic pills.

Participant 11 was a Master's level college instructor in his 50s who had back pain. He worked as a medical marijuana delivery service provider and a medical office

consultant. He reported, when asked about his experience with patients and narcotics usage before and after medical marijuana:

P: I may have personally processed four hundred doctor certifications. I am the one the person talks to the longest...doing their case prep [for the doctor's office] And through these hundreds of patient encounters, I would say about ninety percent of them have already been taking doctor prescribed narcotic and opiate pharmaceuticals and...the side effects of these are so onerous and debilitating themselves they are not able to function in their normal capacity, and they are seeking to get off the zombie effect of the pharmaceuticals. That is where medical marijuana really works well.

His statement about the “zombie effect” of opiate narcotics is one that many suffers of pain find difficult to combat, without narcotics they are in pain, with narcotics they are numb. Their reports of medical marijuana making life bearable and still being able to function is both interesting and promising for the Reverse Gateway Hypothesis.

A medical marijuana dispensary owner and operator, P 16, was a male in his 30s who was an avid activist and lobbyist for medical marijuana. He personally suffers from back pain. In his interview, he continued the assertion of the earlier participants, using an even larger sample. He is a prominent political activist, the president of a statewide medical marijuana advocacy group, a caregiver, and a ‘bud tender.’ He owned a large medical marijuana center in the State of Michigan. “Bud tender” is a California term. Because of legal ambiguities there is no commonly accepted term for the retail vendor in Michigan who actually hands the cannabis samples to patients and advises them about the properties and expected effects of the available types of cannabis. Many in Michigan prefer the title “Cannabis Counselor.” All of the caregiver interviewees were “Bud tenders” except the first interviewee quoted in this section who did not agree that marijuana commonly substitutes for opiates. P16 had considerable direct access to the

patient population that included “several thousand” sit-down interviews and discussions with patients specifically about their medical condition:

I: How do we compare cannabis to other drugs that are available? We start off with Tylenol and Motrin, and most people tell me oh no it (medical marijuana) is better (at killing pain) than Tylenol and Motrin. And then we get into Tylenol with codeine, and they tell me they don't want to take it. And then we get onto Vicodin, and then Percodan, and a Morphine drip.

P: We will help everybody but sometimes they need to supplement and cut down on a bunch of the pills that they are taking and use cannabis instead, but then still have to take those from time to time because the combination, or at certain times of pain, it's just, you have to go there when it gets too bad. And that's fine, everybody is different. Sometimes people eliminate them all together which is better. And sometimes—

I: You mean the pharmaceutical?

P: Right. And then sometimes people eliminate one or two pills a day, and that's it. But over a period of time the amount of stuff you are putting in your body, and the amount of cost, health costs, [of] those things is realized, even if it is just a couple of pills a day, you know. So there's, there's a combination of everything. Just reduce it a little bit, reducing it a lot, and eliminating it. But either way, if you interject marijuana in there, it makes things a little bit better

Like Interview 1, his personal experiences were similar to his broader observations:

I: And you know what a gateway drug is of course?

P: Yeah, and I know cannabis is not. Cannabis is an exit drug, it helped me quit taking opiates, and all that crap. I'm also on over 6 years of not drinking.

Interview P16's personal and professional experience is interesting in light of the social stigma that is currently on the use of marijuana and medical marijuana because of its affiliation with crime and other harder drugs. In P16's experience, he credited cannabis with getting many people away from pharmaceutical narcotics, and for his departure from drinking. He states quite clearly that it is an “exit drug.” And, he was not the only interview with strong feelings on this subject.

A tandem dual interview (P25 & P26) with a manager and girlfriend of a West Michigan medical marijuana center yielded even more sweeping claims. They were in their 30s-40s both college graduates and suffered from chronic radiating pain and headaches. They owned and operated a medical marijuana dispensary. Both Participants had already discussed the issue before the interview with the researcher.⁷ Each had talked with and advised “hundreds” to “thousands” of patients and were so eager to tell their story the interviewer could barely complete the questions:

I: Have either of you ever heard mentioned in your presence that maybe somebody was able to reduce pain killers and narcotic drugs...

Female: (interrupting) all the time...

I: as a result of their marijuana use?

Female: All the time.

Male: Yes, all the time.

...Crosstalk....

Female: Yes, yes, more people than I could list. We have people come in here, well, all the time, every day, and talk about that. Yes, of course.

I: Do you think that the majority of people who come in here and you talk with you claim they are able to reduce the meds, the narcotics they're taking.....

Male: Yes

I: because it is probably really only a few people who....

Male: No!

Female: No!

....Crosstalk....

⁷ The center was also participating in an investigation with the author comparing patient perceptions of blinded strains of medical marijuana with the chromatographically revealed components and concentrations.

Female: So many people. So many people, you know, text us. They thank us, this is something we hear all the time. It is not a small thing. I mean, people want to wash our car, or babysit our kids for free. Their so thankful, and it really is all the time. It's every day.

Male: Every day, and several times a day

...Crosstalk...

I: go ahead.

Male: I see, I mean. Yeah, I see people myself, firsthand, come in, and more times than not, they're not happy when they come in. And every single one of them will tell you 'hey, I went from taking 10 pills a day to taking 2 pills a day.' With fewer pills, it's still a better quality life because of the medical marijuana

P25 and P26's enthusiasm and excitement about the help they were able to offer their clients was touching. The two believed that the work they were doing was helpful, even essential in the quality of life for those they were serving. Every single Caregiver interview transcript includes consistent and numerous claims that at least some patients were using marijuana to decrease prescription opiates.

Every Caregiver who was interviewed gave specific examples and articulated personal observations about patients using medical marijuana to decrease prescription drugs use, particularly opiate narcotics. Even the single Caregiver who did not have any personal experience with opiate narcotics reported that he personally observed about 10 patients who reduced their narcotics use by using medical marijuana. Every Patient that was interviewed (including the 11 Caregiver interviewees) with experience taking narcotics claimed they reduced or eliminated their prescription opiate narcotics because they substituted medical marijuana. These findings are important in when viewed against the social perception of marijuana mentioned by the second Caregiver

interviewed (P6) who felt that it must be a Gateway Drug, because that is what she had been taught, in direct contradiction of her personal experience.

PATIENTS PREFERRED MARIJUANA TO PRESCRIPTION OPIATE NARCOTICS

Though pharmaceuticals are currently available for almost every ailment in a variety of strengths, participants in this study reported they preferred medical marijuana to narcotic opiates. There were several reasons for this preference; the most common was that the side effects caused by opiates were pervasive and severe. There were also claims that medical marijuana was more effective at relieving pain than some opiates and that marijuana was a natural remedy and not a synthetic pill.

A. Opiates caused very unpleasant side effects:

Most patients described unpleasant side effects from taking opiate narcotics. A prime example was P9 and P10, another tandem or dual interview with a husband and wife team of patients in their 50's or 60's:

Female: He simply can't take [Vicodin] without getting sick.

I: Now when you say you get sick, do you throw up?

Male: Yeah, what happens is I get a severe headache, and I start feeling, I don't know, like fuzzy in my head, like there's cotton all over inside my head, and then it starts making me feel like motion sickness, is the best way I can describe it, and then I just started getting sick and trying to throw up and throw up (Male and female, 40's-50's, married couple, college graduates, chronic pain).

Beyond physical effects, such as headaches, nausea and vomiting, another very unpleasant side effect that was commonly reported was the claim that high doses of opiate narcotics caused the patient to literally become disassociated with reality, or go crazy. P27 a female in her 40s stated:

P: Marijuana doesn't put me off in some world where I don't know where my kids are, and I don't know what's going on with the world.

I: And oxycodone does?

P: Yeah it does that. I don't like [sic] take it. They gave it to me, and I gave it back to them because 'you take this, I don't want this.' I can't even remember having a conversation with my own husband or my own child. This is bad stuff, 'you take this I don't want it.' I gave it back to them, because I refuse to take it. Give me a joint, give me a bowl, do whatever, because I can smoke a bowl ,and then have a conversation with my husband, or my kid, and I can still remember that conversation. Because I'm sorry I would rather do that than to take one of those pills they gave me because it just puts you off in a world that you don't even know that you're in, and that's scary.

The medications given to her for her torn rotator cuff were so off-putting that she turned to medical marijuana. She was not the only one. Several of the patients with experience taking high doses of opiate narcotics reported detailed, graphic, and apparently valid fears about their mental health if they could not find an alternative to "the pills." In a humorous, but frightening, anecdote P27, a woman with end stage cancer related how she came to make her decision to try medical marijuana:

P: I was on almost 300 mg of oxycontin a day between the long-acting and the short term. It was a very high dose. I was also given other pain relievers Percocet, vicodin, Norco, you name it. I have a drawer full of these pills. When it came to my final decision when I decided to try medical marijuana was when I asked my dog to make me lunch one day.

The stark reality of this situation is that she was not aware of her surroundings, and that in trying to find relief from pain, she was losing her grasp on her life.

In addition to the complaints of nausea and insanity, some of the complaints were frightening. Patients reported that opiate drug use was putting their children in danger because of their lack of ability for function correctly. Opiates also caused patients to sleep all the time as well as making them feel they were missing out on life.

The overwhelming responses from patients were that medical marijuana returned them to their life in a way that opiate narcotics could not.

B. Medical marijuana was perceived to be more effective at relieving pain than some opiate narcotics but not the more powerful narcotics:

All patients and caregivers who had experience taking narcotics (n= 21 of 31) in this small sample said medical marijuana was more effective at relieving pain than codeine. This is consistent with earlier work (Campbell 2001). In addition to being more effective, all of the participants interviewed agreed that medical marijuana did not have any of the negative side effects associated with codeine or narcotics. And, two patients and three caregivers claim that medical marijuana relieved pain better than Vicodin, which has not been previously reported. All participants with narcotics experience agreed that medical marijuana was not as effective at relieving pain as stronger narcotics such as morphine or oxycontin. However, medical marijuana was often still preferred over the more effective opiate.

In discussing with patients and caregivers the comparisons between opiates and medical marijuana, there was some difficulty separating out the two issues of the adverse side effects of opiates and the pain relieving effects of opiates. Although it was clear that most patients preferred marijuana over Vicodin, it was not always clear whether marijuana was preferred because it was more effective at relieving pain than Vicodin or whether marijuana was preferred because it was not associated with the adverse side effects of Vicodin which can include nausea, blurred vision, confused thoughts, headaches, etc.

One patient, a college educated Afghanistan Veteran in his 20s, attempted to explain the differences including the disadvantages of opiates and the advantages of marijuana:

P: [Smoking marijuana]... makes my life better than when using narcotics. Narcotics keep my back from hurting, sure, but the medical marijuana helps me forget about the fact that I'm in pain. Narcotics, you know, I don't have the nausea like that, and I physically feel better.

I: I want to get very specific about what it does for your pain it doesn't work as well as Percodan, am I right?

P: Well, yeah, that that is that medication's job. It is the thing that they do. Is to kill the pain...and mess your head up a little bit, is obviously their main purpose of life is essentially to dull pain, and they do a very good job. That however is a Catch-22. You can be pain free, but you'll feel like garbage with the nausea and the side effects from the narcotics that come with it.

His experience taking narcotics to help his back pain were echoed by almost all participants who complained about "that sick nausea feeling" caused by taking opiate narcotics.

C. Several participants refused to take opiate pills because they believed marijuana was a "natural" remedy different than synthetic pills

Of the nine patients and one caregiver (out of a total of 31) who had no experience taking opiate narcotics, seven claimed they never even started taking opiates because they used medical marijuana. One young woman, a female high school graduate had chronic pain and reported she had never started using narcotics. She attributed this to medical marijuana:

I: What about other treatments, have you been given drugs?

P: I choose not to take them. I personally, I have personal beliefs. I don't like to take chemicalized pills. You know what I mean?

I: OK, you don't have a problem taking medical marijuana though?

P: No.

I: How is medical marijuana different than the...

P: Well it is grown, it is an actual plant. So, for me it is just a natural way to treat this.

Her belief in the natural approach to medical aid was expressed by others as well.

Another participant in her 20s was against smoking marijuana, until she suffered from knee pain:

P: I was against smoking marijuana for a long time for recreational use, and then the whole medical marijuana thing started to come around, and so I gave it a try. And I was like, wow, it really does help. And now, I have a whole other different lifestyle now. I don't do any chemicals, nothing like that, it's all natural. Everything natural, and I feel a lot better just as a person.

I: Can you go into that a little bit more? What do you mean you live a whole different life style?

P: I don't, I mean, anything unnatural, I don't do to my body. I don't take any prescription pills; I don't drink alcohol any more, I use hash oil actually. It's very, very, very potent and you have to work up tolerance to be able to vaporize a lot of it, but I mean once I'm at that level I don't even want to drink. I used to drink heavily and stopped when I started smoking hash oil. I haven't drank in two years now.

Most of the patients who had never started taking opiates, explained this by using some version of the 'natural remedy' claim.

It is interesting that the natural medical marijuana was favored so highly, even with the stigma of marijuana in the United States. The legal form of THC, Marinol was also reviewed with four participants who had experienced both. Three of the four participants were 'informal interviews' and were not recorded while the other was recorded but the discussion about Marinol was off the record. Marinol, a

pharmaceutical product that is synthesized THC has been promoted by the drug companies as a substitute for medical marijuana. All medical marijuana patients who have taken Marinol characterized it as negative. These comments place it closer to opiate narcotics in the opinions of the medical marijuana users, than to grown marijuana. The agreement and condemnation of the four participants dealt with both the side effects and potency. They offered comments such as: “scary stuff”, “makes you hallucinate”, “makes you jittery and paranoid”, “doesn’t help at all” and “you can’t regulate how it makes you feel.”

The main complaint for opiates were the “sick feeling”, fear of putting their loved ones in danger due to opiate intoxication, and fear of going crazy. Medical marijuana patients and caregivers who volunteered to be interviewed for this study were more positive toward medical marijuana’s effectiveness and side effects as a whole than the effectiveness and side effects of opiate narcotics. Consistent with previous work (Campbell 2001) medical marijuana was thought by patients to be more effective than codeine elixirs, but less effective than hard narcotics like oxycodone or morphine. Some patients reported they preferred medical marijuana over Vicodin either due to the lack of side effects from medical marijuana or from superior analgesia. Medical marijuana patients who did not have experience taking opiates often actively avoided taking them even when prescribed because they preferred the “all natural” remedy of medical marijuana.

These results should be viewed with caution given the unusual cohort that was interviewed. Many participants had started using marijuana many years before they developed their qualifying medical condition; so it is not clear from these results that

novice marijuana smokers who did not begin until they developed their qualifying condition would have the same experience of superior analgesia, lack of side-effects, or the almost belief in marijuana as an 'all natural' remedy. Many of the people who turned to medical marijuana without previous marijuana experience found they needed to overcome the legal stigma that surrounds marijuana before being willing to try it. The legal issues of medical marijuana in the state of Michigan are complex and frightening, and though these participants unilaterally agree that medical marijuana helps their condition, almost all of them expressed serious concerns about where they stand in the legal system.

Chapter 5: PARTICIPANTS COMPLAINED ABOUT SEVERAL LEGAL CONCERNS IN PARTICULAR THAT ENFORCEMENT OF THE MEDICAL MARIJUANA ACT WAS UNCLEAR, AMBIGUOUS, AND UNEVEN

Introduction:

Medical Marijuana users in Michigan have many concerns, and not just about the legality of the medicine they have chosen. Several reoccurring legal concerns were expressed by the participants during the course of the interviews specific to the enforcement of the Michigan Medical Marijuana Act. In terms of duplicating these results with future samples, it is first important to mention that this researcher practiced law for more than a decade as a licensed attorney in the State of Michigan so it was probably inevitable that the interviews often covered legal aspects. There were six primary legal issues and concerns that were addressed and expressed by the patients and caregivers about the enforcement of the Michigan Medical Marijuana Act and the effect of various interpretations of the act on medical marijuana patients.

Legal Issue 1: Long Delays for State Issued Card: The first and most commonly expressed concern was about the delay in issuance of certification cards by the State to patients. In order to obtain a medical marijuana card, first the patient would see a physician and obtain a statement that verified the patient had a legitimate qualifying condition. Then after issuance of the application materials to the State, the State was supposed to issue the card within 25 days (20 days to review and reject or deny the application and 5 days to issue the card, see MCLA 333.26426). However, at the time the interviews were progressing, patients often had to wait up to *6-months* for the State to issue the certification card and this created problems with access, particularly their ability to procure marijuana from dispensaries.

Legal Issue 2: Access to medical marijuana and Dispensary Operations: Since many dispensaries would not serve patients who did not have the 'hard card' from the State, the often 6-month wait caused a loss of access to marijuana. This was expressed as a strong concern over and over again by the patients and was a primary issue for every single caregiver that was interviewed.

Other Caregivers had other often very specific legal concerns. For example, each of the Caregiver interviewees asked to go off the record and solicited the Research Interviewers legal opinion on the issue of whether they could serve individuals with just their paperwork rather than the hard card from the State of Michigan, and it was clearly of primary importance for almost all of them during the course of the interviews when providers and patients were attempting to comply with an ambiguous law and everyone was waiting for the courts to decide.

Legal Issue 3: Protective Measures Taken by Dispensary Operators: The discussion about dispensary operations very frequently included specific measures that were taken by the operators to work with or even avoid the law. Fortunately there is a fair amount of transcript devoted to this topic as the tape was often turned back on as we discussed the specific steps various dispensary operators took to comply with the law and to win allies in the community and in local government. Even though most providers and caregivers strongly claimed they were "true believers" willing to go to prison for their beliefs, they also inevitably adopted several protective mechanisms to help avoid that outcome.

The final two concerns were primarily medical in nature:

Legal Issue 4: Inclusion of other medical conditions: Just under one-half the interview participants (14/31) mentioned the dilatory practices of the State government in refusing to consider inclusion of additional medical conditions or convening a panel to consider adding other medical conditions to the list of medical qualifying conditions to use marijuana.

Legal Issue 5: Scope of a valid Medical Marijuana doctor-patient relationship. Every single care caregiver and patient who discussed the issue of the medical marijuana certification provided by the medical marijuana doctor thought the scope of the doctor-patient relationship needed clarification especially about what constitutes a legitimate physician patient relationship.

Findings on Legal Concerns of Patients and Caregivers are Sociology of the Law and a Study in Law and Society:

Just as there is a division between “Sociology of Medicine” and “Sociology in Medicine” there is also a division between research focusing on “Sociology of Law” and the study of “Law and Society.” Sociology of law, like sociology in medicine is the study of the legal system and the actors in the legal system or a segment of the legal system that includes an analysis of social institutions or societal segments as a self-contained entity or in relation to society as a whole (Sutton 2001). In contrast, studies of law and society or sociology of law tend to focus on human social behavior in the context of the legal system and regulatory structures and the impact on society.

This research is an example of *both* sociology of the law and law and society. One of the primary purposes of this work from the beginning was to better understand the interaction between the legal and medical systems and to investigate a rarely studied population that occupies a unique subset of both systems. The issues of marijuana regulation, use and abuse have been treated as legal concerns and matters for the court and prison systems since the 1930's while the issues of medical marijuana are, obviously, medical issues. The goal from the beginning was to obtain the perspective of the patients and caregivers who are most affected by the legal, adjudicative, penal, and medical systems. The legal concerns of patients and caregivers reflect a myriad of issues about the legal and medical system. These issues reveal truths about the sociology of medical marijuana law. At the same time, this was obviously a study that focused on human social behavior in the context of the medical and legal systems along with the regulatory structures and as such it attempts to assess the impact of medical marijuana on society and the impact of society on the medical marijuana user.

Legal Concern Finding 1: State Delay in Issuing Registry Identification Cards:

The first concern was the long delay between submission of the certification materials to the State and approval being granted by the State. Every single participant who was interviewed expressed concerns about ambiguities in the Michigan Medical Marijuana Act which resulted in at least a temporary loss of access to medical marijuana. At the time the interviews were ongoing, the State of Michigan routinely delayed the delivery and distribution of certification cards. Most participants complained

about waiting for up to 6-months for their medical marijuana certification cards to arrive in the mail from the State of Michigan. The drafters of the medical marijuana referendum, having experience with 90 years of government tactics such as the marijuana stamp act (where marijuana cultivation was made illegal without a stamp which the government then refused to print or distribute) wrote into the statute an automatic certification trigger of 20 days so that: “If the department fails to issue a valid registry identification card in response to a valid application or renewal submitted pursuant to this act within 20 days of its submission, the registry identification card shall be deemed granted, and a copy of the registry identification application or renewal shall be deemed a valid registry identification card” (MCL 333.26429).

However, while this anticipated and attempted to thwart internal opposition to the act, the problem became inextricably linked to the issue of dispensaries. At the same time one government agency was delaying the delivery of medical marijuana cards to qualified applicants, other government agencies were engaging in selective prosecutions of various medical marijuana centers that had sprung up in the unregulated environment. As a result of legal pressure, many dispensaries refused to serve patients who were waiting for their “hard card” from the State. Many patients who only had their “registry identification application” (consisting of a 1-page application and a 1-page physician’s certification statement) were denied service at dispensaries. Thus a patient might not have easy access to their medication for half the year while they waited for the “hard card.” Nearly half the interview participants (14/31) complained, often bitterly, about this application of the law and expressed concern they had been denied service (or in the case of Caregivers that they were unable to provide service) at

a medical marijuana center or dispensary, and that their access to marijuana was limited because of the delay in getting their certification cards from the State.

Whether the primary concern was about legal liability or wasted resources was not always clear; but, the concern of the participants was both genuine and warranted. In one interview, P8 was able to identify how much money the State of Michigan had made, and was bitter that little of the money was being used to facilitate the legality and legitimacy of Michigan Medical Marijuana Act.

We have given them \$38 Million already and they don't have anybody working at Community Health⁸ like [sic] four employees. \$38 Million in money and they hire four employees while we have to wait six months (P 8).

The obvious distress of the participant at the wait compared to the influx of funds the state had received due to medical marijuana appeared in many interviews.

Several patients, and every single caregiver who was growing marijuana, expressed concerns they were exposed to legal liability in the event of police action.

I don't understand what they expect us to do. We have pot growing in our basement and the drug laws all say that is illegal. Then we have the Medical Marijuana Act that says it is OK if you have a card, but they won't issue the cards, you know, they delay. *This is the marijuana stamp act all over again.* (P 6).

After the conclusion of the interviews, the public message boards at Michiganmedicalmarijuana.com began reporting that the wait for hard cards had been dramatically reduced from 6-months to less than 2 months.

⁸ The Michigan Medical Marijuana Program was transferred from the Michigan Department of Community Health to the Bureau of Licensing and Regulatory Affairs effective April 22, 2011.

Legal Concern Finding 2: Access and Dispensary Operations:

The long wait for cards was connected to the overarching concern over a loss of access to marijuana. Nearly one-half of the patients interviewed were concerned that the 6-months wait to get their certification card issued by the State prevented them from getting marijuana at some dispensaries. These dispensaries would not serve patients until they were in possession of the hard card from the State. A Dispensary Operator stated:

A lot of patients get upset because of our policies. Our lawyers told us we need the hard cards if there is any problem with the paperwork. We turned away a guy yesterday because the doctor did not check both boxes on the certification form so it creates problems (P 11).

The interviews that were conducted were not a completely random sample, and it is not clear what the scope of this problem was before *McQueen*. During the interviews the law was changing and after *McQueen* there are no legal dispensaries left, so this may no longer be an important problem for medical marijuana users, except insofar as it illustrates the reliance on and importance of dispensaries for the distribution of marijuana to patients in Michigan.

Some caregiver participants were less concerned because they were not involved in the distribution chain. The level of concern on the part of the eleven Caregivers (dispensary owners and operators, activists, and growers) who were interviewed apparently depended on their responsibility in the distribution chain and their role in the medical marijuana center. Caregivers who were responsible for dried marijuana weight quantities at the medical marijuana center or who provided direction to patients about the products available for acquisition were particularly concerned about getting legal direction for their activities.

In most of the caregiver interviews, a substantial portion of the interview was done without the tape rolling and involved this discussion and an analysis of the effective legal interaction between Section 4 and Section 8 of the Marijuana Act. My interpretation was always prefaced by the rather cynical (and prescient) warning that courts tend to do whatever they want to do and interpret statutes however they choose without regard for the clear and plain meaning of the law. I consistently offered my legal opinion when asked (which is to say in the majority of the patient interviews and 10 of the 11 Caregiver interviews) that the dispensaries were protected under Section 8 but possibly not Section 4 (as was later held in *McQueen*) and that they could still be arrested and held before they could even assert the “affirmative defense.” Further, under Section 4 it did not matter whether the patient had a hard card. The only determining factor was whether the medical condition was valid, and the marijuana was being acquired for that legitimate medical condition. Each dispensary owner who asked was also counseled there was a good chance of prevailing at trial under Section 4. I also offered specific legal guidelines when asked, for example, suggesting to several dispensary owners that they would be better protected by obtaining a notarized affidavit of *each* patient *each* time they obtain marijuana swearing under oath that they needed to acquire marijuana at the dispensary in order to insure uninterrupted access (from the language of the Medical Marijuana Act section 4).

Legal Concern Finding 3: Protective Measures Taken by Dispensaries

Although most providers and caregivers strongly believe that what they are doing is the right thing, and claim they would go to prison if necessary to continue helping

those who need medical marijuana, they wisely adopted several protective mechanisms.

Local Organizing: The first layer of protection included forming local organizations for support. For example, all of the 11 dispensary owners and operators who were recorded had engaged in extensive organizing with sympathetic local government and regulatory officials. All claimed they had received local approval to open their dispensary or alternative medical marijuana provider, and they were confident that they were not under immediate threat of arrest because they would be informed before any arrest warrant could be issued.

During one Caregiver interview the participant initially claimed his club had done no local organizing, but he later admitted the reason his club did not organize was that he had relatives well placed in the local government office who were “providing protection.” The owner of this Compassion Club stated: “If they think they are going to go after our place, I will know about it way before they can get a warrant. We will be there in court ready to argue our case” (P9). Most providers and caregivers were not so lucky as to have family who were watching out for them. Some medical marijuana centers worked directly with the local city council, some worked with the prosecutor’s office, and some worked with the mayor’s office. All of the owners and operators of medical marijuana centers who agreed to recorded interviews had some branch of local government in support of their activities.

As of the time these results were written up in summer, 2013, after the decision in *McQueen* effectively barred medical marijuana dispensaries in Michigan, none of the “caregiver” research participants who owned or operated a dispensary had been

arrested. In fact, as predicted by the participants, each was notified by their allies in the local government that it was time to close down any operations associated with the transfer or sale of marijuana even before they received the official correspondence. Only one of the dispensaries where recorded interviews took place remained open as of summer, 2013 in defiance of the ruling

Compiling a Legal War Chest: There was one singular common theme in all the medical marijuana centers, owners, and operators who were formally and informally interviewed, and that was that each had a roster of retained lawyers ready to spring into action. Every single dispensary owner who was interviewed had already retained an attorney and had set aside money to pay for extended legal action in the event this became necessary. When asked if they thought it was important the response was: “Oh sure, you absolutely have to have an attorney lined up if you do this kind of work” (P19). Another aspect of constant readiness to defend themselves came from the business model that many chose to employ. Instead of making dispensaries a profit making business, the dispensaries found it most beneficial to work as non-profit organizations, to shelter under the laws that might protect non-profit organizations.

The “Donations” Model: The most popular model way in which the non-profit model was operated was the so-called “Donations” model. The premise is that non-profit ventures are somehow protected more than for-profit ventures. Thus any use of the word “Sale” or “Buy” is prohibited during the entire transaction even as money is exchanged and “recommended donations” of \$15.00 to \$20.00 per gram are being quoted while precise weights are being calculated on digital scales. There is some support for the Donations Model as the law developed in Michigan in that courts have

consistently ruled that transfers of marijuana between patients for money are not allowed (*People vs. McQueen*, L.C.) while several courts have ruled that transfers of marijuana between patients where no money is exchanged are allowed (*People vs. Green*, 2013 Court of Appeals).

The idea behind the Donations Model was that patients paid money to join a private club. Ostensibly the patients are then able to go to the club to obtain marijuana “for free.” In reality, they must pay the “suggested donation” each time, or they will be kicked out of the club. The legality of the donations model was supported by the idea that many medical marijuana centers often give away large amounts of marijuana and marijuana-laced products to the sickest, unemployed patients while supporting their operations by voluntary donations from members who are in better health. This model was unequivocally invalidated by the Supreme Court case of *People vs. McQueen* in 2013. When *McQueen* clarified the Caregiver system as the only legal distribution system in Michigan, the Donations Model became immediately obsolete.

Community and Charitable Outreach: While the Donations Model was one way of trying to protect the distributors from legal ramifications, most medical marijuana centers that were observed during this study were heavily involved in community outreach and charitable work. Toys-For-Tots was one of the most common programs supported by medical marijuana centers and almost all of them worked with local food banks and competed very favorably with local bars and bowling alleys in providing large amounts of charitable and needy contributions. For example, the researcher gave an invited talk at a dispensary and followed a representative of the charitable group “Loaves and Fishes” who was there to thank the dispensary for making the largest

donation of any organization (except for a large multinational pharmaceutical company) in the entire State of Michigan. Every single compassion club I visited had a donations box for food and other non-perishables in the front door. The connection between the caregiver and distribution network and the community was very strong before *McQueen* but it is not clear whether this connection remains after *McQueen*.

Conclusions:

Before *McQueen*, dispensaries, alternate provider organizations, and advocacy groups were formed to provide access to the newly legalized marijuana. However, the legality of the dispensary organizations remained in question until the Supreme Court opinion in *People vs. McQueen* in February, 2013 when most transfers of marijuana were made illegal under the court's unique interpretation of the Michigan Medical Marijuana Act. Therefore, this is possibly the only study that investigates and attempts to explain the social behavior of patients and caregivers during the time they were responding to the ambiguous, but developing, case law. Those responses included the formation of several types of organizational structures that functioned as quasi-legal entities in order to deliver marijuana to patients. These newly formed dispensaries, and patients at large, spontaneously formed together into several statewide organizations to defend the right, and ability, to access medical marijuana. In response to the legal pressure, the various dispensary organizations and provider groups increased their reliance on "legal fictions" such as the "donations model." They also increased their engagement with the community and charitable organizations, while at the same time put money aside for what they believed was the coming legal battles. Again, since this research ended at the precise time when dispensaries were made illegal, it is not clear

how patients and caregivers are reacting to the changes, and whether there are supply interruptions with patients unable to obtain their medicine. Further research is warranted on these questions.

Legal Concern Finding 4: Inclusion of other Medical Conditions

Over half the knowledgeable patients (who possessed at least a college degree) and were carefully following the legal developments and all but three of the eleven Caregivers, were concerned about the refusal of government agencies to follow the act and consider scores of petitions asking for the inclusion of:

additional medical conditions and treatments. In considering such petitions, the department shall include public notice of, and an opportunity to comment in a public hearing upon, such petitions. The department shall, after hearing, approve or deny such petitions within 180 days of the submission of the petition” (MCL 333.26425).

The statute requires:

Not later than 6 months after the effective date of the amendatory act that added this subsection, the department shall appoint a panel to review petitions to approve medical conditions or treatments for addition to the list of debilitating medical conditions under the administrative rules. The panel shall meet at least twice each year MCLA 333.26432(k).

In short, the State has absolutely refused to set up the required panel despite the fact the 6-month time period for doing so expired in August, 2009. The practice of the State government refusing to consider adding additional qualifying medical conditions, was a concern for most of the participants. According to the attorney handling the case, Michigan NORML (National Organization for the Reformation of Marijuana Laws) had a lawsuit filed in the Court of Claims (a Michigan court with original jurisdiction over claims against government units) alleging the department has “willfully failed to reply to multiple

petitions for including several medical conditions such as ADD, ADHD, depression, and GERD on the list of qualifying medical conditions to use marijuana.” The case of Chilcutt v. Hilfiger was dismissed on Summary Disposition motion by the State of Michigan later that year, and the lawyers are attempting to fund another attempt at forcing the State to comply with the law (Informal interview, ongoing conversations, and email exchanges with lead counsel for Michigan NORML).

Most patients and caregivers who discussed the issue thought certain psychiatric conditions needed to be added to the list of qualifying medical conditions. For example, the first interviewee stated:

P: I do think the medical marijuana act should be expanded to include mental conditions.

D: OK, and what types of mental conditions would you include?

P: Anxiety. I mean it is amazing for anxiety. (laughs). Umm, depression. Definitely. I mean very effective, I mean. You hear about the effect, you know when you get high, it makes the world good, you know (P1).

This became fairly common with several participants claiming that their main qualifying was some type of anxiety disorder even though anxiety disorders are *not* qualifying conditions under Michigan law:

D: You mentioned panic attacks, is it your opinion that panic attacks should be added (to the list of qualifying medical conditions)?

F: Absolutely, I mean unequivocally, absolutely it works that well and there are so many horrifying and dangerous side effects from the pharmaceuticals that are able to be completely avoided.

D: There’s a wide choice of pharmaceuticals.

F: [overlapping]

D: And have you tried every one of them?

F: I've tried probably a dozen over the years. I've had the panic disorder for decades, and it gets worse as the years go by, but now that I'm able to legally get medication that I can use, I don't have a need for those things, and my quality of life is much better.

Later in the interviews, the conditions of Depression, bipolar disorder, Gulf War Syndrome and Post Traumatic Stress Syndrome were all mentioned as potential psychiatric issues that might be treated by the use of marijuana.

By the 11th interview, we were able to tie down the issue of what is covered under the Act. The delivery service operator who acted as a medical doctor's office manager stated:

So the (marijuana) Act requires (a medical condition to be) chronic AND debilitating. Now chronic could be a bad lower back but she copes and exercises and keeps good posture but it does not debilitate her. The other key word- you're a lawyer so you know words matter- what is the definition of debilitating? Now there is a moving target. Debilitating is subjective and is usually defined as something you have to do something about, to treat it or it will get worse or at least not get any better. Go to a doctor. Get it looked at. Take action to deal with the fact. Show objectively that it is there. That's debilitating. a soft spectrum. Debilitating, for an athlete who is otherwise in strong That's body but a grandmother with the same condition might make her not be able to drive to the store to get groceries...so debilitating is a soft definition but what is solid, clear bright line definition is the term chronic. Under the Michigan Public Health Code "chronic" is a condition that has existed for at least 90 days.

In other words, a hangnail, or even a sprained ankle that lasts for 89 days is not a qualifying medical condition under the marijuana act because it is not "chronic." Even a broken bone that heals without further treatment is not "chronic" although it last for more than 90 days and the patient could conceivably get a marijuana card for the time the bone was casted and during the healing process. However, "debilitating" is considerably more subjective since what might be "debilitating" to one person might not be debilitating to another. For example, a pro-athlete might 'play through the pain' and

not find himself “debilitated” until years after retirement from the league. Similarly, pain is subjective and there are few reliable ways to measure pain. In general, at a minimum, evidence of a “chronic” condition, including pain, requires a recognizable condition and a minimum of three physician’s visits over a 90 day period. In our broken bone example, this would require at least three physicians visits *after* the bone had healed, complaining about ongoing pain in the bone.

No patients or caregivers mentioned diabetes, lupus, or rheumatoid arthritis as possible conditions, but several medical marijuana physicians during informal conversations mentioned these conditions as possible candidates for inclusion in the list of qualifying medical conditions to use medical marijuana in Michigan.

Legal Concern Finding 5: Scope of a valid Medical Marijuana doctor-patient relationship needs clarity:

The Michigan Medical Marijuana Act only requires patients to get a physician certification, or signature on the State approved certification form, and does not specify the level of medical supervision required. This has become a particularly important issue because of the interpretation of Section 4 and Section 8 in the Michigan Medical Marijuana Act. If the patient and caregiver are connected through the caregiver registry system and are below the weight and plant counts permitted under Section 4, then they are completely immune from arrest or prosecution. As we have seen, the Marijuana Act permits a caregiver to register up to 5 patients with the State, permitting them to grow up to 12 marijuana plants and possess up to 2.5 ounces per patient (MCLA 333.26424). However, to register a patient, the patient must designate a *specific* caregiver to provide marijuana for that *specific* patient and a caregiver may *only* register up to 5 patients.

Therefore, in a dispensary, for example, it would be rare for a caregiver to see the *specific* patient registered to be served by the *specific* caregiver that he or she had designated with the State. Rather, in a dispensary it would be much more common for “a” caregiver to assist “a” patient in procuring marijuana without regard to whether the patient and caregiver had registered that relationship with the State.

The problem is if this transaction takes place outside the caregiver registry system, for example if the patient acquires medication from a medical marijuana dispensary operated by a caregiver, or caregivers, to whom they are unconnected through the caregiver registry system, then any transactions between them are not immune from arrest or prosecution under Section 4 of the Act but may only be defended *after* arrest and prosecution and at trial by way of an “Affirmative Defense” under section 8 of the Act. A caregiver is “connected to a patient” through the caregiver registry system when he or she registers them with the State using a “Caregiver Attestation Form.” As previously noted, a Caregiver may register up to 5 patients with the “Caregiver Registry System.” However, while the broad Section 4 immunity requires registering with the State, the Section 8 Affirmative Defenses may still provide a defense if the “marijuana was not more than was reasonably necessary to ensure the uninterrupted availability of marijuana for the purpose of treating or alleviating the patient’s serious or debilitating medical condition.”

The problem then becomes that Section 8 requires a “bona-fide doctor-patient relationship.” Therefore, the issue of what constitutes a “bona-fide relationship” has been the deciding issue in several dispensary cases (c.f. *People vs. Redden*, id; *People vs. Feezel* et al). In brief, to determine the legality of a particular medical marijuana

transaction, some Courts go back to the legality of the original certification and whether legitimate medical need existed in the first place. This, in turn, depends on the existence of a bona-fide doctor-patient relationship between the certifying physician and his or her patient. Therefore, the requirements to establish a bona-fide relationship with the certifying medical marijuana doctor may be crucial to some cases, particularly cases involving medical marijuana centers that distribute outside the caregiver registry protections provided by Section 4 and rely on the affirmative defenses of Section 8.

The same question was asked by more than ½ of the participants and all but 2 of the Caregiver interviews:

I just want to know what type of medical records they need. I mean, you know, what is valid? How are we supposed to know if the doctor is legitimate and who the hell are they to say that somebody is not really in pain when they say so? (P7).

Every single care caregiver and patient who discussed the issue of the medical marijuana certification provided by the medical marijuana doctor thought the scope of the doctor-patient relationship needed clarification.

The questions about how the courts might view the adequacy of the registered patient's medical examinations were hardly spurious. Only a total of two patients and caregivers were even given a hands-on examination by the certifying medical marijuana physician and two others were certified via their family physician or specialist rather than the medical marijuana physician. Even the most serious patient cases, including both Stage IV cancer patients were *not* certified by their oncologists or their family physicians. Instead, one was given a note by her oncologist and referred to a medical marijuana physician while the other was given her typewritten medical records and referred by her family doctor to a medical marijuana physician. Among the most serious

patient cases, only the single M.S. patient interview was certified by her treating medical specialist. According to the patients even the treating physicians of dying patients would not certify them due to concerns with DEA or because the agreements granting them hospital privileges prevented them from formally recommending the use of marijuana. This issue clearly needs further research as this finding suggests it could be an important barrier to adequate medical treatment.

The scope of the doctor-patient relationship and what the doctor needs to do to establish this relationship was clarified in House Bill 4851 in 2012 which defines a “bona fide physician-patient relationship...[requires]...review and maintenance medical records...[and]... reasonable expectation of follow up care” (MCLA 333.26423 and 333.26428 as amended). However, it is not clear whether this legislation solved the ambiguities expressed by the interviewees in this study since the bill was passed within a couple of weeks after the interviews in this study were completed. Again, further research on this particular topic, including the barriers to access and the fears of recommending a substance banned by the same agency that issues the physician’s controlled substances license permitting them to prescribe pain killers and other drugs regulated by the Controlled Substances Act.

All but the four caregivers and patients mentioned above who discussed the issue of the medical marijuana certification provided by the medical marijuana doctor thought the scope of the doctor-patient relationship was a problem. One called the certification system “A joke” (P 6). Four called the system “inadequate” and over one-half did not believe they even had a legitimate doctor-patient relationship with their medical marijuana certifying doctor. The lack of a legitimate doctor’s visit for their

medical marijuana certification was primarily prefaced on the fact that no hands-on examination was done. Again, only two interview participants reported that they had what they considered a “hands-on” or “normal” or “traditional” medical examination. Of the other 29 interviewees, none even had their blood pressure checked, only 6 of 31 believed they had an adequate medical examination.

One Caregiver interview participant was a doctor’s manager who had handled “at least 400” interviews of prospective patients. Part of his job was to “pre-screen” patients before bringing the patient to the doctor for his or her medical marijuana certification. He expressed considerable concerns about the viability of most doctor certifications under the Michigan Medical Marijuana Act stating:

The law does not provide physicians any guidelines. We have had one guy telling people to slip \$100.00 under a door along with the filled out form. He would take the money, sign the form, and slip it back under the door. That is not a legitimate doctor-patient relationship (**Participant 11**).

All of the patients interviewed would agree with the Michigan prosecutors and the medical ethics board that a legitimate patient doctor relationship should be part of medical marijuana treatment and that the law needed to be clarified in this regard.

Several discussions with professionals and activists prominently featured concerns about the Section 8 defense and the scope of the requirement of a “bona-fide doctor-patient relationship.” One physician informally interviewed argued that, at a minimum, an actual doctor-patient relationship required a “level 1 medical examination.” However, there is disagreement on whether an actual physical examination is required or whether a records review and a consultation type of appointment met the criteria of a bona-fide doctor-patient relationship.

Patient 11, the office manager and conference organizer, argued that a “bona-fide” relationship does not require a physical exam but merely a consultation since “a bona-fide relationship does not require the doctor to take on the person as a patient.”

For example,

Nobody would contest that a radiologist who views a CT Scan and diagnoses a patient without ever having seen the patient has, in fact, established a bona-fide doctor-patient relationship by virtue of interpreting his medical tests for the treating doctor (P11).

Similarly, the manager argued, a medical marijuana certification doctor should be able to make a recommendation based on adequate medical records without even seeing the patient. More than half of the participants, and all of the doctors, and lawyers, informally interviewed agreed that any diagnosis based on medical records and not an actual physical examination of the patient would, at a minimum require medical records showing three separate doctor’s visits, treatments, and/or diagnosis of a condition for which marijuana may provide actual or palliative relief.

Another issue in the certification process was the viability of “Skype” and remote or internet certifications. There was broad agreement during all formal interviews and information gathering discussions (except one physician who gave his opinion during a discussion) that Skype or internet certifications were *not* valid. This lone physician holdout argued, like the office manager, that the situation was similar to a radiologist, perhaps in India, making a remote diagnosis. However, all other respondents did not agree, claiming that medical marijuana certification doctors, unlike radiologists, were not diagnosing or interpreting detailed imaging data. Several participants did agree that renewals of certifications could potentially be done by Skype provided the patient’s

condition was relatively stable and updated records were provided and reviewed by the doctor's office.

"Internet Certifications" where the patient never even sees the certifying physician, were considered substandard medical care by everybody who was interviewed who discussed the issue. However, there was disagreement on whether a substandard level of medical care removed the protections of a medical marijuana certification based on a bona-fide doctor-patient relationship as the *Redden* court had held. As of summer, 2013, this issue has still not been resolved by the Michigan Supreme Court.

Obtaining opinions on this issue was not always easy. Very few patients and caregivers were interested in the precise details of the requirements for a medical examination to receive protections under Section 8. Patients, and caregivers, were much more concerned with obtaining clear instructions that could be followed than in precisely what the doctor was supposed to do to at their medical examination. Many seemed to take the attitude exemplified by one patient: "If they will just tell us what to do and stop playing games, I will be glad to do it" (P 9). This frustration with the law was universal in the interviews. The illegality of marijuana and its reputation in the popular media make it important to medical marijuana users to make sure they stay within the laws. However, with the laws amorphous and unclear, this is not always either easy or even possible.

Conclusion of Findings on Legal Concerns: Several legal issues and concerns were expressed by the participants during the course of the interviews especially about uneven and ambiguous enforcement of the Michigan Medical

Marijuana Act. These included the problem of receiving certification cards from the State of Michigan which in turn created a problem of access which was a concern of nearly one half of the patients interviewed. The legality of dispensary operations was also a major concern, particularly for the dispensary owners and operators and a number of measures were taken by these operators to insulate them from criminal liability. The dilatory practices of the State government in refusing to consider inclusion of additional medical conditions as required by the Act was another concern along with the lack of direction on the proper scope of the doctor-patient relationship.

Chapter 6: DISPENSARIES AND MEDICAL MARIJANA PROVIDER ORGANIZATIONS UNDER THE MICHIGAN MEDICAL MARIJANA ACT BEFORE MCQUEEN

Introduction: The writers of the Michigan Medical Marijuana Referendum removed all the dispensary language at the last minute because dispensaries were not polling well with Michigan voters (MPP 2013). Although the Michigan Medical Marijuana Act legalized the use and possession of marijuana, it was left deliberately unclear on the scope and structure of the distribution system. As a result, a number of organizations arose to provide access to the newly legalized marijuana. However, the legality of such organizations remained in question until the Supreme Court opinion in *People vs. McQueen* in February, 2013. The issue was the legality of transactions outside the “Caregiver Registry System” between Caregivers and Patients who were not registered with the Caregiver with whom they were conducting a transaction. With *McQueen*, such transactions were effectively made illegal under the Michigan Medical Marijuana Act.

The organizational structures that preceded this ruling are the subject of these findings and this section. The organizational structures included the “Traditional Compassion Club” where phone numbers and contact information rather than marijuana were exchanged, “Farmer’s Markets” where marijuana was freely exchanged, and several other structures to be covered in more detail in this section.

More than one third (11/31) of the interviews were with owners and operators of these entities. Therefore, since these structures have now been made clearly and unambiguously illegal under the Michigan medical marijuana act, this is the first and probably only study that will investigate patients and caregivers as they responded to the ambiguous developing case law that culminated in the definitive *McQueen* case

which declared that any transfers of marijuana between any patient and any caregiver are not protected by Section 4 immunity unless that patient and caregiver are registered together in the State system. The interviews for this study took place when most of the case law was being actively argued and decided. Dispensary owners and operators and other caregivers attempting to comply with these cases and an unclear law amidst a variety of ambiguities is the main story of this finding.

Findings on Dispensaries: A Functionalist Report: Until the end of the 1960's the discipline of sociology was dominated by the functionalist perspective. Functionalists claim that sociology should be concerned primarily with describing, explaining, improving, and predicting the structure and function of social institutions, traditions and norms, and their place in the larger society. The findings on alternative medical care providers and the description provided by the participants is undisputedly derivative of this rich tradition in sociology research. It examines the traditions and beliefs of the dispensary operators, the institutions of the dispensaries and their function in the medical marijuana community of Michigan as well as their place in the ambiguous laws of today's society. The confusing state of the law on medical marijuana has become both the norm and tradition of the political atmosphere when dealing with marijuana. In explaining the function of the dispensaries, and the ideas of the dispensary operators, the functional approach makes the most sense.

The structure of alternate medical care providers or medical marijuana centers and the delivery of marijuana to Michigan patients after the Medical Marijuana Act before *McQueen* is important for several reasons. First, it is a great example of the nebulous world in which medical marijuana users and providers find themselves

functioning. Second, there is active legislation pending in Michigan and in other states to regulate dispensaries, and this report demonstrates what type of structures are available, how patients and caregivers interact within them, and how organizations deliver marijuana to patients in an unregulated environment. These results suggest organizational structures that work for patients and caregivers, and structures that do not work for them. Most important, this provides considerable direction for future regulation and legislation of marijuana distribution centers.

Results on the formation, operation, and structure of medical marijuana providers are derived from three distinct sources: First, Results from “Patients” are from recorded and transcribed Interviews; Second, Results from Caregivers are also from recorded and transcribed interviews. Third, descriptions of the operation of alternate health care provider networks and facilities in Michigan are from personal observations and inspections as well as from formal recorded interviews and informal discussions with Patients and Caregivers (Producers and Activists). Consent for all discussions was obtained verbally in the same manner as with formal interviews, and each participant was given a copy of the HIC approved Information Sheet if notes were taken after or during the interaction.

Dispensary Models Before McQueen: The data permits us to describe the types of medical marijuana centers and dispensaries in the State of Michigan before the Supreme Court case of *McQueen* effectively outlawed all transfers of marijuana except between patients and caregivers connected through the registry system. Observations, recorded interviews with patients and caregivers, and dozens of informal conversations

with dispensary owners and operators suggest there were five main dispensary models in Michigan before *McQueen*.

The first medical marijuana dispensary model to arise was the **Traditional Compassion Club**. These organizations function less like medical marijuana dispensaries or delivery organizations than as advocacy groups and information clearing houses. A person who contacts a Traditional Compassion Club will be screened and interviewed. The patient is then provided with a list of available caregivers and growers with whom they can register through the State and obtain their marijuana. The often thinly veiled cover for most of these groups was that they were not directly involved in the transfer, sale, or delivery of marijuana and so they are perfectly legal under the law. However, many Traditional Compassion Clubs also held “Private Events” that function more like “Farmer’s Markets” (see below) where transfers of marijuana do occur. So long as no transfers of marijuana occur, this is the only organizational structure that is still legal in Michigan after *McQueen*.

The **Farmer’s Market** was the model endorsed by the Michigan Medical Marijuana Association, the main medical marijuana patient advocacy organization. Before *McQueen*, they conducted several weekly “Farmer’s Markets” throughout the State with the consent of local governmental authorities. Several other “Farmer’s Markets” not organized by the MMMA were also held, some of them almost every day of the week. A medical marijuana Farmer’s Market functions in the same way as a more traditional themed Farmer’s Market except, instead of a choice of corn, soybeans, and wheat the patient is given a choice of different strains of marijuana. As at a traditional Farmer’s Market, a Caregiver or grower at a medical marijuana Farmer’s Market

typically rents a table for a nominal fee, displays the product of their own hands and skill, and these are then acquired for value from a public eager for fresh produce, and the ability to talk directly to the farmer.

The experience of walking into a bustling medical marijuana Farmer's Market is interesting and informative. The patients are much different than the hippie stereotype, and almost always are dressed in work casual clothing with only a scattering of tie-dyed shirts and only rarely does one see the stereotypical John Lennon sunglasses. The tables are arranged similar to any large farmer's market except the farmers in these facilities display their wares in large glass containers arranged on the tables in front of them. Patients circulate through the room speaking to various growers about their product, often sampling it, and then negotiating the price with the individual farmer.

There are several advantages to the Farmer's Market. First it appears to fall within the intent of the Michigan law, which limits a grower/caregiver to 12 plants per patients (maximum 5 patients or 60 plants) and thereby takes away power from large agribusiness. If there are large 1,000 plant grows in Michigan they were certainly not approved by voters under the Michigan medical marijuana act. Second, many patients appreciate the bustling market with a wide variety of choices and a friendly, often decidedly smoky atmosphere. Related to this is the third advantage which is that patients and growers often are able to speak directly to one another about the product, and in many farmers markets patients would even have the opportunity to sample the product before purchase. Finally, and perhaps most important, the farmers market model cuts out the large scale distributor and the prices for patients is often dramatically lower than at medical marijuana dispensaries.

However, farmers markets were not without problems. Almost one half of participants complained about insects, pesticides, stems, and leaves, and poor quality marijuana they had purchased from farmer's markets. The complaints from this plurality were primarily about poor quality control and inaccurate information from caregivers and growers about the quality and expected effects of the marijuana they were acquiring. There were also concerns about the lack of legally enforceable remedies against a grower or a vendor's false statements.

Yah man, what are you gonna do, call the cops when they cut you a bag of dope that is full of chemicals and gives you a headache? Now don't get me wrong, I am not saying the health department needs to inspect but they gotta control that (medical marijuana). We need testing for all marijuana that is sold and standards. With dispensaries, like in Colorado, it is a free market with competition. You can just stop going there if they don't have good sh*t but all kinds of people sell at the farmers markets (P7).

No Farmer's Market organizer consented to a formal interview and no interviews were recorded at Farmer's Markets. However, in attending more than fifteen to twenty different Farmer's Markets throughout the State of Michigan, there was the opportunity to circulate and gather formative information from dozens of vendors at these events, including the original organizer and Michigan Medical Marijuana Association President. In addition, several of the Caregivers who were formally recorded and interviewed stated they routinely rented tables at these events:

I: So you get rid of your overages at Farmer's Markets also?

P: I do like the Farmer's Market format better because, you know, some dispensaries will just take bull crap and try to pawn it off. You know, seeds, stems, fertilizer, insecticide, the whole 9 yards. With the Farmer's Market you can often get a better price when you sell, I mean, provide the marijuana to them and you can talk directly to the patient (P24).

After the Farmer's Markets, there is also the **Provider Network Dispensary**. This model is a reaction to the law and an attempt to comply with the ambiguities. Specifically, they attempted to limit the interaction between patients seeking to acquire marijuana and the retail vendors. On the surface, these organizations functioned like a Traditional Compassion Club. However, in this type of club, several caregivers "hang out" and wait to be paged as patients arrive. Each caregiver is responsible for his/her own supply of marijuana, and hours are coordinated through the club so that a core group of growers and caregivers is available at the club during business hours. This insures variety and choices for any patients who "drop by" the club. Transactions are between the individual patient and the individual caregiver or grower who is in possession of the type of product the patient wishes to acquire. For example, the Interview P1 was with a young female who specialized in baking THC laced confectionaries. During the one hour interview, we were interrupted no less than five times as her name was paged on the club intercom. She disappeared behind a private screen for several minutes each time and confirmed, off the record, that she was in charge of "medibles" for the club that day. Medibles are marijuana laced food products, often delivered as candy or the stereotypical brownies and other confectionaries. Other provider's names were frequently called over the intercom during this interview indicating there were other caregivers at the club ready to provide the varieties and types of marijuana demanded by patients. The details of how these organizations functioned such as percentages paid to the club by the various caregivers, if any, and the specific financial arrangements were *not* a subject of these interviews as any

reporting on this information was considered to be potentially harmful to the subject population.

The **California Style Dispensary** is a well-known structure that was first seen in California and involves a dedicated facility where marijuana is exchanged between growers, caregivers, and patients. In Michigan, this model manifested in a few different ways before *McQueen*.

The California **Storefront Model Dispensary** typically has a large display case with several different kinds of marijuana visible in jars behind a retail counter. Several Caregivers on duty share the weight limits, or the Caregiver on duty behind the counter simply disregards the weight limits. Again, the scope of this practice was considered potentially harmful to the research participants and was not pursued during the recorded interviews but the subject was discussed in unrecorded interviews. In Michigan, a Caregiver may possess a maximum of 15 ounces if the Caregiver behind the counter *is* a patient and has five additional patients registered to him under the Caregiver Registry System. In order to comply with the weight limits, a few of these dispensaries function like Amsterdam dispensaries and attempt to keep below the applicable weight limits via deliveries conducted several times a day by other Caregivers. More often than not, however, these dispensaries were small businesses that featured one or two proprietors on duty at the same time who were obviously in possession of well over the 15 (or 30 with two caregivers) ounces allotted to them under the Act. These proprietors offered a variety of justifications for exceeding the allowable weight limits under Section 4 of the Act. Most relied on Section 8 which permits excess amounts beyond the maximum 15 ounces that any one individual caregiver can possess so long as it is necessary “to

insure an uninterrupted supply of marijuana to treat their qualifying medical condition (MCLA 333.2724).”

The **Private Club Model** blends the Provider Network Dispensary and the California Storefront Model. In a Private Club Model with one caregiver on duty, there are no display cases in front. Members sign in as if at a doctor’s office, and wait to be called to the back. In a private room, a display of marijuana and the single caregiver who is wholly responsible for and in possession of a maximum of 15 ounces of marijuana permitted under Section 4 works with the patient. Interview P16 was a Private Club Model dispensary operator and a Lansing lobbyist who also runs the second largest medical marijuana advocacy group in Michigan. He explained:

Our model is better (than a California style storefront dispensary) because all of our caregivers are in possession of only the amounts they are allowed to possess and no more. We don’t always have the variety some of the other stores have but we are trying to be legal...at least the weight limits are clear in the law.

The **Private Club Mixed Model** features mixed caregivers who share the allowable weights and commingle the marijuana for display and may also rely on deliveries to keep below the total allowable amounts. This is useful for a medical marijuana user who wants to be able to choose from many different types of marijuana.

Dispensaries argue they are the same basic model as Farmer’s Markets, in that they are relying on Section 4 to protect a transaction outside the caregiver registry system since it allows transfers between a Caregiver and a patient. They argue that all models of distribution are perfectly valid under the law even though a number of dispensaries have been closed down in Lansing and throughout the State of Michigan and several dispensary owners and operators are currently facing State prosecutions.

Finally, the **Delivery Service** operates like a Private Club dispensary, occasionally in conjunction with such a dispensary, delivers the product directly to the patient's living room. Interview P 11 was a Delivery Service operator who traveled the State of Michigan with a briefcase he called his "pot-in-a-box." This method is especially useful for those medical marijuana users who are unable to travel, or are bedridden due to their condition.

Each of these models involve patient-to-patient or caregiver-to-patient distribution of marijuana functioning mostly outside the caregiver registry system. The Supreme Court of Michigan held in *People vs. McQueen* that the Michigan Medical Marijuana Act does not provide for any distribution of marijuana outside the caregiver registry system. However, these models, even though they have been invalidated by the court, are still important because some are still functioning and the legislature is considering laws to modify the distribution system in Michigan, and these are the only models in Michigan.

Most interviews felt the model of distribution they used was valid under the marijuana act and many defended their preferred model whether it included dispensaries, home delivery, or Farmer's Markets. However, most patients were *not* aware of the variety of models that were available. If a patient was aware of a dispensary, for example, it was very uncommon for them to also be aware of how farmer's markets operated. The large majority of medical marijuana users, regardless of the system they used to obtain their marijuana were interested in changing something about the system. Only eight participants favored the State of California model of completely unregulated dispensaries. However, almost all participants discussed the problem with access and in particular access to marijuana distribution centers whatever

form they took. They wanted better regulated marijuana distribution and more open access. They talked about the involvement of the criminal element without legal distribution centers, and universally wanted safe, public, legal access, and the provision of regulated locations to acquire marijuana rather than in the black market. The primary issue was access to varieties and different strains of medical marijuana and most participants' primary concerns centered on practical issues such as quality control, availability, and access rather than legal issues such as the specific defects in the law.

This concern for quality control in medical marijuana was supported by twenty three of the participants. These patients and caregivers, wanted specific, clear guidelines for dispensaries, and substantially increased government control and regulation over marijuana cultivation and delivery, quality control, testing, and inspection of medical marijuana and production/growing facilities. Approximately one-third of the recorded interviews expressed the desire to see the entire process of marijuana cultivation and medical use regulated from the original grow operation to the sale and distribution with most of this group citing the State of Colorado as a model.

The bottom line for patients and caregivers alike was the desire to have a safe, regulated, legal place to obtain different varieties of high quality, potent, medical marijuana. Most were not concerned with the precise structure of these facilities and most individuals, even the dispensary owners and operators, were only aware of one or two distribution models in the State. Most interviewees were not even aware of Farmer's Markets if they usually purchased their marijuana at a dispensary and most that frequented Farmer's Markets were not aware that dispensaries were still open.

The ability to find a variety of quality medical marijuana was a concern when multiple sources were available for medical marijuana users. Now, with the decision in *McQueen* and the current system allowing only a primary caregiver allowed per patient those concerns are likely to be greatly increased. Supply interruptions, quality issues, and a lack of variety in the medical marijuana following *McQueen* are likely to be the major issues in the medical marijuana community today and further research on this topic is warranted.

Before *McQueen*, Patients wanted the ability to speak with the grower or a knowledgeable seller about the expected properties of the marijuana being acquired and, most important, to have a variety of choices. These options were available in the dispensaries models, but not in the current caregiver system.

Chemical Testing of Marijuana: One particularly desirable feature of some medical marijuana centers was the availability of chemical testing for the samples of marijuana. This was benefit of dispensaries was cited by patients and caregivers.

I: Can you talk about that what strains work for you best?

P: I like the strains that have high cannabinoids.

I: We are here at the (dispensary name withheld) so we have these testing sheets with all the percentages of chemicals in the testing results and...

P: Yes I like to look at the numbers I like them because they say it is the cannabinoids that attack the cancer cells. They either repair or destroy so you know, I always go for the highest cannabinoids, especially CBD (P28).

The ability to know the chemical composition of the medical marijuana, which was only available at larger dispensaries, was mentioned as benefit to the patient in order to have a better understanding of what works best for their condition.

State and Federal Provider Advocacy Organizations

Several organizations in the state of Michigan and at the Federal level have developed to help Caregiver and medical marijuana users. These organizations vary from groups that offer support to those that actively advocate for the users of medical marijuana.

Michigan NORML (National Organization for the Reformation of Marijuana Laws), MPP (Marijuana Policy Project) and the MMMA (Michigan Medical Marijuana Association) were all organizations known before this dissertation research began. However, the MACC (Michigan Association of Compassion Clubs) was not formed until just before the interviews for this dissertation began. Most of the information that follows comes from discussions with various “Compassion Club” (dispensary) owners and operators, and was confirmed using public sources to the extent possible. The patient and caregiver perceptions about the precise operational structure, goals, and membership activities of the organizations were actively sought from the participants throughout the interviews.

The largest medical marijuana advocacy organization in Michigan is the MMMA: The “Michigan Medical Marijuana Association” is devoted to preserving and protecting patient rights under the Michigan Medical Marijuana Act. The purpose of the MMMA was articulated in an informal interview with a high ranking official in MMMA. He is a fiery individual who served in the armed services and who brings his passion for gritty city and jungle battles to the fight for medical marijuana and gave a long and detailed informal, unrecorded interview for this paper:

We are a grass roots organization of patients, and our main goal is to protect the marijuana act, and make sure patients have access which is our right under the law no matter what the Attorney General says (MMMA Official).

The large group boasts thousands of members, and the official stated several times the primary goal of the MMMA was to protect patients and the caregiver registry system. The interview took place at a Western Michigan Farmer's Market sponsored by the MMMA. A major topic of discussion was the Farmer's Market model and why it is the preferred distribution advocated by the MMMA because "it empowers the small grower and preserves the caregiver registry system. The relationship between the MMMA and other provider organizations was also discussed. The MMMA maintains an exceptional web site (www.Michiganmedicalmarijuana.com) which is devoted to legal and practical discussions about the medical marijuana act. Besides State-wide information and organizing, the MMMA is concerned with local, grassroots efforts such as turning out patients to appear in the court rooms and to protest during important court cases and during legislative sessions where the Act is being debated.

By 2009, several medical marijuana centers and dispensaries in Michigan joined together to form a competing organization, the MACC (Michigan Association of Compassion Clubs). A prominent member of the MACC was recorded interview P 16. Unlike the MMMA, this is not a grass-roots organization, but an organization of professional centers who banded together in order to engage in lobbying activities. The MACC arose from one of the first medical marijuana centers in Michigan, and at the time of the interviews, had several dozen dues paying centers, and two full time lobbyists in Lansing at the State legislature. Several pieces of legislation are and continue to be advocated by this organization, including a bill allowing local control of

medical marijuana centers, and bills to better define the scope and requirements of the medical marijuana law such as better defining “bona-fide doctor-patient relationship” and the meaning of “locked enclosed facility” which has been the subject of unresolved litigation and several criminal prosecutions.

P16 discussed MACC’s relationship with the MMMA:

I: What about the MMMA?

P: We do a lot of the same type stuff, but we are different at the point where we are pooling money to go do this type of lobbying, the capital and stuff. Where they would be the masses and show up at the rallies. And their leadership of course is pretty cool, and they have similar philosophies.

Despite the show of unity, the relationship between the MMMA and the MACC has been, at times, quite acrimonious, tending to divide the medical marijuana community between patients represented by the MMMA and dispensary organizations represented by the MACC. In fact, relations between the MMMA and the MACC could even have been called openly hostile. For a time there was a split in the medical marijuana community between patient advocates in the MMMA and the “big money lobbyists” in the MACC.

However, this split was largely patched together after the Michigan Attorney General Bill Schuette began raiding and prosecuting patients, caregivers, and dispensaries:

Sure, we are at odds, as it happens in a few of these emerging things. You know, the details of how we distribute this new legal product, but we had this rally September 7th where about 3,000 people showed up in Lansing. That was a community effort, and what we did (is) work together, and as I say, look, and obviously, I will tell you what else made it easier for us to get along was Bill Schuette who made himself known as the real enemy. What he was bringing to us was so much bigger than our inner community squabbles that we just said, ‘Okay, this is obviously kind of stupid right now when we just kind of have this serious threat hanging out here.’ So, we said ‘Let’s identify

three, four things here that we absolutely iron clad agree on, and this will be the basis of our unity efforts' (P16).

There was an obvious attempt to “smooth over” differences between the organizations and present a united front. Both the MMMA leader (who was interviewed informally and not recorded) and P16 denied any current friction between the two organizations, and both strongly emphasized how their different goals and objectives were complementary. In fact, both used almost the same words to describe their relationship and both talked about collaboration efforts:

I have no problem with [MACC]. They are doing their thing which is organizing and lobbying and protecting their business model, and we are all about grass roots organization and making sure the will of the people is heard. There is no conflict at all between us, no problem at all (Informal Interview Notes).

Similarly, in his recorded interview P16 stated:

Well [the MMMA leader] is quite an advocate, and we certainly don't have any conflict with the MMMA at all. They are doing their community organizing thing, and we are focused on the business and access side. There is no conflict between our groups at all. We are in total agreement about the overall goals and objectives (P16).

The interviews confirm a well-known result from the sociology and social psychology literature that a clearly definable common enemy increases inter-group coherence by providing a singular direction (Fisk 2012).

A third advocacy organization is the Michigan chapter of NORML: The National Organization for the Reformation of Marijuana Laws, which predated the medical marijuana law and advocates for the complete legalization of marijuana. NORML's mission is to “move public opinion sufficiently to legalize the responsible use of marijuana by adults, and to serve as an advocate for consumers to assure they have access to high quality marijuana that is safe, convenient and affordable” (NORML

2013). The Michigan Chapter of NORML (www.MINORML.org) has a lead attorney who is an old friend of this dissertation author. This researcher worked for him in his first job as an attorney between 1992 - 1994 and has maintained some contact. This contact was renewed after he had become lead counsel for MI-NORML and learned about my dissertation topic. He was corresponded with several times for this paper about ongoing cases, the developing case law, the likely interpretations, and various legal issues that arose during the pendency of this dissertation.

A fourth organization which also predated the Act is the MPP (The Marijuana Policy Project). This group actually wrote the referendum that was placed on the Ballot and passed by the people which became the Michigan Medical Marijuana Act.⁹ It is a national advocacy organization with offices in Lansing, Detroit, and Washington D.C. and around the country. The organization has been instrumental in getting medical marijuana legislation passed in 17 States and the District of Columbia, and legalized completely in two States. However, this organization was heavily criticized by several participants in the interviews because of ambiguities in the legislation and for their failure to include dispensaries in the original referendum because they “were not polling well” (Interview 11, 16, et al).

The MMMA leader stated:

We are trying to clean up the mess these people [MPP] left with even though the intent of the law is clear.

P16, the MACC leader had similar thoughts:

P: Well these people [NORML and MPP] don't agree with us. They think specifically that anything of medical marijuana is useless because they keep on fucking with it and finding new ways to subdue it. So you got to

⁹ Full disclosure necessitates revealing that the author has been a dues paying member of the MPP since 2008.

go straight to decriminalization [of marijuana]. Some people think that is the problem with the referendum [written by MPP]. If they wanted to screw it up so bad the only alternative was full legalization and...well they....

I: They would have written the same legislation?

P: Yeah, basically (P16).

Other participants were less diplomatic:

Those fuckers ruined my life. Why did they have to put all this ambiguous shit in there when it could have been clear and still passed? We had two thirds of the people vote for this thing (defendant in a prominent Michigan medical marijuana case informally interviewed).

Nobody from the MPP was interviewed for this dissertation, and the leadership has moved their activities to other States, passing medical marijuana laws in Arizona (2010), New Jersey (2010), Washington D.C. (2010), Delaware (2011), Massachusetts (2012), Connecticut (2012) and full legalization in the States of Washington and Colorado (Pro-Con, 2013).

CHAPTER 7: STRAINS: THE PERCIEVED EFFECTS OF DIFFERENT VARIETIES OF MARIJUANA

Introduction: Marijuana has over 100 components that act together within the human body and brain. Growers, patients, seed banks, and others have long claimed that different marijuana strains and cultivation techniques produce strains that have different psychoactive and medicinal properties (Rosenthal 2004). However, the claim is unsupported by clinical research due to the restrictions and obstacles to research that were previously discussed.

Therefore, explaining the effect of these different substances in the human body has been missing from the literature. The most well characterized and best known chemical component in marijuana is delta-9 Tetrahydrocannabinol (THC) which has well known psychoactive properties through its activation of CB1 and CB2 receptors in the nervous system. This effect in isolation is fairly well characterized given the fairly substantive body of research on orally delivered synthetic THC such as Marinol, Nabilone and Cesamet (Armentono, 2011). The second best characterized component in marijuana is Cannabidiol (CBD) which is increasingly known for its anti-inflammatory and other potentially medicinal qualities (Project CBD 2013). However, as we have seen, federally approved research employs marijuana with an average potency of 1-3% THC ,but marijuana available to a medical marijuana patient (at least before McQueen) was often more than eight to twenty-five times as potent at over 25% THC (Canalytics 2012). Almost no government approved or funded research has ever measured CBD levels, but commonly available medical marijuana has a wide range of CBD from 0% all the way up to 15% in some samples (Rosenthal 2004). The effect of these chemicals

present in the remarkable array of strains available to the medical marijuana consumer has been problematic for those on the anti-marijuana side of the argument and government organizations such as NIDA have worked hard to prevent any systematic research into those effects.

Findings on Strains of Medical Marijuana is Interpretive and Critical:

In order to investigate this huge gap in the literature about the effects of different strains of marijuana, without the ability to conduct double blind, randomized clinical studies, sociological methods commonly employed to study hidden or other difficult to study populations were employed. Patients and growers were interviewed and several “Farmer’s Markets” and dispensaries were visited. In discussions with dozens of high volume growers, all experienced growers acknowledged a difference in varieties, and only three of the dozens of growers and vendors interviewed were not able to clearly articulate those differences. The remainder were in almost total agreement and spoke about “up” vs. “down” or “daytime” vs. “night-time” or most commonly “Indica” vs. “Sativa.” The basic claim from patients agreed with the growers and producers, and the literature on growing marijuana (Rosenthal 2002) that a product with a higher THC content has a more euphoric effect. Conversely, there was broad agreement that a product with a higher CBD content has sedative effect, known on the street as “couch-lock” which (in the highest dose) imparts the classic “stoner” effect of sitting on the couch practically unable to move, staring off into space.

The astounding variety of strains in medical marijuana currently available is an entirely new area of research that does not have very many predicates in modern social research, or medical research because of marijuana’s unique social history. The

closest analogy would be the strictly medical question of pharmaceutical choice. For example a medical sociologist would probably not choose to design a study to determine whether morphine or oxycontin provided better pain relief since this does not concern the social causes of disease and is not related to the study of the medical or legal systems. There is usually no direct nexus that can be studied between the sociological and biological causes of disease and medication preference. However, in the case of medical marijuana there *is* a direct nexus between the sociology and biology of strain preference. This nexus is the methodological approaches that sociology offers which can circumvent the legal and social barriers to research on marijuana. As a scientific discipline, Sociology is both methodological and theoretical and, given the barriers to research, indirect qualitative methodologies aimed at hypothesis generation are the only way to study issues like the proposition that different types of marijuana may have different effects and therefore different medicinal properties. When social, ethical or legal barriers impede research, another way to engage in the search for scientific truth is to query the experts on the issue in question (Westfall 2004).

As this research evolved from the question of whether “medical” marijuana is actually being used as medicine to a more advocacy oriented critical perspective, the goals increasingly sought to provide a voice to this disenfranchised population. This social group is marginalized and by bringing them to the light it is hoped it might empower them to destroy myths about the dangers of marijuana and especially about the self-fulfilling anti-marijuana argument regarding proof of medical benefits in different types of marijuana. The population of medical marijuana users has been the subject of intense legal and social discrimination. Marijuana patients are lampooned as lazy,

antisocial, hippie pot smokers in the popular media. Yet the types and strains of medical marijuana, as well as the use of these strains indicates considerable rational thought, and provides objective evidence of medical need on the part of the medical marijuana users. The preferences that were consistently indicated by patients about the effects of certain types of medical marijuana for specific illnesses suggests that this group is not only using marijuana as medicine, but the group is in fact using different types of marijuana for different types of medicinal effects. By investigating these different types of marijuana and the perceptions that their use evokes, the hope is to discover the rationale behind the use of medical marijuana in this group and to provide evidence for the existence of different medicinal effects in different types of marijuana. In turn this enlightens, in part, why so many would subject themselves to possible legal action and produces testable hypotheses for future medical, clinical, and sociological work.

The “Orchestra Effect”:

Marijuana contains more than 100 ingredients in different concentrations depending on the strain and the harvest techniques (Rosenthal, 2002). According to one unrecorded participant who was a tireless advocate for the cause of marijuana activism and a prominent blogger and public speaker for the Michigan Medical Marijuana Association, the heterogeneity of psychoactive components creates the “Orchestra Effect.” He claims that all or almost all strains contain the same essential components, but different strains contain different quantities and concentrations of those components. Therefore, by analogy one strain might have a stronger “trumpet” section while another might have a stronger “percussion” section “and this unique

mixture in each strain produces that beautiful music we all love so much.” Even though both strains (Indica and Sativa) contain basically the same components, albeit in differing concentrations, the effect of the overall “composition” (i.e. the effect experienced by the user) can be very different. The extended musical analogy is an interesting way to conceptualize the different strains as different varieties of music where different genres produce very different music even while using basically the same instruments. Continuing, this participant provided the example of a Rock band and a Blues band which both use a guitar, a bass, and drums but the music that is produced is markedly different and unique to each genre. Like an orchestra, or a particular type of music, different marijuana strains and cultivation techniques use the same building blocks to produce strains that have different perceived psychoactive properties (Rosenthal, 2002).

Medical Marijuana is different and much more potent than the illegal Marijuana used before the change in the law:

Besides different medicinal effects, potency differences were also a prominent claim. Most patients reported that “medical” marijuana available at dispensaries and other vending locations was much different than the marijuana that was available before the Michigan Medical Marijuana Act passed. The most prominent claim identifying this difference was about the potency of the marijuana which most (except for two interview participants who came originally from California) claimed was much higher with medical marijuana than the marijuana previously purchased on the street.

I: When did you start using medical marijuana instead of Vicodin most of the time?

P: I would say this happened when it got better, you know, when we passed the law.

I: What got better?

P: The pot got better

I: What do you mean the pot got better?

P: Stronger, more variety, much, much stronger than most of the ditch weed you could get before. That did not help me like the stuff we have now. (P5).

Caregivers agreed that “medical” marijuana was much more potent than most of the marijuana available before the law passed.

P: We test all of our medical marijuana here and, you know, the government reports that most of the weed seized on the streets is 7% or 8% THC. Just about the weakest stuff we carry is 12% THC, but that has a lot of the Terpenes and CBDs that make it more medicinal. A lot more!

I: So, your inventory, the weakest strain in your inventory is half again as strong as the average strain on the street?

P: No. Our weakest is probably two three or four times stronger than the average ditch weed you get on the street. You have to consider more than just the THC because the other chemicals control how much is absorbed, how fast it is absorbed, how long the body takes to break it down.

I: And if it takes the body longer to break down then...

P: [interrupting] Right, you feel it is, you know, a lot more potent. Our best strain is almost 30% THC and one hit of that is like smoking an entire joint. There is no comparison.

Far from the characterizations of the dangers of potent marijuana (NIDA, 2013) the more potent marijuana was viewed by patients and caregivers as more effective medicine which, paradoxically, also let patients *decrease* their overall use of marijuana.

Medical Marijuana patients titrated their dosages of marijuana depending on the potency:

Along with the claim of greatly varying subjective potency, patients and caregivers consistently reported that they titrated the dosage depending on the potency in order to achieve the desired effect. That is, when the marijuana was strong then the patients smoked less to achieve the same “high” while when the marijuana was not as strong they smoked more to achieve the same “high.”

I: Has your use of marijuana increased or decreased since you became a legal certified patient?

P: Yes, I am able to find much better product, so I don't have to use as much.

I: You are suggesting that potency means less use?

P: That is exactly what I am saying, yes (P3).

Patients consistently reported that it was desirable to use less marijuana and therefore inhale less smoke in order to achieve the same psychoactive or medicinal effect.

Different Strains of Marijuana Were Associated with Different Perceived Effects:

Most patients, and all of the recorded caregiver interviewees were aware of the “Indica/Sativa distinction,” and most claimed agreement with the known literature that Indicas provided a sedating effect while Sativas provided a more uplifting effect. In an interview with a Caregiver, the differences were briefly outlined:

I: Could you give us a primer on Indicas and Sativas, and medical use?

P: OK, cannabis comes in two primary strains, one is Indica. Which comes from South East Asia, the Indus river valley, and Sativa comes from more equatorial Central America and South America. So, the nature of the plant, Sativa has a greater impact on the person’s mental health in terms of THC in Sativa particularly helps elevate mood, uplifts mood, creates a mental relaxation state and is calming.

I: So the calming version is more of an equatorial plant?

P: Yes, now in contrast, Indica as a plant comes from Northern Pakistan, Southern Afghanistan, Indus River valley, same part of the world. And uh, this the border region of Pakistan and India. The Indica plant naturally produces a higher level of CBD which is Cannabidiol (P11).

Overall patients agreed that Indicas were preferred at night for the more “sedating” qualities while

Sativas were preferred during the day for the more “uplifting” qualities.

There was Disagreement between the Limited Available Literature and Two of the Most Serious Patient Cases Who Claimed Indicas Gave them More Energy While Sativas Were Not As “Uplifting”:

One very interesting result, which should be viewed as very preliminary, but which certainly deserves future attention was that while almost all patients and caregivers consistently reported that even though different strains of medical marijuana were associated with different perceived effects, and that they actively sought out the preferred effects by choosing specific types of marijuana, there was *NOT* universal agreement about how those effects were perceived. It is possible saturation could be achieved on this topic given enough targeted interviews, but it is certain that saturation was *not* achieved on this topic during the course of this study.

Some of the growers thought that Indica/Sativa hybridization and controlled breeding had essentially erased the categories of “Indica” and “Sativa.”

No...it is not that simple...you can make an Indica with real high THC that makes you wired, not couch-locked; and you can make a Sativa put out more CBD and things like CBN just by waiting to harvest for a few days. Every strain is different, sure, but every harvest is different, every grower is different. We are all different. Everybody is different (P3).

Several dispensary owners and growers agreed with this analysis and thought this was a primary reason to allow dispensaries, so that patients could have access to different strains so they could find “what works for them” (P3, P11, P16, and P25).

However, some minimal evidence was uncovered suggesting it is also possible the factors giving rise to what “works for the patient” could be related to the qualifying medical condition. The two most serious participants, both in considerable pain with life threatening diseases did not agree with the common formula of uplifting Sativas and sedating Indicas. In fact they totally disagreed about the uplifting qualities of Sativas and the sedating qualities of Indicas. One was a terminal cancer patient, and the other had Multiple Sclerosis, and both were in considerable pain. They both suggested that Indicas were more “uplifting” for them even though the other recorded Interviews either speculated that the effect was “individual (P11, P16) or agreed that Indicas were more sedating.

Sure I know what they say [about Sativas] but Indicas give me energy, I don't know why. Isn't that weird? (P27).

I prefer Indicas because they make me feel better. I can just do more activities when I smoke an Indica (P14).

Based on the limited data collected in this study on this topic, a reasonable hypothesis can be offered which requires further elucidation: Medical marijuana patients with terminal cancer or M.S. might perceive the effects of marijuana differently than medical marijuana patients with less serious conditions. Even more significant, patients in significant pain appeared to prefer high CBD while those with mental or emotional trauma preferred high THC. As a preliminary matter, this suggests that CBD may be

associated with decreased pain sensation which, if true, significantly undercuts the argument that medical marijuana is a mere “ruse.”

Conclusion of Strains:

The ultimate goal of medical marijuana is to be able to develop strains specific for specific conditions. The heterogeneity of marijuana and the heterogeneity of responses to different types of marijuana that is identified in this study also suggest that different types of marijuana might be developed for different medical conditions. These results suggest that patients with chronic pain are likely to respond to different strains of marijuana differently than patients with anxiety or depression. Further research is clearly needed on whether it might be efficacious to identify medical condition specific strains and this requires relaxing federal regulatory obstacles so actual clinical studies on actual medical marijuana can be conducted. The preliminary results from interviewing knowledgeable caregivers and patients about their experiences with different strains of medical marijuana suggest that a focused scientific program to develop specific strains and identify specific psychological and medicinal components in marijuana is long overdue.

In addition to the potential medical benefits, the identification of medicinal properties in marijuana is an important piece of evidence in the ongoing Cannabis Dialectic. The amount, degree, and character of the heretofore documented governmental resistance to legitimate scientific inquiry and any findings of the potential beneficial and medicinal effects of marijuana suggests this evidence may exist, and that it may be an important factor in influencing public opinion and claims making on behalf of medical marijuana. As we have seen, this intractable social dispute has been a

problem for many decades with two highly polarized sides. One side claims that “medical” marijuana is a “ruse” to legalize all drugs for all purposes while the other claims marijuana has significant medicinal properties. This section presents some evidence towards the hypothesis that different types of marijuana have different perceived effects. If confirmed, this could be a highly persuasive argument that marijuana does, at least some of the time for at least some types of patients, actually have medicinal properties. Evidence that different patients perceive different types of marijuana as more or less medically beneficial depending on both the patient’s medical condition and the concentration of various compounds in the marijuana is even more persuasive evidence that marijuana is “medical.” More research on this topic is warranted.

CHAPTER 7: LIMITATIONS AND CONCLUSION

Research Problem and Significance:

The War on Drugs, and on marijuana, has remained contentious since even before the 1937 Marijuana Stamp Act (P.A. 238, 75th Congress, 50 Stat. 551, Aug. 2, 1937) with some 700,000 arrests for marijuana possession each year in the United States. This amazing figure has remained fairly constant, year after year, despite the fact that marijuana was common and grown throughout the early history of the United States as a commodity that provided oil, fiber, food, and medicine. Recently there have been increasing claims about claimed medical uses for marijuana. By 2013, despite federal opposition, medical marijuana was approved in 17 States and the District of Columbia while full legalization of marijuana was approved in two States, Washington and Colorado.

The courts, law enforcement, and other government agencies have subjected marijuana users to penalties and thereby marginalized them while making research on the population of users, and on the banned substance, marijuana itself, extremely difficult. This social split between the pro and anti-marijuana forces which was identified as the “cannabis dialectic” is obvious and has been fueled by nearly 80 years of legal, social, and media dogma. The major social actors from government, to the media, to the courts, policing, and corrections disproportionately favor the anti-marijuana position, often enforced by harsh legal penalties, well-funded research programs, and directed media campaigns of social opprobrium. Until very recently the perspective of marijuana users has been almost completely ignored and marginalized by the popular culture, including in the media, academia, medicine, and scientific research.

In order to address this lack of balance, the research question in this study was initially whether marijuana was actually being used as medicine, as claimed by many advocates, or whether “medical” marijuana was actually a “ruse” to legalize drugs for all purposes as claimed by many opponents. The advertising flyers used to attract participants in this study asked for interviews with medical marijuana patients who were willing to talk about their use of marijuana as medicine, and from the earliest interviews, it became apparent that the answer was an unequivocal yes. Beyond doubt, some patients *were* using marijuana medicinally. Therefore, the major aim of the paper became the presentation of the patient and caregiver perspective of the medical marijuana issue. Given the large amount of research expended on drug treatment, and the social, psychological, and physiological harms of marijuana, it was believed that the perspective of those committed to the use and provision of marijuana as medicine was needed, and this was the primary purpose of this study. If marijuana is actually being used as a medicine and not always being “abused” as an intoxicant, then the validity, safety and efficacy of marijuana as medicine is the pivotal issues for medical marijuana. If marijuana is a safe and legal drug that treats a number of medical conditions, then the arguments of the anti-marijuana groups is compromised.

Methods:

This study employed in-depth, recorded interviews of medical marijuana patients with a total of 31 medical marijuana patients giving recorded interviews. Twenty recorded participants who were “regular” patients and eleven were patients and also producers or “Caregivers” under Michigan law. Several dozen shorter, often impromptu discussions were also conducted but not recorded for various reasons. Pursuant to IRB

protocols, all persons who gave interviews from which data was collected via handwritten notes during or afterwards, or who were recorded and transcribed, were provided IRB approved information sheets. Often impromptu discussions took place while awaiting the scheduled recorded interview or while visiting a medical marijuana club or dispensary. Other discussions were held with medical marijuana physicians, and attorneys specializing in medical marijuana law.

Interpretive Research Methods:

Qualitative research is often the interpretive task of finding individual meaning that empowers “certain agents to create representations and thereby to authoritatively pronounce on the shape and structure of the world” (Hess-Biber & Levy, 2004). The interpretive researcher views the world as the participants view the world and attempts to see and convey what the participants see. In short, the fundamental characteristic of qualitative research, whether used to study “primitive” cultures or contemporary cultures and groups, is the “commitment to viewing events, actions, norms and values from the perspective of the people being studied (Bryman 1988). This task was simplified by the fact that the writer is himself a registered medical marijuana patients and an “insider” with this population.

Recruitment:

Prospective participants were recruited using IRB approved flyers posted at Compassion Clubs and other sites where medical marijuana patients were known to congregate and by referrals. Efforts were made to obtain a recorded interview sample population that roughly looked like the Michigan medical marijuana population on the categories of gender and qualifying medical condition although proper caution must be

taken in interpreting these results since the sample in no way represents a probability sample.

Interviews:

The recorded interviews were transcribed while the unrecorded interviews involved either note-taking or subsequent dictation of the findings. Most of the recorded patient interviews took approximately an hour while most of the caregiver interviews took one to two hours. The unrecorded interviews varied from a few minutes to more than 1-hour. Each recorded interview was conducted in a private, safe location of the participants choosing and conducted using an eight page Interview Guide as a template. However, they were not heavily structured and the topics drifted depending on the interests and concerns of the participant. The unrecorded interviews were totally unstructured. The main purpose of the interviews was to identify the patient and caregiver perceptions about the effects, use, acquisition, and provisioning of marijuana in light of their qualifying medical condition.

Each recorded interview began with the question: “What is your qualifying condition to use medical marijuana in Michigan?” This was followed by a detailed medical history, and then the participant’s perception about his/her use of medical marijuana, including beneficial and harmful effects, method of use and how often they used medical marijuana, as well as, an interactive discussion of the certification process, and each individual’s visit to the medical marijuana doctor. The topics of stigma, dealing with the children of patients, use of different medical marijuana strains, and initiation into the use of marijuana and medical marijuana were added later to the

interview guide. Finally, demographic information such as income, class, political affiliation, work and school history, and religion were briefly discussed. The Interview Guide was changed and adapted as new information became available from participants. Four topics were chosen to present as findings for this paper: reduced opiate usage, unequal enforcement and stigma, availability, and quality. Each chosen topic or theme (as well as subtopic and themes) is given a separate Chapter in the “Results” section. Narrative passages from the transcripts provide multiple perspectives that were used in a discussion of the interconnected themes (Creswell 2003).

Data Analysis:

Transcript excerpts were coded and placed into one or more of 12 initial categories (Table 4). Qualitative data analysis is iterative and reflective which means that data analysis is circular with new information feeding back and causing the researcher to change tone and the questions for the next interview. The process continues until saturation of the data is achieved. Some of the findings reported in this study were obvious almost immediately and saturation of the data occurred relatively quickly. For example, the first four interviewees spent some time talking about their perception that marijuana use let them decrease their opiate use, and this continued throughout every single one of the thirty one interviews where the patient’s complaint was chronic pain. However, it was not until very late in the interview process (specifically interviews 25 and 26) that the structure of dispensaries and alternate marijuana delivery organizations came into focus. Saturation of the data on this topic did not occur until the final two interviews. Saturation of the data for different strains of medical marijuana did not occur during this study and this report is very preliminary.

Results:

Four major results are reported in this study: The first finding was that medical marijuana patient consistently claim that the use of marijuana by Michigan patients reduced or eliminated their need for prescription painkillers. The second finding provides evidence of patient concerns of ambiguity, unfair, and unequal enforcement of the Medical Marijuana Act. The third finding provides a description of the structure and functions of medical marijuana centers in Michigan before the *McQueen* decision outlawed transfers of marijuana in February, 2013. The final finding addressed by this research is suggestive that different strains of medical marijuana have different effects and are both perceived, and used differently by different patients, possibly depending on the patients qualifying medical condition.

Finding 1: *Reduced Opiate Usage* was the primary, overwhelming finding in this study. Patients and caregivers agreed that the use of marijuana by Michigan patients reduced or eliminated the need for prescription painkillers. This result was obtained from the final codes on “Beneficial Effects,” the “Cannabis Dialectic,” and “Reverse-Gateway” along with several comments from the category “Hippy Talk.”

Finding 2 *Unequal enforcement and Stigma* (Ambiguity and unequal enforcement of the Medical Marijuana Act) was the main topic of the interviews. Many participants volunteered to be interviewed so they could speak with a licensed attorney about the Michigan Medical Marijuana Act so this topic was front and center in both the recorded portions of the interviews and even more so in unrecorded and/or preliminary discussions. The legal concerns were ubiquitous and focused on availability of marijuana, and government regulation of distribution in light of the developing case law

on the topic in Michigan. Most of these results were synthesized from the final codes on the “Cannabis Dialectic,” “Doctor’s Visit,” “Michigan Marijuana Act,” and “Stigma.”

Finding 3: Dispensaries, Availability and Access (Medical Marijuana Center structures before the McQueen outlawed transfers of marijuana) was another common discussion, particularly with dispensary owners and operators and for the same reason as finding 2 (i.e. because the interviewer was an attorney in Michigan). Several marijuana distribution strategies were pursued in several different functional arrangements with different dispensary structures, delivery services, and farmer’s markets. This topic was chosen as a finding to report because it was considered socially important with considerable relevance to how future legislation could be structured and because of the unprecedented access to and cooperation from dispensary owners in Michigan this author gratefully received. Paradoxically, this topic becomes even more salient with the Michigan legislature, and other State legislatures considering dispensary options. Most of this information was taken from the sections on “Dispensaries.”

Finally, Finding 4: Effectiveness of different strains of medical marijuana was taken from the section on “Strains.” The finding was that different patients pursue different strains of marijuana for the different perceived effects and that this perceived difference may be related to the patient’s qualifying medical condition. This was a very difficult topic to pursue and, in fact, it is a topic that has *never* been explored in any systematic way, and certainly not in any clinical way. The new medical marijuana strains are extremely potent and have a variety of effects but most are just a few years old and cannot be studied in the United States due to NIDA restrictions. The results

from this topic should be viewed as very preliminary and further research is urgently needed.

Limitations: This study presents a very unique set of data: The actual words, beliefs, and thoughts of a sample of medical marijuana patients and caregivers in the State of Michigan. However, this was not a probabilistic sample of patients and participants were obviously over-represented by volunteers with strong, often very articulate beliefs in the efficacy of medical marijuana. All but four of the participant patients had (at least) a small personal grow as permitted under Michigan law as did all of the caregiver participants. No African Americans and only one Hispanic were interviewed. Four African American interviews were scheduled but unfortunately none were completed. The medical marijuana law was strongly opposed by the State Attorney General and several local prosecutors and a number of prominent patient prosecutions occurred during the time this research was ongoing. Therefore it is not surprising that the rate of last-minute cancellations was very high in this sample with approximately 80 interviews scheduled over a 2 year period and only 31 completed and recorded. After the first few interviews there were so many volunteers that cancellations were generally not followed up. This sample does approximate both the gender ratios found in the medical marijuana population and the types of qualifying conditions in the population, but there is no representation that it is probabilistic. Appropriate caution should be exercised in interpreting these results and generalizing them to the population of medical marijuana patients and caregivers in Michigan.

Based on the tone of the interviews, and conditions reported by the State of Michigan (LAR, 2012) it is believed that the sample in this study included those with

more defensible medical conditions than the general population of patients. In other words, it is reasonable to assume that if patients had a question about whether their medical condition rose to the level of “serious or debilitating” (MCLA 333.26424) required under Michigan law it is likely they did not volunteer to be interviewed for this convenience sample about their “use of marijuana as medicine.” Certainly no “questionable” cases were referred by any of the Caregiver referral sources. These results are qualitative and should certainly not be interpreted to suggest anything about the degree of seriousness that would be found in a probabilistic sample of medical marijuana patients. The results from the caregiver interviews contain excerpts from highly educated professionals and individuals with considerable specialized knowledge of the patient population. However, they also had a pecuniary interest in the medical marijuana industry. Obviously they were not an unbiased group and were in a position where they would be more likely to support the idea of beneficial effects from the use of marijuana. Therefore, their results deserve particular and skeptical scrutiny. Many were tireless advocates for the cause of medical marijuana and could only be described as true believers.

Qualitative Hypotheses and Future Research Directions:

In depth, qualitative interviews of 20 medical marijuana patients and 11 “Caregivers” (producers, growers, vendors, and activists) were conducted resulting in a wide range of findings. Shorter, informal interviews were held with approximately 100 participants including 9 medical marijuana attorneys, 4 medical marijuana certifying physicians and (in addition to the 11 recorded interviews of caregivers) 16 growers, or dispensary owners and operators who were not recorded. The most important and

most obvious and clear finding was that medical marijuana patients report substituting marijuana for prescription drugs, particularly opiates. A variety of concerns about access, legal issues, and enforcement of the Medical Marijuana Act were also discussed during the interview process along with the structure of medical marijuana centers and the bewildering varieties of medical marijuana strains that are available.

This is the first reported study on the medical marijuana population in Michigan. Qualitative results allow the formation of testable hypotheses. Based on the data provided by this research, the following hypotheses are offered as potential subjects for further research:

1. Some medical marijuana users may be using marijuana as a substitute or replacement for opiate narcotics. In particular this data suggests an avenue for clinical research using medical marijuana for adjunctive pain treatment, especially in those patients with persistent opiate addiction, or with those individuals resistant to more standard forms of analgesic treatment.

2. Medical marijuana may be more effective than some types of narcotics by providing analgesia without the side effects associated with opiates. Randomized and blinded clinical trials need to be permitted by the government and performed by researchers to provide evidence or falsification of this hypothesis.

3. Patients and caregivers agree that law enforcement and courts hostile to the medical marijuana act have used the statutory ambiguities to engage in uneven enforcement activities contrary to the will of the people as manifested in the referendum that created the Michigan Medical Marijuana Act.

4. Most medical marijuana patients were concerned about access to marijuana before People vs. McQueen outlawed dispensaries in Michigan. Without dispensaries, it is not clear how patients are obtaining their medical marijuana. The legal caregiver registry system that is still in place may be the vehicle for marijuana distribution or patients may have returned to the black market practices common before the Marijuana Act. Further research on this topic is warranted.

5. Before McQueen groups formed to distribute marijuana in a variety of structures from Farmer's Markets, to Compassion Clubs, to dispensaries, in order to provide access to marijuana. These structures can no longer be easily studied because they are illegal in the State of Michigan but their spontaneous organization and the structures that formed and operated before *McQueen* provides a path for other States to follow and for the Michigan legislature as it considers a legal distribution system for medical marijuana patients.

6. Patients and providers formed a variety of advocacy groups and have taken other measures to advocate for medical marijuana, protect themselves from law enforcement, and help insure access to marijuana. Private relationships with local government officials protected and authorized local distribution networks while marijuana advocacy organizations such as the Michigan Medical Marijuana Association, the Michigan Association of Compassion Clubs, the Marijuana Policy Project, and the National Organization for the Reformation of Marijuana Laws advocate for patients, caregivers, dispensaries, and other medical marijuana providers.

7. The literature from grow manuals and seed bank publications claim that indica strains of marijuana have a different effect than sativas and that indicas are

associated with sedation while sativas are associated with a more uplifting effect. Patients and caregivers generally agreed about the expected and perceived effects of these different strains of marijuana. However, a few caregivers denied the arbitrary split between indicas and sativas and claimed the effects are “individual” to each specific patient or there are too many factors involved to identify the categories.

8. Two of the most serious patient cases gave different answers than the rest of the patients and claimed that indicas gave them *more* energy while sativas did not which suggest there may be something medicinal (like CBD) in the indicas which are making them feel better and providing more energy. Interviews focusing on the most serious cancer and M.S. patients should be conducted.

The results in this dissertation do not provide evidence or proof of these hypotheses but they do raise the questions, offer solid hypotheses for future research, and provide ample justification for that further research. Research is needed on the possibility that medical marijuana might aid the treatment of persistent opiate addiction and that marijuana can act as an adjunct or even a replacement to opiate use. Clinical trials comparing opiates with medical marijuana are needed and long overdue. Future work could also survey or interview larger patient samples, or focus on medical marijuana patients who are current or former opiate addicts. There is a need for research into the issues of medical marijuana efficacy and patient characteristics.

Despite regulatory barriers to medical marijuana research, qualitative interviews of patients provides a viable alternative to understanding the population, untangling the cannabis dialectic, describing the alternative provider distribution network, and providing evidence for the medical use and efficacy of marijuana. However, since all the

interviews in this study were before *People vs. McQueen* outlawed dispensaries in Michigan, further work is needed to determine if the legal concerns of patients and caregivers and in particular the concerns about access to medical marijuana have increased since dispensaries were legally closed by the Michigan courts. Further work could also investigate the scope of dispensaries that remain open in opposition to the court ruling and the impact and reaction to the ruling by the State-wide advocacy organizations. Finally, considerably more work is needed on the different strains of medical marijuana. The findings in this dissertation suggest that more serious patient cases might prefer high indicas which are higher in CBD which has been shown in cell lines and animal studies to have anti-inflammatory, analgesic, and anti-pyretic effects which could be important clue to finding the “medical” in medical marijuana.

Disclosure of Interests: The author certifies that he has no commercial, proprietary, or financial interests in the subject, companies, or products mentioned in this manuscript. This PhD Dissertation in medical sociology is with the Department of Sociology, Wayne State University. The author did not receive payment, grants or consulting fees to conduct this study and has no prior or existing pecuniary or financial relationship with any participants or organizations who participated in this study or who assisted in obtaining interview leads. Interviewees were volunteers and were not paid for their time.

APPENDIX 1: INTERVIEW GUIDE

Introduction:

This is the interview Transcript of Participant _____ who has kindly given his/her (hereafter generic male pronoun) permission to record his statement is that correct?

Your identity will remain confidential and you are free to skip or refuse to answer any question(s) for any reason. You may stop the interview at any point, and refuse to answer any more questions. Do you have any questions for me before we begin?

OK, this is for a PhD program in medical sociology so I am primarily interested in the reasons why people are using medical marijuana, what is the range of patients and medical conditions that are treated and what are some of the problems people experience with this new treatment. So I am interested in your medical condition, your qualifying condition, what went into your decision to become certified to use medical marijuana, and your personal thoughts, ideas, and beliefs about how marijuana works for you.

So I would like to ask you some questions about your medical history.

Medical History/Qualifying Condition

- What is your qualifying condition?
- How long/When diagnosed
- Who diagnosed (physician specialty- PCP, specialist or medical marijuana clinic doctor?)
- Could you just give me a narrative of your condition, and the treatment you have received?
- History of medical providers seen for condition
- How does this condition affect you?
- Describe daily routine
- Any impairments, symptoms, signs, etc.

What type of treatment have you had for this condition?

- Any major surgeries?
- other drugs
- invasive treatments
- non-invasive treatments

Other medical conditions besides your qualifying condition?

- get into detail

Use of medical marijuana

How does marijuana help your qualifying condition?

- Describe in detail: Specifically WHAT does marijuana do for this condition?

Does using marijuana help any of your other conditions besides the qualifying condition?

Have you been able to decrease other treatments since you started using medical marijuana?

- narcotics decreased?
- Gateway or Reverse-gateway drug?

** Reverse Gateway is a new term derivative of several conversations with physicians specializing in medical marijuana certifications. There is a large body of well-funded psychological research suggesting that marijuana is a “gateway” to “harder” drugs such as heroin and cocaine. Some certifying physicians criticize this methodology and characterize medical marijuana as a “reverse-gateway drug.” In other words, far from serving as an initiation and introduction to “hard” drugs the experience suggests the precise opposite. The physicians claim that medical marijuana patients are able to use marijuana to stop using or at least reduce the need for harder drugs such as oxycontin, vicodin and opiate pain relievers.*

Have you been able to reduce or discontinue any medications as a result of having medical marijuana available to you?

- frequency of doctor visits and treatment

How would you rate your ability to function in everyday life before you started using medical marijuana and after you became a patient?

- improved or not?
- able to work now but could not before?
- comfort level?
- Are you able to do any activities now (or more frequently) than you could before as a result of medical marijuana?
- driving
- work

- physical or mental activities?
- MM vs. other medical tx.

Has your use of marijuana decreased, increased, or stayed about the same since you became a legal certified patient?

Adverse Effects of M and MM

Some research suggests that marijuana causes memory impairment and a-motivational syndrome or laziness, and that marijuana smoke has a much higher level of cancer causing chemicals than cigarette smoke. Have you noticed any physical, cognitive, or mental problems from your use of marijuana?

"How important is medical marijuana for your health?"

"What are your feelings about the legalization of medical marijuana?"

Drug History, Past and Current use patterns, before & after registered MMM status

Now I would like to ask you some questions about your Drug History, Past and current use patterns, before & after registered MMM status

Do you drink alcohol?

- approximately how much per week?
- have you ever felt or feared that you might have a drinking problem?

Have you used other illegal drugs in the past?

- Cocaine (crack, powder, mainline)
- Heroin
- Hallucinogens
- Meth
- Nicotine/Cigarettes
- others
- Prescription drugs (depending on qualifying condition)

As you know marijuana is still considered a Schedule 1 drug by the federal government with no legitimate medical use and a high abuse potential:

What are your thoughts about that?

How would you personally compare marijuana to these other drugs given your personal experiences?

- dangers
- abuse potential
- medicinal value of any other drug (including alcohol and prescription drugs)
- benefits

Did you have experience with marijuana before you developed your qualifying condition?

- when
- how often
- how used
- for how long

Without being specific or providing any identifying information, how do you get your medical marijuana?

- Grow your own
- You have a Registered Caregiver
- Purchase on the street
- Friend
- Dispensary
- Co-op/club or farmer's market
- Other source- please be specific without providing any specific identifying information.

How do you use marijuana?

- edibles
- vaporize
- smoke
- regular pipe
- joint

- water pipe

In what type of social setting do you consume marijuana?

- are you usually with other people/friend/family?
- are you usually alone?

How often:

- Several times a day
- Every day
- Every night 4. About every other day
- A few times a week
- A few times a month

What kind?

Why did you go through the trouble of getting certified to use medical marijuana?

Was going through the certification process worth it?

Will you get recertified next year?

Stigma:

Ask: what do you think means before reading definition:

(1) a mark of shame or discredit, disgrace or infamy; a stain or reproach, as on one's reputation.

(2)Medicine/Medical. a mental or physical mark that is characteristic of a defect or disease: the stigmata of leprosy.

- Family, Parents
- Social
- Medical Professionals (see also 'certification')

Dealing with Children

Strain Preferences Indica/Sativa etc.

*Initiation- M and MM**Demographics: Age, Gender, Family, Size, members, status,*

Now I would like to ask you some general demographic family, and employment history questions. In your answers please do not be specific enough so that a person reading this transcript would be able to identify you personally.

You are a (male/female) in you (20's, 30's)

Did you grow up in a small town, the country, or the city?

Are you married?

- Any kids; how many; also other marriages/marital history

How would you rate your economic status?

- less than \$20,000.00 for a family of 4
- 25-35K for a family of 4
- 35-55K
- 60-150
- over 150K per year

How have you been employed?

- disabled (due to qual. condition?)
- management
- temporarily unemployed (for how long) –
- Professional (doctor/lawyer/executive)
- office worker
- sales
- retail –
- small business owner
- construction
- other
- manufacturing

How are you currently employed?

If unemployed where were you employed?

Please tell me about your employment history?

- go through in detail depending on time

What is/was your income during your best year? When was that?

What did your family (parents/spouse/kids) think about you becoming a medical marijuana patient?

- do your kids know about your patient status?
- approximate ages
- how did you tell them
- any barriers or obstacles from family such as parents or spouses opposing?
- do you feel you have ever been stigmatized or discriminated against, or treated differently because you are a medical marijuana patient?

Politics, Religion:

Finally, I would like some general information on your political and religious orientation.

Are you a member of an organized religion?

On a scale of 1-10 with 10 being the most religious person you have ever met, how would you rate yourself in terms of your dedication to your religion?

- Do you go to church (etc.) regularly?
- pray?
 - Every day?
 - Every week?
 - About what?

Is there a conflict between your religious beliefs and your use of marijuana?

Do you consider yourself a liberal, or a conservative?

- abortion
- GWOT

- Same sex marriage

Republican or Democrat?

Based on your status as a patient, what do you think about the full legalization of cannabis? Have your attitudes changed since becoming a patient?

Are you satisfied with MMM Law? How would you change?

I am going to read to you a statement from Appellate court Judge O'Connell. Are you aware of his concurring opinion?

--he basically said the law is unclear and that anybody in Michigan who uses medical marijuana for any reason can expect the DEA to come knocking at their door.

I would like to get your reaction to a quote from his opinion:

“I do not direct my critical comments toward those qualifying patients who do in fact have a serious debilitating condition and seek some solace in medical marijuana. This act was intended to help those individuals. My comments are directed at those who are currently abusing the written certification process, i.e., the majority of the persons who are becoming certified at this time... medical marijuana users “who proceed without due caution” could “lose both their property and their liberty.”

Based on your observations, do you think the vast majority of medical marijuana patients are abusing the certification process and do not have a legitimate medical need?

Conclusion

Is there anything else you would like to tell me that I did not cover?

Do you have any questions for me?

APPENDIX 2: ADVERTISING FLYER

RESEARCH PARTICIPANTS WANTED FOR
MEDICAL MARIJUANA STUDY

Do you have your medical marijuana card in Michigan? Are you willing to help with some important research sponsored by the Sociology Department and the School of Medicine at Wayne State University?

We are looking for patient and caregiver VOLUNTEERS to sit down and interview about your personal views, and experiences with marijuana as medicine.

We will follow standard research procedures for interviews. They will be recorded and transcribed but identifying information is masked or deleted to protect patient confidentiality. The tape will be deleted after transcription. You have the option of receiving a copy of the transcript and providing your additional comments.

You may terminate the interview at any time and refuse to answer any question. There is no funding to compensate participants and participation is voluntary. Interviews will take approximately 1-hour.

Contact Dave: dpeters@med.wayne.edu or leave message at 734-765-6212. Thank you so much for your help!

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ABSTRACT**QUALITATIVE REPORTS OF MICHIGAN MEDICAL MARIJUANA
PATIENTS AND CAREGIVERS INCLUDING
REDUCED OPIATE USE, DISPENSARY OPERATIONS,
LEGAL CONCERNS, AND MARIJUANA STRAINS**

by

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December 2013

Advisor: Mary C. Sengstock, PhD**Major:** Sociology (Medical)**Degree:** Doctor of Philosophy

After hundreds of years of use the medical properties of Marijuana have been marginalized in our society. Qualitative interview data was collected from medical marijuana patients and knowledgeable producers and activists in Michigan about their perceptions and observations on the medical use of marijuana. Patients consistently reported using marijuana to substitute or wean off prescription drugs. All patients and producers who were taking opiate narcotics claimed they reduced overall drug use, especially opiates, by using medical marijuana. Patients and caregivers also claimed medical marijuana was preferred over opiates, eased withdrawal from opiates, and in some cases was perceived as more effective at relieving pain. Other issues explored included the operation of the Michigan Medical Marijuana Act, the formation and operation of medical marijuana centers in the face of countervailing State and federal, opposition, and the varieties and effects of different strains of medical marijuana.

Keywords:

Medical Marijuana

State and Federal Marijuana Laws

Michigan Marijuana
Controlled Substances
Drugs
Qualitative Interviews

AUTOBIOGRAPHICAL STATEMENT

David Peters is a licensed attorney and currently a faculty member in the Department of Psychiatry and Behavioral Neurosciences at Wayne State University School of Medicine. He holds degrees in Experimental Psychology and Physiology and has several years of business experience as the managing partner of a 20-employee law firm association. His academic experience includes work in a neuroscience laboratory, 3 years in interdisciplinary (law and pharmacy) writing and research, and 8 years as Assistant Professor of Business Law at Schoolcraft College teaching undergraduate students. He actively practiced law for more than 11 years in the areas of litigation, Mental Health and Administrative Law, handled more than 2,000 court appearances and nearly 200 trials. He has considerable experience in the juvenile system representing juveniles in delinquency cases and representing parents, children, and interested parties in neglect cases. He also has considerable experience in the adult criminal justice system.

Pursuing a life-long ambition following the death of his baby daughter, Catherine, in 2004, Mr. Peters began a course of study in Physiology at Wayne State University School of Medicine in 2006, was advanced to M.S. candidacy status in 2007, and graduated with a M.S. in Medicine (Physiology Major) in 2010. At the same time he completed his PhD in the Department of Sociology with a concentration in Medical Sociology. Mr. Peters' research interests are very broadly construed to include social theory, research methods, deviancy, social neuroscience, and the systematic and integrated, cross-disciplinary improvement of macroscopic systems of social control including criminal justice, juvenile justice, adjudicative, penal, educational, and medical systems.