# PRIMARY CARE PROVIDERS' PERCEPTIONS OF MENTAL AND BEHAVIORAL HEALTH PROBLEMS IN FRONTIER AREAS OF IDAHO

by

Alexander A. Theiler

A thesis

submitted in partial fulfillment

of the requirements for the degree of

Master of Health Science, General Research

Boise State University

May 2011

© 2011

Alexander A. Theiler

ALL RIGHTS RESERVED

BOISE STATE UNIVERSITY GRADUATE COLLEGE

**DEFENSE COMMITTEE AND FINAL READING APPROVALS**

of the thesis submitted by

Alexander A. Theiler

Thesis Title: Primary Care Providers' Perceptions of Mental and Behavioral Health Problems in Frontier Areas of Idaho

Date of Final Oral Examination: 10 March 2011

The following individuals read and discussed the thesis submitted by student Alexander A. Theiler, and they evaluated his presentation and response to questions during the final oral examination. They found that the student passed the final oral examination.

| | |
|---|---|
| Theodore W. McDonald, Ph.D. | Chair, Supervisory Committee |
| Sarah E. Toevs, RDH, Ph.D. | Member, Supervisory Committee |
| James T. Girvan, Ph.D., MPH | Member, Supervisory Committee |

The final reading approval of the thesis was granted by Theodore W. McDonald, Ph.D., Chair of the Supervisory Committee. The thesis was approved for the Graduate College by John R. Pelton, Ph.D., Dean of the Graduate College.

# DEDICATION

This thesis is dedicated to families who have lost loved ones to suicide or complications of mental and behavioral health problems. With additional research, perhaps these devastating illnesses can be controlled. Nate, I speak for all when I say, “Wish you were here.”

This thesis is also dedicated to my mom, dad, and brother, Zach. Your love keeps me grounded and tells me that the sky is the limit all at the same time. I couldn’t have done it without you.

ACKNOWLEDGEMENTS

I would like to extend my sincerest gratitude to the members of my Thesis Committee; they were invaluable during this process. Dr. Tedd McDonald, you have been a mentor for me in several ways, and your endless support of this project was a blessing. Your skill in research methods, data analysis, and technical writing are unmatched. Dr. Sarah Toevs, your guidance in this process was extremely helpful. You kept me on-time, on-budget, and you pushed me to dig deeper every step of the way. Dr. Jim Girvan, as always, you displayed the best values of Boise State in your work with me on this project. Your comments and suggestions are kind, yet pack powerful meaning. We could all learn a thing or two from you. Thank you all.

ABSTRACT

Depression and other significant mental and behavioral health (MBH) problems have not been well documented in frontier areas of Idaho. It has been suggested that residents of frontier areas access their primary care provider (PCP) for most of their general health and MBH needs. To determine PCPs' perceptions of MBH issues in frontier areas of Idaho, surveys were sent to all 252 PCPs with a registered practice location in one of Idaho's 26 frontier counties. The survey asked questions regarding the PCPs' practice history, the percentage of their patients who have an MBH problem and what those MBH problems are, how often they make referrals to MBH care professionals, and if there are barriers to obtaining care, how prepared they feel to identify and treat MBH problems, and whether further training in these areas would be beneficial. Seventy-four PCPs (of the 228 successful mailings) replied to the survey, yielding a response rate of 32.5%, which was proportional to the distribution of the true PCP population and represented all frontier Idaho. It was found that doctors (MDs and DOs) had their professional degree longer and had practiced in a frontier area of Idaho longer than midlevel providers (physician assistants and nurse practitioners). PCPs reported that about 30% percent of their patients may have a MBH problem. Mood disorders, anxiety, and substance abuse were the three most commonly reported MBH problems that PCPs encountered in their clinics. Finances and transportation (88.6% and 71.4%, respectively) were the most frequently reported barriers to obtaining professional MBH care. Finally, although all PCPs reported feeling prepared to identify and treat

MBH problems, most reported that additional training in the identification and treatment of MBH problems would be beneficial.

TABLE OF CONTENTS

ABSTRACT ..... vi

LIST OF TABLES ..... xi

LIST OF FIGURES ..... xii

CHAPTER ONE: INTRODUCTION ..... 1

Statement of the Problem ..... 2

Purpose ..... 3

Hypotheses ..... 3

Limitations ..... 4

Delimitations ..... 4

Definitions of Terms ..... 5

CHAPTER TWO: LITERATURE REVIEW ..... 6

Significant Mental and Behavioral Health Problems in the United States and Idaho ..... 6

MBH Problems in Urban and Rural Environments ..... 7

MBH Problems in Urban Areas ..... 8

MBH Problems in Rural Areas ..... 9

Comparisons Between MBH Problems in Urban and Rural Areas .... 10

Inconclusive Results May Stem from Definitional Problems ... 11

Understanding the Urban/Rural Dimension as a Continuous Construct ..... 14

From the Semi-Rural to the Frontier ..... 15

The Importance of Including Primary Care Providers ..... 16

Increasing Access to MBH Care in Rural and Frontier Communities ..... 17

The Need for Primary Care Providers' Perceptions of MBH Problems ..... 19

CHAPTER THREE: METHOD ..... 20

Participants ..... 20

Design ..... 21

Measurement Tool ..... 21

Procedure ..... 22

Statistical Analysis ..... 23

CHAPTER FOUR: RESULTS ..... 25

Professional Degree and Practice History ..... 26

Identification and Treatment of MBH Problems ..... 28

Most Common MBH Problems ..... 30

Referrals to MBH Professionals and Perceived Barriers ..... 30

Identification, Treatment and Training ..... 32

Differences in Preparedness to Identify and Treat MBH Problems
and the Benefit of Additional Training ..... 34

CHAPTER FIVE: DISCUSSION ..... 35

Review of Study Findings ..... 35

Practice History ..... 35

MBH Problems in the Primary Care Setting ..... 36

Common MBH Problems and Referrals to Specialists ..... 37

Identification, Treatment and Training of MBH Problems ..... 38

Integration with Prior Literature ..... 38

Common MBH Problems ..... 39

A Discrepancy in the Current Findings with Literature ..... 39

Unique Barriers to MBH Care in Rural and Frontier Areas ..... 40

PCPs Are an Important Source of MBH Care in Rural and Frontier Areas ..... 42

Rural/Frontier PCPs Support Additional Training ..... 42

Limitations of the Study ..... 43

Suggested Next Steps in Frontier MBH Research ..... 44

Conclusions ..... 45

REFERENCES ..... 47

APPENDIX A ..... 54

Definition of Frontier

APPENDIX B ..... 55

Frontier Primary Care Provider Survey of Mental and Behavioral Health Problems

APPENDIX C ..... 58

Introductory Letter

APPENDIX D ..... 59

Reminder Letter

LIST OF TABLES

Table 1. Most Commonly Reported Barriers to Obtaining Professional MBH Care ..... 31

LIST OF FIGURES

Figure 1. Percentages of Total and Sample Populations by Provider Group ..... 26

Figure 2. Mean Number of Years Since Earning Professional Degree and Practice Time in Current Frontier Area of Idaho ..... 27

Figure 3. Mean Years Since Earning Professional Degree and Practice Time in Current Frontier Area of Idaho as a Function of PCP Degree ..... 28

Figure 4. Median Percentages of Patients Identified With a MBH Problem and Percentage of MBH Problems First Treated by PCP ..... 29

Figure 5. Perceived Preparedness and the Benefit of Additional Training in the Identification/Treatment of MBH Problems ..... 33

# CHAPTER ONE: INTRODUCTION

Idaho is known for its natural beauty and access to a wide variety of outdoor activities, which may help explain its respectable overall health ranking of 14 out of 50 states (America's Health Rankings, 2009). However, with respect to mental and behavioral health (MBH), there are serious problems that need addressing. For instance, about 9% of Idaho's adult population reported at least one episode of major depression in the past year (Mark, Shern, Bagalman, & Cao, 2007). Complications of untreated depression include suicide, and in 2004 Idaho was ranked at 46 out of 50 states for suicide prevalence (Mark et al., 2007).

At least 15 million rural and frontier residents in America are affected with MBH problems, ranging from substance abuse to psychosis (Roberts, Battaglia, & Epstein, 1999). To compound this problem, rural and frontier residents often have difficulty accessing MBH care, often due to large distances to travel, a lack of resources, or simply that a specialist provider—such as a psychiatrist—does not practice in the area (Eckert, Taylor, Wilkinson, & Tucker, 2004; Gale & Lambert, 2006; Gamm, 2004; Hickie & Groom, 2002; Murray et al., 2004). In fact, "60% of rural residents [in the United States] live in mental health professional shortage areas" (Gale & Lambert, 2006, p. 66). If there is a specialist in the rural or frontier area, the heightened stigma associated with seeking MBH care often prevents residents from seeking help (Barrett, 1991; Geller, 1999; Rainer, 2010; Smalley et al., 2010; Zimmerman & Wienckowski, 1991). Rather than being seen at the psychiatrist's office, researchers report that a large percentage of rural

and frontier residents go to their primary care provider (PCP) for MBH care. In some cases, up to 65% of MBH care is first provided by the family physician (Gale & Lambert, 2006; Gamm, 2004; Geller, 1999; Gunn & Blount, 2009; Higgins, 1994; Rainer, 2010; Smalley et al., 2010; Zimmerman & Wienckowski, 1991).

Unfortunately, family physicians and other PCPs in rural and frontier communities may be inadequately trained in the provision of MBH care and may become overburdened with the large amount of MBH care they provide to their patients. This can be inferred from the reported rate of missed MBH diagnoses in rural and frontier areas (Higgins, 1994). In addition, over-prescribing and under-dosing psychiatric medication it is relatively common and in-office therapeutic counseling is rarely utilized (Geller, 1999; Gunn & Blount, 2009; Higgins, 1994; Rainer, 2010; Zimmerman & Wienckowski, 1991).

## Statement of the Problem

Little is known about how often patients suffering from MBH problems present to their frontier PCPs, including family practice physicians, general medical physicians, internal medicine physicians, nurse practitioners, and physician assistants. The most common types of MBH problems PCPs are presented with are unknown, as is the extent to which the PCP is asked to provide MBH care. Specific barriers to care are also unknown. Furthermore, the extent of MBH training needed for frontier PCPs has not been well documented.

## Purpose

The purpose of this study was to determine PCPs' perceptions about a number of issues related to MBH in frontier areas of Idaho. Using a survey procedure, the PCPs were asked to provide some brief demographic information (e.g., the type of medical degree they hold and length of practice). The survey then gathered information about the percentage of patients who presented for MBH concerns, the most common MBH problems encountered in their practices, and if there were any barriers that made receiving specialized care more difficult. Additionally, the PCPs were asked how prepared they feel to identify and treat MBH problems, and whether they felt they could benefit from more training in the identification and treatment of MBH problems.

## Hypotheses

1. Frontier PCPs will reflect a broad array of provider types, and most respondents will be physicians, with about equal amounts of physician assistants and nurse practitioners.
2. Frontier PCPs will report that about half of their patients are identified as having a MBH problem.
3. Consistent with the findings of Theiler and McDonald (2010), depression and substance abuse will be among the most common MBH problems reported by frontier PCPs.
4. Most frontier PCPs will report that they feel prepared to identify and treat MBH problems, but many will also report that they would benefit from further training.

5. Most frontier PCPs will report that access to MBH resources for frontier residents are severely lacking.

## Limitations

As this research was only conducted in frontier areas of Idaho, results may only be generalized to areas that also meet the definition of frontier. The research utilized a short survey, and all limitations associated with a survey—such as inaccurate responses and incomplete surveys—may limit the validity of the results. In addition, this research asked PCPs for their perception of MBH problems and did not use actual prevalence statistics; in some cases, providers' perceptions of MBH problems could have been inaccurate. Finally, the survey was cross-sectional in nature, and therefore only reflected what frontier PCPs perceived about MBH issues during the study period.

## Delimitations

The researcher only surveyed family practice, general medical, or internal medicine physicians, physician assistants and nurse practitioners in frontier counties of Idaho. Other medical specialists, such as psychiatrists or physiatrists, were not surveyed. The research did not include other healthcare providers such as registered nurses or nursing assistants, or other MBH providers such as social workers or psychologists (a number of the above specialties were already surveyed in the research reported by Theiler & McDonald [2010]). Finally, although there was extensive discussion of the differences between rural and urban areas in the literature review, this research did not compare

differences between urban, rural and frontier counties; the research only attempted to detail frontier communities, laying groundwork for future studies.

## Definition of Terms

Primary Care Provider (PCP) – A family practice, general medical, or internal medicine physician, physician assistant, or nurse practitioner.

Mental and Behavioral Health (MBH) problems – diseases as classified by the DSM-IV's Index of Psychiatric Disorders (American Psychiatric Association [*DSM-IV-TR*], 2000).

Urban County – A county with at least one city containing more than 20,000 people (McDonald, Harris, & LeMesurier, 2005).

Rural County – A relatively remote county that has less than 20,000 people in one city, and does not meet the criteria for being a frontier county (McDonald et al., 2005).

Frontier County – A remote county that meets the criteria according to the National Center for Frontier Communities. See Appendix A for matrix determining frontier status.

# CHAPTER TWO: LITERATURE REVIEW

## Significant Mental and Behavioral Health Problems in the United States and Idaho

There has been a revitalized focus on mental and behavioral health (MBH) issues, which may partly be due to the burden that poor MBH has on society. Of the many MBH problems that exist in the United States, depression is both the most common and the leading cause of disability in the United States (Judd & Humphreys, 2001; Mark et al., 2007). Depression contributes a staggering amount to lost productivity; when workers are depressed, they are frequently absent from work or less productive while at work (Judd & Humphreys, 2001). This results in a loss of about $31 billion per year in productivity, according to a report created for Mental Health America (Mark et al., 2007).

Unfortunately, severe and untreated depression can lead to serious problems, such as suicides. In America alone, there are hundreds of thousands of suicide attempts per year—with about 30,000 actual suicides—making it the third leading cause of death in young adults aged 15-24 (Mark et al., 2007). Idaho is ranked 45$^{th}$ out of 50 states for depression prevalence, with about 9% of the adult population reporting at least one episode of major depression in the past year (Mark et al., 2007). Additionally, on average, adult Idahoans have reported experiencing about 3.5 days per month of “poor mental health” (Mark et al., 2007, p. 16). These depression statistics may indicate that Idaho has high suicide rates. In 2004 the age-adjusted suicide rate for Idaho ranged between 14.94-23.37 per 100,000 people, ranking Idaho at 46$^{th}$ out of 50 states (Mark et al., 2007). With proper MBH care, not only can depression be controlled, suicides

reduced, and money saved, but other MBH problems that have similar pronounced effects on society can also be positively affected.

To address these significant MBH problems, Healthy People 2010 included several goals that aimed to decrease depression rates and suicide attempts in Americans (Healthy People, 2010). To continue working toward this goal, Healthy People 2020 has re-dedicated a select number of the 2010 ideas and added several new and unique goals, such as increasing depression screening in primary care settings (Healthy People, 2011). This indicates that at least some researchers and policy makers recognize the prevalence of depression and its undesirable consequences, and that part of the solution lies in the use of primary care depression screening.

## MBH Problems in Urban and Rural Environments

Urban and rural areas differ in a variety of ways. These differences can most easily be observed with use of population density (urban areas have more dense populations and rural areas have less dense populations), however, economic conditions, isolation levels, and personality characteristics of residents all differ as well (Murray et al., 2004; Smalley et al., 2010). Of course, there are also similarities between the two areas. Interestingly, there seem to be beliefs that each location is better than the other in terms of MBH. For example, according to popular belief, rural areas are tranquil and provide a protective barrier to MBH problems such as anxiety (Eckert et al., 2004; Judd, 2006; McCabe & Macnee, 2002; McDonald et al., 2005; Webb, 1984). On the other hand, some researchers have noted that residents in urban areas might have greater access

to health care and specialized providers, which may reduce the prevalence of MBH problems (Judd et al., 2002; Lewis & Booth, 1994).

MBH Problems in Urban Areas

Highly developed urban areas are a relatively new phenomenon, leading some experts to believe that "urbanization is probably the world's single most important demographic shift over the past century" (Caracci, 2006, p. 40). This unique change has direct and palpable consequences on health status. When an area grows rapidly, the population obviously increases (Caracci, 2006). Pollution, noise, and crime also typically rise, which may lead residents to become more anxious and less social, sometimes to the point of isolation (Peen, Schoevers, Beekman, & Dekker, 2009). Social support networks likely cannot keep up with this sudden growth, and the few networks that may have been able to address important health needs in the past may quickly become inadequate. This may result in the poor and indigent competing for limited housing, jobs and other opportunities while the affluent make monetary gains (Caracci, 2006; Peen et al., 2009). These factors may serve to segregate the population, further compounding the problem (Caracci, 2006). When divisions among segments of a population occur, serious MBH problems could result.

Some of the most significant MBH problems that affect urban residents include major depression, anxiety disorders, neurosis, schizophrenia, and substance abuse (Bikson, McGuire, Blue-Howells & Sommer, 2009; Caracci, 2006; Paykel, Abbott, Jenkins, Brugha, & Meltzer, 2000; Peen et al., 2009). Despite the presence of these serious mental health problems, overall general health indicators suggest that urban areas,

often with easy health care access, are relatively healthy places to live (Eckert et al., 2004; Murray et al., 2004). For example, urban areas tend to have more specialist MBH providers, such as psychiatrists and psychologists, who are able to adequately provide MBH services for their populations (Paykel et al., 2000). That urban areas are healthier to live in is especially true in developing countries, as the sudden growth of an area is also generally accompanied with a massive influx of foreign wealth, reducing financial stressors (Caracci, 2006). Thus, at least according to some researchers, urban areas are associated with specific MBH problems, but seem to be able to provide the treatments, counseling and resources that are needed to address those MBH issues.

MBH Problems in Rural Areas

On average, residents in rural areas have lower education levels than urban residents, which also reduces the mean income of a household and increases monetary stressors (Caracci, 2006; Ziller, Anderson, & Coburn, 2010). To compound these problems, low-cost publicly-funded health programs in rural areas frequently lose their funding, reducing access to health care (Rainer, 2010). Additionally, MBH specialist providers (such as psychiatrists and psychologists) often do not have offices in rural areas, which causes rural residents to travel long distances for their mental health care needs (Caldwell, Jorm, & Dear, 2004; McDonald et al., 2005; Roberts et al., 1999). Sometimes, the distance to a specialist provider is very long, through difficult weather on poor roads. These problems are compounded by a lack of money and a strong social stigma associated seeking MBH care, and the ultimate result is that rural residents often do not seek this care (Barrett, 1991; Geller, 1999; Gunn & Blount, 2009; Murray et al.,

2004; Probst et al., 2006; Rainer, 2010; Roberts et al., 1999; Smalley et al., 2010; Ziller et al., 2010; Zimmerman & Wienckowski, 1991). If rural residents choose to seek MBH care, they may be turned away based on a lack of health insurance coverage or an inability to pay (Rainer, 2010; Smalley et al., 2010; Ziller et al., 2010). Unfortunately, many of the above problems are significantly more pronounced for members of ethnic minority groups in rural areas (Gamm, 2004).

With a lack of accessible healthcare—especially MBH care—there are serious illnesses (both physical and mental) that rural residents face. Chronic medical conditions, such as back pain and generalized myalgia, are more prevalent in rural communities than in other communities (Ziller et al., 2010). Some of the more common MBH problems in rural areas include depression, anxiety, panic attacks, attention deficit disorder, substance abuse, suicide attempts, and suicide (Barrett, 1991; Caldwell et al., 2004; Geller, 1999; Probst et al., 2006). Rural residents are also more likely than their urban counterparts to self-medicate with drugs, including depressants such as alcohol and marijuana and stimulants such as methamphetamines, inhalants, and cocaine (Smalley et al., 2010).

## Comparisons Between MBH Problems in Urban and Rural Areas

As indicated above, residents in urban areas may have increased access to health care, which logically infers that these residents might have enhanced MBH relative to rural residents. However, also as noted above, it has also been reported that rural areas may be protective in some respects, potentially contributing to good MBH. Given these contrary expectations, it should not be surprising that studies conducted over the past several years have not shown any consistent significant differences between urban and

rural communities with regard to the prevalence of MBH issues (Andrews, Hall, Teeson, & Henderson, 1999; Eckert et al., 2004; Judd, 2006; Kessler et al., 2005; Murray et al., 2004; Paykel et al., 2000; Pedersen & Mortensen, 2006; Probst et al., 2006; Weich, Twigg, & Lewis, 2006). In sum, both urban and rural areas are reported to foster better MBH health, but empirical differences between the two areas have often not been conclusively documented.

Inconclusive Results May Stem from Definitional Problems

Lack of a general consensus about what constitutes “urban” and “rural” areas can be observed throughout the literature (Theiler & McDonald, 2010) and is inherently problematic. Some researchers have concluded that the reason there have been no differences found in MBH problem prevalence is specifically because of an unclear definition of “urban” and “rural” (Murray et al., 2004; Rainer, 2010; Smalley et al., 2010). The definitions of what makes an area “urban” or “rural” are numerous and often encompass several factors, making a standard definition difficult to obtain. One must take into account the population density, level of isolation, economic factors, aesthetic variables, and the way residents perceive their own community in order to determine if an area is urban or rural (Murray et al., 2004; Rainer, 2010; Smalley et al., 2010). Not only is there a lack of a common definition, but some of the definitions currently used in academic research are surprisingly vague.

As an example of definitional differences, some researchers use the urban definition of “large conglomerates of people, usually in a relatively small area, resulting in high population densities” (Peen et al., 2009, p. 2). There are three problems with this

definition of urban, which can be seen when the key words are italicized: "*Large* conglomerates of people, *usually* in a *relatively* small area." The terms "large," "usually," and "relatively" are all unspecific, which may cause interpretational problems. To avoid ambiguity, some researchers use clear "cut-off points." Unfortunately, some cut-off points are "arbitrarily" chosen, such as the requirement of "greater than 400 people per square kilometer" for an urban area (Weich et al., 2006, p. 55).

Whereas urban definitions are often based upon vague concepts of population density, rural areas are often based upon unclear concepts of city limits. One common, flawed definition of a rural area is "less than 2,500 people per town boundary" (Roberts et al., 1999, p. 497). The primary problem with this definition is that town boundaries are not static. For instance, a town boundary may be drawn to include a large amount of people, thus increasing the town's population and affecting whether that area meets the criteria to be urban or rural.

Another common way of determining a rural environment is based upon population distributions. For example, a rural area may be one that exists in the bottom quartile for population density (Weich et al., 2006). Of course, as different areas have different populations, one densely populated area's bottom quartile may be very different from a sparsely populated area's bottom quartile. Finally, some researchers use remoteness as an indicator for a rural area; if a town is significantly far away from other towns, then it is classified as rural (Weich et al., 2006). However, what constitutes a 'significant distance' is often not defined. As a result of these problems, there continues to be no clear definition of what constitutes a rural area.

To address these definition problems, the United Nations (UN) has dictated a set of definitions for rural and urban areas. According to the UN, a rural area is a county that has less than 20,000 people; an urban area is a county that has more than 20,000 people; “urban cities” have more than 100,000 people (Peen et al., 2009, p. 2). Despite clear-cut definitions from a reputable international source, many researchers have not used them. Unfortunately, this only adds yet another set of definitions to choose from when researching urban and rural areas. As a result, with so many definitions, it is as if researchers are using different languages to describe similar populations, seriously limiting the ability to generalize findings from one study to another.

When comparing studies across countries, these definition problems become more evident, as some research in other countries uses different definitions for urban and rural areas. Generally speaking, in countries comprised mostly of cities, where there is very little open land, meeting a “rural” definition may be easier. Indeed, when there is far greater open land than cities, the requirements for meeting an “urban” definition are likely to be easier. For example, there is far more open land than urban areas in Norway, and the definition of an urban area is easier to meet, in comparison to other countries. In Norway, an urban area is defied as an area with population greater than 8,000 people (Kringlen, Torgensen, & Cramer, 2006). This does not meet typical standards for “urban” in most other studies, because many other studies use the definition of urban as a place with more than 20,000 people (Peen et al., 2009).

**Understanding the Urban/Rural Dimension as a Continuous Construct**

In order to more fully identify MBH differences in populations as a function of residential density, several researchers have begun to study the urban/rural dimension as a continuous rather than dichotomous construct by adding a third category. An important example of a successful study utilizing this method is one undertaken by Paykel et al. (2000). As is common in health research, Paykel et al. (2000), utilized a survey to gain residents' impressions of their health status. What makes this study different than others is that the survey asked residents to self-identify themselves as "urban, semi-rural or rural based on their own judgments" (Paykel et al., 2000, p. 270). Thus, a third category was created to more fully differentiate among residential density groups.

Paykel et al.'s (2000) research yielded results that were contrary to most other research at that time. As detailed above, most urban/rural research has reported no significant difference between urban and rural areas with regard to MBH problems. However, Paykel et al. (2000) reported a statistically significant difference between urban and rural areas, with "semi-rural" falling in between the two with respect to MBH problems. It was found that "there were higher rates of psychiatric morbidity, alcohol dependence and drug dependence in urban rather than rural settings, with differences greatest for drug dependence, and the semi-rural group lying intermediate" (Paykel et al., 2000, p. 272). These results were fairly linear: There were increased rates of chemical dependency in urban areas, which gradually trended downward approaching rural areas. These results indicate that the prevalence of MBH issues may differ between urban and rural areas, using the third category of "semi-rural" to tease the differences apart.

Unfortunately, “semi-rural” only captures the ground between urban and rural; it does not help show the differences between rural and the extremely rural (frontier) areas.

From the Semi-Rural to the Frontier

Researchers at Boise State University (e.g., Theiler & McDonald, 2010) have extended Paykel et al.’s (2000) strategy of measuring three geographic data points in a MBH prevalence study. The researchers used “frontier” as a third geographic data point to describe an environment that is very isolated. The definition of frontier, as defined by the National Center for Frontier Communities (NCFC), is approved by the National Rural Health Association and the Western Governors’ Association as a measurement of very rural areas (NCFC, 2009). A matrix is used (see Appendix A) to weigh population density, distance in miles to a service or market area, and travel time in minutes to a service or market area to determine frontier status. Each of these three axes must add up to a certain number of points for a county to be considered frontier (NCFC, 2007).

In Theiler and McDonald’s (2010) study, a survey was sent to MBH care providers (including social workers, counselors, and psychiatrists, among others) all across Idaho, including its eight urban, 10 rural and 26 frontier counties. Using this methodology, significant differences in providers’ perceptions of MBH problems among urban, rural and frontier areas were observed. It was found that these MBH providers perceived elevated rates of anxiety disorders in urban areas, and increased rates of substance abuse and domestic violence in frontier areas, with the mid-density rural areas in between the two (Theiler & McDonald, 2010).

## The Importance of Including Primary Care Providers

As noted above in the work of Paykel et al. (2000) and Theiler and McDonald (2010), by including semi-rural or frontier areas as a third geographic location in MBH studies, statistically significant differences among three areas begin to emerge. The study in Idaho by McDonald et al. (2010) included a wide variety of mainstream MBH professionals, but did not include an important group of MBH care providers: Primary care providers (PCPs).

PCPs play an exceptionally important role in health care, as they are the most frequently accessed providers for general and MBH care (Bikson et al., 2009; Higgins, 1994). Because of the difficulties accessing specialized mental health services in rural areas, many rural residents seek MBH care with their PCP (Gunn & Blount, 2009). It is suggested that about 30% of rural residents may have a MBH problem, and up to 86% of visits to PCPs may be because of a MBH concern (Bikson et al., 2009; Gunn & Blount, 2009; Higgins, 1994).

Unfortunately, PCPs practicing in rural or frontier areas may be under-trained or trained in methods of MBH care that are no longer up to date (Geller, 1999). “Generalist physicians are less likely than mental health specialists to provide care that meets current recommendations” (Probst et al., 2006, p. 659). The current minimal level of pharmacotherapy for depression is a course of “antidepressants for at least two months plus more than four visits” (Probst et al., 2006, p. 659). Rural PCPs frequently over-prescribe and under-dose the medication they provide (Barrett, 1991; Fortney, 2010; Ziller et al., 2010). The minimum level of psychotherapy consists of “at least eight visits with a professional, averaging at least 30 minutes each” (Probst et al., 2006, p. 659).

However, it seems unrealistic to expect overworked PCPs to provide hours of psychotherapy to a substantial percentage of their patients (Gunn & Blount, 2009), even if they were adequately trained to do so. Of course, if there were specialist MBH providers available, the PCPs could refer patients to those providers. As this is often not the case, rural residents may simply live with untreated MBH problems.

As rural PCPs provide MBH care to a large percentage of their patients, and may be under-trained to do so, it is no surprise that there may be missed MBH diagnoses in these communities (Geller, 1999). In one study, about "half of the patients with a psychiatric disorder were not recognized as having a mental illness by their primary care physician" (Higgins, 1994, p. 908). Sadly, if a mental health problem is recognized, the PCP may not take the disease seriously or may not report it for fear of further stigmatizing the patient (Barrett, 1991).

## Increasing Access to MBH Care in Rural and Frontier Communities

PCPs may be the only source of health care in rural communities and often lack the time to adequately care for people with significant MBH needs (Gunn & Blount, 2009). Providing additional MBH education specific to PCPs in rural and frontier areas may help the PCPs provide better MBH care for their residents (Hickie & Groom, 2002; Higgins, 1994). With a high percentage of rural residents seeking care from their PCPs for MBH problems, "training focusing on psychosocial problems is essential to improving care" (Bikson et al., 2009, p. 739). Improved training and MBH care may decrease the prevalence of MBH problems in rural communities by addressing those problems directly. Or, because of training in the identification of MBH problems, the

incidence may rise. Further increasing access to quality MBH care, and thus decreasing prevalence, can also be attained by expanding the scope of practice of other MBH care professionals.

Social workers and psychologists have become a point of interest in rural MBH, especially if they can work alongside the PCP. “There is a clear and present need for social work in the primary care clinic setting” (Bikson et al., 2009, p. 746). By including social workers in primary care, PCPs’ stress may be reduced by providing support for treating MBH problems. Recent articles have also supported the idea of including psychologists in the primary care setting, as

> when the psychologist is part of the primary care practice team, and can be presented as working with the physician, instead of being a referral destination from the physician, a much higher percentage of patients will allow the psychologist to be involved in their care (Gunn & Blount, 2009, p. 240).

The inclusion of MBH professionals in the primary care setting not only reduces the stigma associated with seeking MBH care, but it also reduces difficulties associated with traveling to a specialist provider. In the model advocated by Gunn and Blount (2009), the psychologist is on-site, and able to provide the high-quality MBH care that rural residents may require.

Finally, as access to MBH care in rural and frontier communities is difficult, telemedicine—virtually linking the provider and patient—may greatly increase access to specialist providers (Smalley et al., 2010). However, some techniques, such as behavior management interventions or time-outs, are much more effective if the provider is present to physically show the technique to the patient or parent (Smalley et al., 2010). In addition, telemedicine is sometimes very expensive, and in a community with limited

resources (such as one in a frontier area), this option may not be available (Smalley et al., 2010).

## The Need for Primary Care Providers' Perceptions of MBH Problems

MBH problems remain highly stigmatized by the general public in rural communities, often preventing rural residents from seeking help for their MBH problems (McDonald et al., 2005). If a rural resident does seek help, it is likely to be at his or her PCP's office. However, as it has been reported that rural PCPs are under-trained in identifying or treating MBH problems, studying this group of providers' perspectives may prove to be beneficial. With a more detailed understanding of the perceptions of frontier PCPs, their perceived prevalence of MBH problems can be identified, and understanding how prepared these providers feel about treating these MBH problems can be clarified. The most direct and efficient way to obtain this information is by surveying the target population directly, using a survey similar to other successful ones (e.g., Bikson et al., 2009; McDonald et al., 2005). With this survey data, more specific and targeted MBH policies may be developed or improved, as was observed with the re-dedicating of several Healthy People 2010 goals for controlling depression. Ultimately, with further studies on frontier MBH care resulting in policy change, the high prevalence of MBH problems in rural and frontier communities may be greatly reduced.

# CHAPTER THREE: METHOD

As noted in Chapter Two, much of the literature suggested that the prevalence of MBH problems was similar in urban and rural areas. However, when the frontier category was included to reflect extreme rurality, differences emerged in the prevalence and types of common MBH problems as perceived by MBH care providers (Theiler & McDonald, 2010). With a distinct lack of specialist providers, a severe social stigma about seeking MBH care, and geographic barriers that increased the difficulty accessing specialized MBH care, PCPs appear to have become one of the primary sources of MBH care providers in frontier communities. Therefore, in an effort to extend previous research and further understand the role of PCPs in the provision of MBH care in frontier communities, a survey of frontier PCPs perceptions about MBH issues was conducted.

## Participants

The participants in this study were PCPs (consisting of family practice, general medical, internal medicine physicians, physician assistants and nurse practitioners) with a practice address in one of the 26 frontier counties of Idaho. Each held an advanced medical degree, which was limited to medical doctor (MD), doctor of osteopathy (DO), physician assistant-certified (PA-C), and nurse practitioner (NP). For reasons discussed in Chapter One, certain specialist providers, such as psychiatrists, psychologists, and social workers, were not included in this study. A list of eligible participants and their addresses was obtained from the Idaho Bureau of Occupational Licenses. The total population of

eligible participants for this study was 252 (169 physicians, 53 physician assistants and 30 nurse practitioners). Forty-six physicians (MD or DO), 15 physician assistants and 13 nurse practitioners replied.

## Design

This research utilized a cross-sectional survey design. The survey was limited to questions that were immediately pertinent to the PCPs and researcher.

## Measurement Tool

The primary measurement tool (see Appendix B) was a survey based upon prior surveys successfully employed with similar populations by McDonald and his colleagues (McDonald et al., 2005; Theiler & McDonald, 2010) and Bikson et al. (2009). The two-page survey asked limited demographic questions, followed by questions about: 1) what percentage of the PCPs' patients presented for MBH problems; 2) what the most common MBH problems among patients were perceived to be; 3) whether the PCPs believed that there were barriers to accessing specialized care; 4) whether the PCPs believed they were prepared to identify and treat MBH problems; and 5) whether the PCPs believed they would benefit from more training in the identification and treatment of MBH problems. The survey featured open- and closed-ended questions (e.g., PCPs were able to write in the percentage of patients who presented to them with MBH problems, or write in barriers to care not listed), and included Likert-type scales to address these issues. The survey took about 10 minutes to complete.

## Procedure

All materials and procedures were approved by the Institutional Review Board for the Protection of Human Subjects at Boise State University prior to the start of the research. As discussed above, a list of eligible participants in the 26 frontier counties of Idaho was procured from the Idaho Bureau of Occupational Licenses. A master database, including codes for all 252 PCPs' practice addresses, was created for monitoring responses. An introductory letter (see Appendix C) was sent with the survey to each eligible PCP, describing the study and inviting participation. The introductory letter served as the informed consent document, and clearly specified that participating in the survey was voluntary and that all responses were to remain confidential. A pre-paid business reply return envelope was included. If, after two weeks the provider did not respond, a reminder letter (see Appendix D) was sent, including a second introduction letter, survey and pre-paid business reply envelope. The data collection period ceased after four weeks.

At the conclusion of data collection, all survey responses were entered into the Statistical Package for the Social Sciences (SPSS). When PCPs chose to answer the open-ended questions, their responses were recorded as numerical values (e.g., 30%). When a range was given, the upper limit was used. All data were stored in a password protected file on the primary investigator's computer in Room 101A of the Health Sciences Riverside building on the Boise State University campus.

## Statistical Analysis

Due to the exploratory nature of this study, and the type of data being collected, the primary statistical analyses were descriptive in nature. Frequencies and percentages were reported for the key categorical variables, and means, standard deviations and ranges were reported for the continuous variables (such as length of practice and percentage of patients presenting for MBH problems).

Chi-squared analyses were performed to determine whether several key variables differed as a function of PCP type (identified by degree held). For these analyses, PCPs were re-coded into two new variables. Both MD and DO physicians were coded into a variable labeled “Doctor,” whereas physician assistants and nurse practitioners were coded into a variable labeled “Midlevel Provider.” These two groups were then compared with respect to the perceived preparedness to identify and treat MBH problems, as well as the perceived benefit of additional training in the identification and treatment of MBH problems. In order to evaluate this, the 5-point Likert scales were re-coded into dichotomous variables, with the top two affirmative responses (i.e., “very prepared” and “prepared” or “very beneficial” and “beneficial”) into “prepared” and “beneficial,” respectively. The remaining three response options (i.e., “neutral,” “unprepared,” “very unprepared,” “not very beneficial” and “not at all beneficial”) were then coded as “not prepared” or “not beneficial,” respectively.

Independent samples *t*-tests were performed examining provider level (Doctor and Midlevel Provider) with respect to the average length of time the degree had been held, and the length of time that the PCP had practiced in the frontier area. Although the above analyses described differences in provider type and perceived preparedness to

identify and treat MBH problems, and if more training in the identification or treatment of MBH problems is beneficial, the number of years since earning the professional degree may have confounding effects. In order to determine if there was any significant relationship between years since earning professional degree and the level of perceived preparedness to identify or treat MBH problems and if additional training would be beneficial, a Pearson correlation procedure was used. For all statistical analyses, an alpha level of .05 was used.

# CHAPTER FOUR: RESULTS

Surveys were sent to all 252 PCPs licensed and registered as practicing in the 26 frontier counties of Idaho. Of these, 20 were returned due to an invalid or undeliverable address. Four of the returned surveys were excluded from analysis, as the PCPs who returned them either did not complete them or were otherwise ineligible to participate (e.g., were retired or had not yet started practice). Therefore, the survey appears to have successfully reached 228 eligible PCPs. Of these, 74 PCPs returned completed surveys for a valid response rate of 32.5%.

Twenty-three of the 26 frontier counties in Idaho were represented among the respondents (only Bear Lake, Cassia, and Lemhi counties were not). Of the 74 PCPs who returned surveys, 46 respondents reported themselves to be physicians with MD or DO degrees (62.2%); of the 169 total physicians in frontier areas of Idaho, this sample represents 27.2% of the physician population. One physician reported having dual degrees (a DO and a Ph.D.). Fifteen respondents reported themselves to be Physician Assistants (20.3%); of the 53 physician assistants in frontier areas of Idaho, this sample represents 28.3% of the population. Finally, another 13 respondents reported being Nurse Practitioners (17.6%); of the 30 nurse practitioners in frontier areas of Idaho, this sample represents 43.3% of the population. Thus, all provider groups were represented reasonably well in the sample, with nurse practitioners particularly well represented relative to the other two groups (see Figure 1).

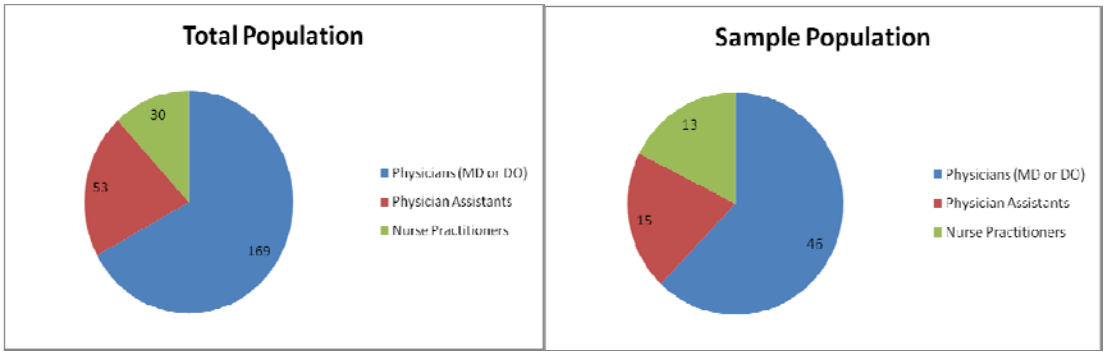


**Figure 1. Percentages of Total and Sample Populations by Provider Group**

## Professional Degree and Practice History

The mean number of years since the PCPs obtained their professional degrees was reported to be 18.07 years, with a standard deviation of 10.13 years. The median was 18 years and the mode was six years. The range of when the professional degree was obtained spanned from three to 45 years ago. Thus, some PCPs in the sample received their professional degree quite recently whereas others have been practicing with a professional degree for several decades.

With respect to the amount of time the PCPs reported practicing in a frontier county, the results were also highly variable. The mean length of time was 9.37 years, with a standard deviation of 7.15 years. The median was six years and the mode was five years. The range was one to 34 years (suggesting that the sample captured relatively new and well-established frontier PCPs). Figure 2 depicts the difference between mean years since obtaining the professional degree and mean years in frontier practice.

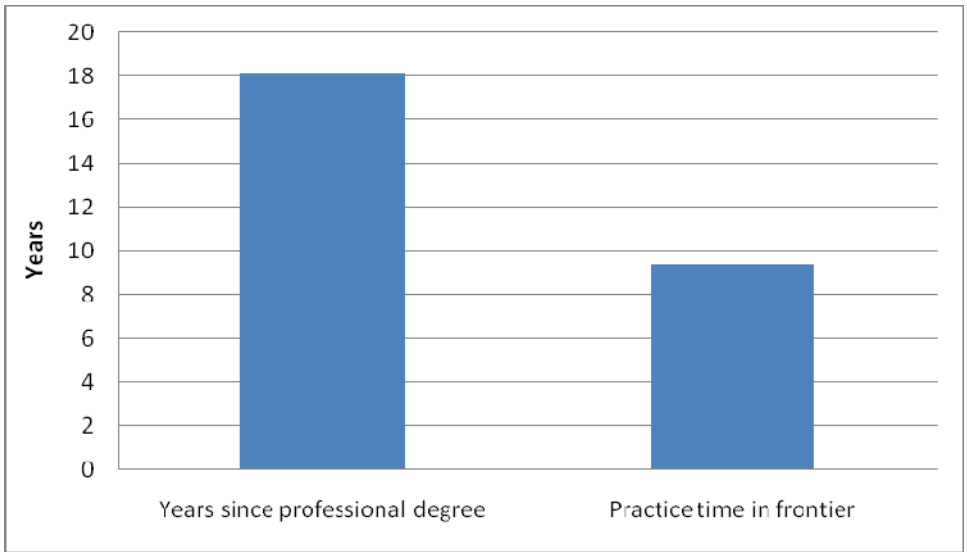


**Figure 2. Mean Number of Years Since Earning Professional Degree and Practice Time in Current Frontier Area of Idaho**

In order to evaluate if there was any difference in number of years since obtaining their professional degrees as a function of degree type (Doctor vs. Midlevel Provider) an independent samples *t*-test was performed. It was found that there was a significant difference between the two, $t\ (72) = 2.02$, $p < .05$. Doctors were found to have had their professional degree a longer period of time than Midlevel Providers (see Figure 3). In addition, a separate independent samples *t*-test was performed to determine whether practice time in PCPs' current frontier location varied as a function of PCP degree type. The result suggested that such a significant difference exists, $t\ (72) = 1.98$, $p = .05$, with Doctors practicing longer in their currently locations than Midlevel Providers (see Figure 3).

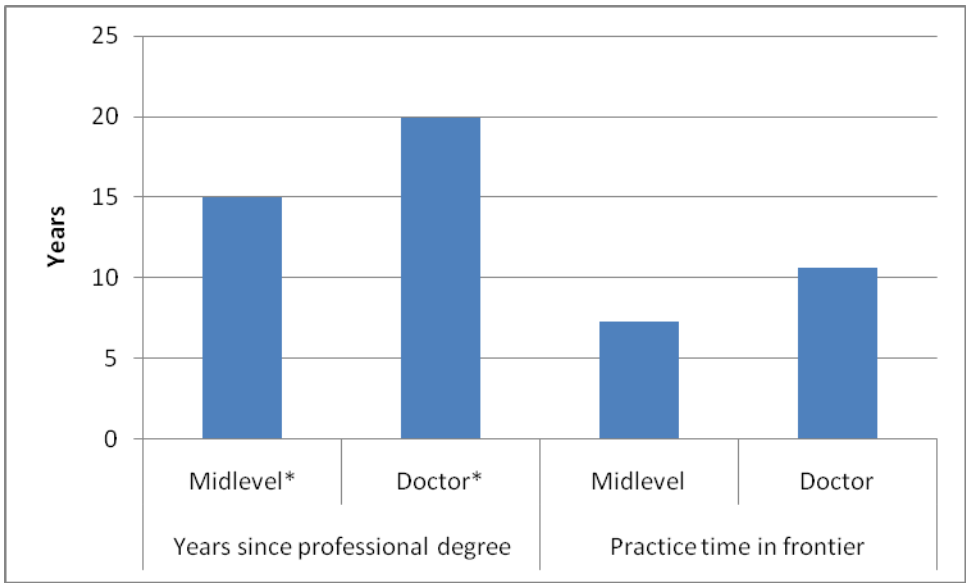


**Figure 3. Mean Years Since Earning Professional Degree and Practice Time in Current Frontier Area of Idaho as a Function of PCP Degree**

*Note: Midlevel is composed of both physician assistants and nurse practitioners. Doctors are composed of both MDs and DOs. A single asterisk represents statistical significance at $p < .05$.*

## Identification and Treatment of MBH Problems

Almost all PCPs surveyed (73/74; 98.6%) reported that they had patients who presented to them with MBH problems. Each PCP was asked to estimate what percentage of his or her patients presented with a MBH problem as their chief complaint. Due to several extreme numbers, the distribution of values was significantly skewed ($M$ = 15.21, $SD$ = 11.45; skewness = 1.84). Therefore, the appropriate measure of central tendency to report is the median, which was 10% (the mode was also 10%). The reported percentages ranged from 0-70%.

The PCPs were asked to report the percentage of patients who were identified as having a MBH problem after the history and physical exam. Again the distribution of values was found to be skewed by several extreme sores ($M$ = 24.86, $SD$ = 16.09;

sknewness = 1.68). The reported percentages ranged from 2-100%. Due to the skewness of the distribution, the median value of 20% (the mode was also 20%) was used as the appropriate measure of central tendency.

The PCPs were also asked to estimate how often they were the first provider to care for patients' MBH problems. As with the responses of the last two items, the distribution of values reported in response to this item was markedly skewed (*M* = 28.42, *SD* = 27.71; skewness = 1.17), so the median was calculated as the measure of central tendency. The median estimated percentage of patients seeking care first with their PCP was 15% (the mode was 10%), with a range from 0-100%.

Figure 4 below shows the PCPs' median percentage estimations of patients who present with a MBH problem as their chief complaint, patients who are found to have an MBH problem after their history and physical exam, and cases in which the PCPs first treat patients' MBH problems.

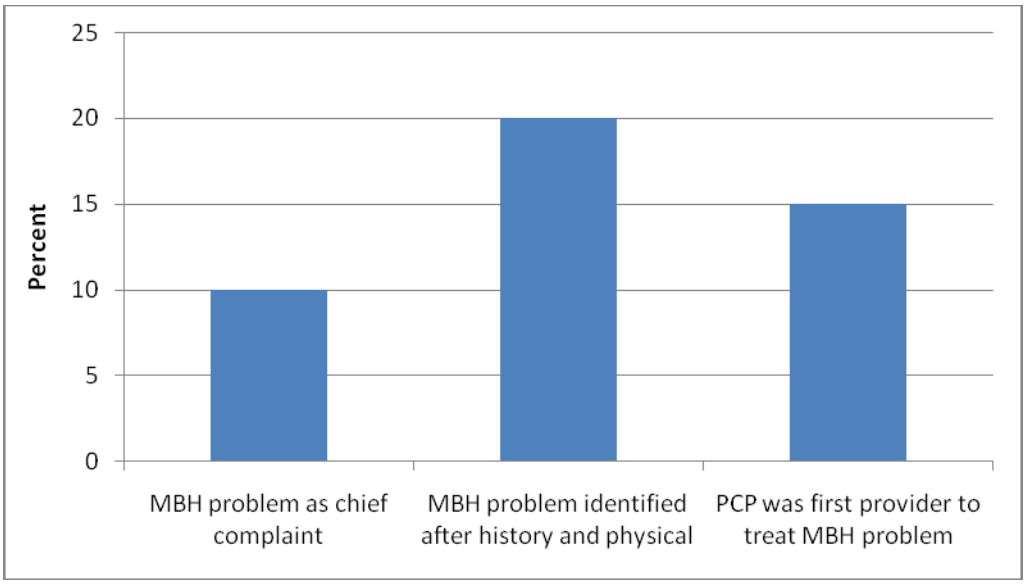


**Figure 4. Median Percentages of Patients Identified With a MBH Problem and Percentage of MBH Problems First Treated by PCP**

## Most Common MBH Problems

PCPs were asked for their perception of the three most common MBH problems that they encounter in their practice. A list of five options were presented for the respondents to check; these options included mood disorders, anxiety disorders, schizophrenia or schizoaffective disorder, substance abuse, and domestic violence. Three blank lines on the survey allowed respondents to write in other conditions not listed as options. Of the 73 PCPs that reported having patients with MBH problems, every one (100%) reported that mood disorders (e.g., depression, bipolar disorder) were one of the top three MBH problems that they encounter. Additionally, 72 of the 73 PCPs (98.6%) reported that anxiety disorders (e.g., generalized anxiety, panic attacks, post-traumatic stress disorder) were one of the top three MBH problems they encounter. Finally, 68 PCPs (93.2%) reported that substance abuse (e.g., drug abuse, alcohol abuse) was one of the top three MBH problems that they encounter.

## Referrals to MBH Professionals and Perceived Barriers

All PCPs were asked to indicate how often they make referrals to a MBH care professional (e.g., psychiatrists, psychologists, counselor, or clinical social workers) when they identify MBH problems in their patients. Only one PCP (1.4%) reported “always” making a referral, whereas 25 PCPs (35.7%) reported that they make a referral to a MBH care professional “most of the time.” The majority of PCPs (37; 52.9%) reported that they “sometimes” make a referral to a MBH care professional. Only seven PCPs (10.0%) reported that they “rarely” make referrals to MBH care professionals, and none (0%) reported never making such a referral.

Among PCPs who reported making referrals to MBH care professionals, a very large majority (66/70; 94.3%) reported that there are barriers that hinder patients from obtaining that recommended follow up. Table 1 below depicts the most commonly reported barriers to receiving MBH care.

**Table 1. Most Commonly Reported Barriers to Obtaining Professional MBH Care**

| Barrier | N | Percent |
|---|---|---|
| Finances | 62 | 88.6% |
| Transportation | 50 | 71.4% |
| Alcohol and/or Drug Abuse | 31 | 47.0% |
| Personal Stress | 22 | 31.4% |
| Family Stress | 20 | 28.6% |
| Provider Refused* | 18 | 25.7% |
| Employment Problems | 16 | 22.9% |

** provider used the "other" field.*
*Note: As PCPs were able to select several barriers, the percentage total exceeds 100%.*

As shown in Table 1, two barriers were perceived by PCPs as particularly limiting access to MBH care for their referred patients; nearly 89% of the PCPs who listed at least one barrier to MBH care reported finances to be a barrier, and over 71% reported transportation to be a barrier. The third most common barrier to MBH care was alcohol and/or drug abuse (47%) followed by personal stress (over 31%) and family stress (nearly 29%). Sadly, over one-quarter of the responding PCPs reported that MBH care professionals themselves could be a barrier by refusing to see referred patients. Finally,

nearly 23% of PCPs reported that problems related to employment were a barrier to patients accessing follow-up MBH care.

## Identification, Treatment and Training

All PCPs were asked if they felt prepared to identify MBH problems. Of the 70 PCPs that responded to this item, 58 (82.9%) reported feeling either “prepared” (45; 64.3%) or “very prepared” (13; 18.6%) to identify MBH problems. Ten PCPs (14.3%) selected a “neutral” response to this item. One PCP (1.4%) reported feeling “unprepared” and one PCP (1.4%) reported feeling “very unprepared” to identify MBH problems.

With respect to feeling prepared to treat MBH problems, of the 69 PCPs that responded to the question, 47 (68.1%) reported feeling either “prepared” (44; 63.8%) or “very prepared” (3; 4.3%) to treat MBH problems. Eighteen PCPs (26.1%) selected a “neutral” response to this item. Finally, four PCPs (5.8%) reported feeling “unprepared” to treat MBH problems. No PCP reported feeling “very unprepared” to treat MBH problems.

The PCPs were next asked if additional training in the identification of MBH problems would be beneficial. Of the 69 PCPs that answered this question, 49 PCPs (71.0%) reported that additional training in the identification of MBH problems would be “beneficial” (39; 56.5%) or “very beneficial” (10; 14.5%). Twelve PCPs (17.4%) selected a “neutral” response to this item. Additional training in the identification of MBH problems was reported to be “not very beneficial” (7; 10.1%) or “not at all beneficial” (1; 1.4%) by a total of eight PCPs (11.5%).

The final item asked the PCPs whether training in the treatment of MBH problems would be beneficial. Of the 68 PCPs who answered this question, a very large majority (58; 85.3%) reported that additional training on the treatment of MBH problems would be “beneficial” (39; 57.4%) or “very beneficial” (19; 27.9%). Eight PCPs (11.8%) selected a “neutral” response to this item. Two PCPs (2.9%) reported that additional training in the treatment of MBH problems would be “not very beneficial.” No PCP indicated that additional training would be “not at all beneficial.” Figure 5 depicts the differences in perceived preparedness to identify and treat MBH problems, and whether additional training on identification or treatment was perceived to be beneficial.

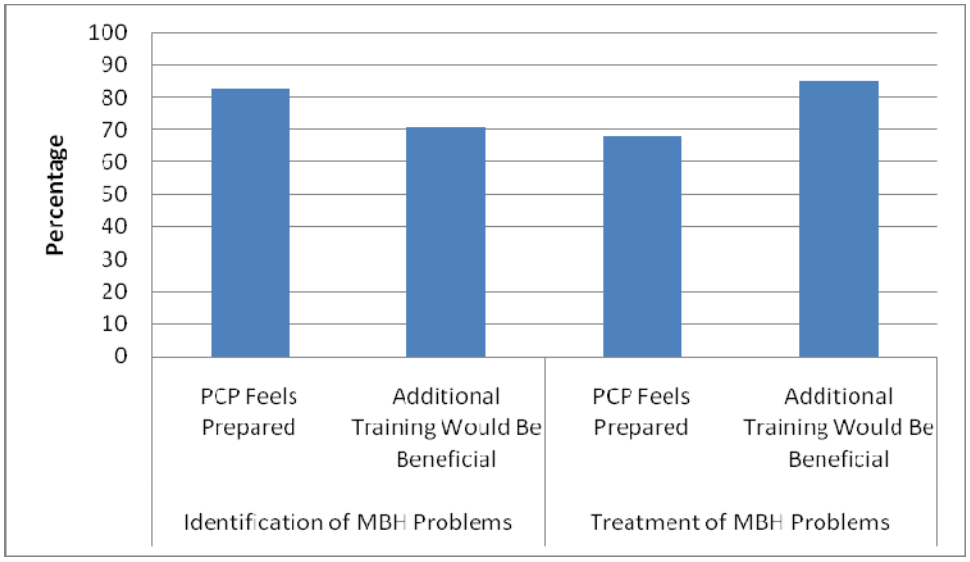


**Figure 5. Perceived Preparedness and the Benefit of Additional Training in the Identification/Treatment of MBH Problems**

*Note. Percentages represent the amount of PCPs reporting feeling “prepared” or “very prepared” to identify/treat MBH problems, and whether additional training would be “beneficial” or “very beneficial.” Neutral and negative responses not listed.*

## Differences in Preparedness to Identify and Treat MBH Problems and the Benefit of Additional Training

Chi-squared tests were performed with respect to provider groupings to further evaluate PCP differences (i.e., between Doctors and Midlevel Providers) to determine whether these were associated with responses on several key outcome variables, which were re-coded from before. These variables were: 1) the preparedness to identify MBH problems; 2) the preparedness to treat MBH problems; 3) whether additional training would be helpful to identify MBH problems; or 4) whether additional training would be helpful to treat MBH problems. There was one statistically significant result, suggesting an association between provider group type and how beneficial additional training in the identification of MBH problems was perceived to be, $\chi^2$ (df = 1) = 7.64, $p < .01$. This result was accounted for by a higher percentage of Midlevel Providers (89.3%) than Doctors (58.5%) reporting that additional training in the identification of MBH problems would be beneficial. In addition, no statistical relationships were found between years since earning degree and perceived preparedness to identify and treat MBH problems, or if additional training would be beneficial.

# CHAPTER FIVE: DISCUSSION

This study examined the professional and practice history of frontier PCPs and their perceptions of a number of important issues related to the provision of MBH care in frontier areas of Idaho. The results of this study have the potential to meaningfully inform MBH policy in Idaho, not only because of what results were found, but also because the sample was diverse and representative of the PCPs who practice in Idaho's 26 frontier counties. All PCPs with a practice location in frontier areas of Idaho were sent a survey. Each of the three types of PCPs were reasonably well represented in the sample. In total, these PCPs represented 32.5% of the total frontier PCP population, which is quite good for an unsolicited mail survey. Therefore, it seems safe to conclude that the sample of respondents was representative of the population of PCPs who were eligible to respond, and the results of this study can be generalized to all frontier areas of Idaho. In the final chapter of this manuscript, key findings of the study will be discussed, first alone and then in relation to the literature on MBH in rural and frontier areas. The chapter will conclude with a discussion of the limitations of the study and suggestions for future research.

## Review of Study Findings

### Practice History

Overall, it seems that the PCPs in the study were a fairly seasoned group of professionals, with a mean practice time of approximately 18 years since earning their

professional degrees. These PCPs also appeared to have served for a substantial period of time in frontier communities; the mean amount of time the PCPs had been in practice in their current frontier location was nearly 10 years.

There were some differences in these variables when degree type was accounted for. Doctors (about 20 years) reported having their degrees longer than Midlevel Providers (about 15 years), and Doctors (about 11 years) also reported practicing longer in their current practice location than Midlevel Providers (about seven years). In general, however, it appears that members of both provider groups had substantial experience in frontier medicine. Thus, it seems reasonable to conclude that the PCPs in the sample likely understood the nature of MBH problems in their areas.

MBH Problems in the Primary Care Setting

Working with patients with MBH problems seems to be a major component of practice for PCPs in frontier Idaho. In the current study, all but one PCP (about 99%) reported having patients that present to them with MBH problems. On average, PCPs reported that 10% of their patients presented to them with a MBH problem as their chief complaint. After the history and physical exam, the PCPs identified MBH problems in another 20% of their patients. Adding these percentages together (yielding 30%) provides a rough estimate of the percentage of patients that present to their PCP and are identified as having an MBH problem.

Common MBH Problems and Referrals to Specialists

The PCPs seemed to agree about the most common MBH problems they identified in their patients. Mood disorders were identified by all PCPs who reported seeing patients with MBH problems as one of the top three MBH problems they encounter in their practice; anxiety problems were also identified as one of the top three problems by all but one (about 99%) of these PCPs. Finally, substance abuse disorders were identified as one of the top three MBH problems by more than 93% of PCPs. No other type of MBH problem was identified nearly as often as these three types of problems. As the consensus about the three most commonly reported MBH problems is very high, it can be concluded that nearly all frontier PCPs in Idaho see similar MBH problems in their patients.

Reported referral patterns varied substantially among the PCPs who reported seeing patients with MBH problems. A slight majority (nearly 53%) of the PCPs reported making a referral to a MBH specialist such as a psychiatrist, psychologist, or counselor some of the time. Slightly over 37% reported making such a referral most or all of the time, and 10% reported making such a referral rarely. Although it is not known why those PCPs who do not typically make such referrals choose not to make them, it is quite clear that many PCPs perceive serious barriers to patients accessing specialist MBH care when it is recommended.

The two most commonly perceived barriers, reported by 89% and 71% of PCPs, respectively, were finances and transportation. In short, it seems that majorities of PCPs believe that patients who receive referrals cannot afford to see the specialists they are referred to, or cannot access the recommended MBH care because they are unable to

travel. Other commonly perceived barriers to accessing specialist MBH care included patients' alcohol or drug problems (47%) or personal (31%) or family (29%) stress.

Identification, Treatment and Training of MBH Problems

Generally, most PCPs reported feeling prepared to identify (83%) and treat (68%) MBH problems in their patients. That more PCPs feel prepared to identify MBH problems rather than treat them seems to make sense; PCPs, with their knowledge of psychotropic medications may feel comfortable treating patients for whom the cause of MBH problems seems biogenic, but not those for whom the cause of MBH problems seems psychosocial in nature. It is interesting that, although most PCPs reported preparedness with respect to MBH problems, most also reported that additional training would be beneficial for both the identification (71%) and treatment (85%) of MBH problems (it is also interesting that Midlevel Providers seemed to believe that training in the identification of MBH problems would be more beneficial than did Doctors). The discrepancy between the percentage of PCPs who reported that additional training in the identification and treatment of MBH problems again indicates that frontier PCPs believe they are better prepared to identify than treat MBH problems in their patients.

## Integration with Prior Literature

In Chapter Two of this manuscript, an overview of relevant literature on MBH problems in rural and frontier areas was provided. Some of the key findings from the literature included: 1) MBH problems, particularly depression, in rural and frontier areas are highly prevalent; 2) common MBH problems in rural and frontier areas may differ

from those in urban areas; 3) unique barriers may prevent frontier residents who suffer from MBH problems from seeking appropriate care; 4) PCPs are an important source of MBH care, particularly in rural and frontier areas; and 5) rural and frontier PCPs may not be adequately prepared to identify and treat MBH in their patients. Threaded throughout this discussion was the theme that the frontier—or extremely rural region—was not well studied in MBH literature. Each of the key findings from the literature will be discussed sequentially, in light of the results from the present study and with a particular focus on frontier MBH.

## Common MBH Problems

Certain types of MBH problems have been identified as being particularly prevalent in rural areas of the United States. Mood disorders (in particular major depression), anxiety disorders, and substance abuse disorders have all been reported to be particularly prevalent in these areas (Caldwell et al., 2004; Gunn & Blount, 2009; McDonald et al., 2005; Probst et al., 2006). The findings of the present study strongly confirm that mood disorders, anxiety disorders, and substance abuse disorders seem to be the most common MBH disorders experienced by frontier residents as reported by their PCPs.

### A Discrepancy in the Current Findings with Literature

Because the present study did not compare frontier PCPs to PCPs practicing in urban or rural areas, it is impossible to infer if the above MBH problems (or any other MBH problems) are more or less prevalent in frontier, urban or rural areas. However, in

one of the few systematic investigations of the prevalence of MBH problems that included the frontier area, McDonald and his colleagues (McDonald, Schaeffer, & Theiler, 2011; Theiler & McDonald, 2010) reported that domestic violence seems particularly prevalent in frontier areas (especially when compared to urban areas). In the present study, only one frontier PCP reported that domestic violence was one of the three most common MBH problems he or she identifies. It seems possible that domestic violence was not reported as often because personnel other than PCPs (perhaps counselors and social workers) more commonly see people suffering from domestic violence. In any case, this is an interesting discrepancy that seems to warrant future research.

Unique Barriers to MBH Care in Rural and Frontier Areas

Several sources have postulated that residents in rural and frontier areas may experience unique barriers to seeking and accessing MBH care relative to their urban counterparts. For example, it has been maintained that rural and frontier residents may be less able than urban residents to access MBH care due to their lower incomes, lower rates of insurance, and greater inability to pay (e.g., Smalley et al., 2010; Ziller et al., 2010). To compound this problem, low-cost, publicly-funded health programs in isolated areas are becoming more difficult to maintain (Rainer, 2010). It has also been reported that residents of rural and frontier areas have to travel much further than urban residents, often through difficult weather on poor roads, to visit a MBH provider (McDonald et al., 2005; Roberts et al., 1999). Furthermore, numerous researchers have reported that the

stigma associated with seeking MBH care may be greater in rural and frontier areas than in urban areas (Judd et al., 2002; McDonald et al., 2005; Roberts et al., 1999).

The results of the present study certainly support some of what has been postulated about barriers to MBH care in rural and frontier areas. Because most of the barriers reported by PCPs were simply response options on the survey, PCPs could not elaborate much on them. Even so, nearly 90% of the PCPs in the present study reported ‘finances’ to be a barrier to obtaining professional MBH care. Unfortunately, no separate response options existed for ‘inability to pay’ and ‘lack of insurance,’ however both types of problems were likely captured under the ‘finances’ barrier. Transportation was reported as a barrier by over 70% of PCPs, validating the assumption that this is a major barrier (and probably a relatively unique one) for residents of frontier areas. Thus, two key barriers reported in the literature were also identified by PCPs in the present study.

Unfortunately, no questions on the survey asked about stigma, so it is impossible to determine the extent to which the PCPs believed their patients were deterred by this commonly reported barrier. Two barriers that emerged in the present study, and which have not been covered much in the literature, were personal and family stress (together reported by 60% of PCPs) and alcohol and drug abuse (together reported by 47% of PCPs). It is certainly easy to understand how ongoing substance abuse could be a barrier to treatment. However, the nature of personal and family stress, and how they serve as a barrier to treatment, deserves further exploration.

PCPs Are an Important Source of MBH Care in Rural and Frontier Areas

As several researchers (e.g., Gale & Lambert, 2006; Gunn & Blount, 2009; Higgins, 1994) have noted, PCPs may be the most frequently accessed providers for MBH care in rural and frontier areas—due in large part to the fact that specialized mental health services often do not exist in these areas (Gale & Lambert, 2006). PCPs in the current study reported that they were the first provider to care for patients' MBH problems in 15% of the patients, and that approximately 10% of the patients they saw came to them with a MBH problem as their chief complaint. As noted earlier, it is difficult to discern approximately what percentage of the PCPs' total caseload involves patients with MBH problems, but a fair estimate seems around 30%. This number is very consistent with the estimates provided by other researchers (Gunn & Blount, 2009; Higgins, 1994; Smalley et al., 2010).

Rural/Frontier PCPs Support Additional Training

As noted in the literature review, some researchers have been quite strident in reporting that rural and frontier PCPs may be undertrained or otherwise lacking in their ability to identify and treat MBH problems. Both Geller (1999) and Higgins (1994) reported that rural PCPs frequently fail to identify or misdiagnose MBH problems in their patients; Geller (1999) also reported that PCPs often provide MBH care that fails to meet recommended guidelines. The inadequacy of MBH care provided by rural and frontier PCPs has also been reported by Probst et al. (2006), Fortney (2010), and others.

Although it is impossible to deduce the *ability* of frontier PCPs to appropriately identify and treat MBH problems with the survey tool used in the present study, some

assessment of their ability can be made by evaluating their *perceived competency* in these areas. In doing so, it becomes clear that a large majority (83%) of the PCPs in frontier Idaho feel prepared to identify MBH problems (only 3% felt unprepared, with the remainder selecting a neutral response), and over two-thirds reported feeling prepared to treat MBH problems (only 6% felt unprepared, with the remainder selecting a neutral response). Although little can be concluded about the true level of efficacy in frontier Idaho PCPs' ability to identify and treat MBH problems, most of them feel prepared to successfully accomplish these tasks.

A number of researchers, including Bikson et al. (2009), Hickie and Groom (2002), and Higgins (1994) have maintained that training in MBH issues may be critical to providing better care to patients suffering from MBH problems. The PCPs in the present study seem to agree that more training is desirable, as over 70% reported that additional training in the identification of MBH problems would be beneficial, and over 85% reported that additional training in the treatment of MBH problems would be beneficial. Thus, the additional training recommended in the literature also seems supported by the PCPs practicing in frontier Idaho.

## Limitations of the Study

There were several limitations in this study, one of which involved the generalizability of the results. Although there was a solid 33% response rate, and the PCP groups were proportionally represented in the sample, there were three counties in which no provider replied to the mail survey. Despite this unfortunate fact, generalization to the frontier regions of Idaho seems possible, as nearly 89% of the frontier counties were

represented by at least one PCP. As this study was completed in frontier areas of Idaho, these results may not be generalizable to frontier counties of other states (particularly if those states differ substantially from Idaho in terms of demographic, geographic, or socioeconomic characteristics). Finally, it is important to note that this survey asked PCPs for their perception of MBH problems; these perceptions may be subject to recall or other types of bias and therefore may not be completely representative of reality.

## Suggested Next Steps in Frontier MBH Research

One important function of research studies such as the present study is to identify desirable areas for future research. Given that the present study was intended to inform about frontier MBH issues, the identified areas for future research are also related to these issues. It would be desirable for research of this type to be replicated in frontier communities of other states to ensure the reliability of these results. Similar to what was accomplished by McDonald and his colleagues (e.g., McDonald et al., 2011; Theiler & McDonald, 2010), the survey should also be replicated with PCPs in rural and urban counties so that comparisons among the three county types is possible.

With respect to the survey tool, including more demographic variables may help identify groups that can be more completely explored. It seems advisable in future studies to reduce the MBH problem categories used in this study into individual components (such as separating Mood Disorders into Depression, Dysthymia and Bipolar Disorder), which may help isolate specific MBH problems. Increasing the number of closed-ended response options for MBH problems may allow for more specificity in reporting as well.

As noted above, there were some barriers that were reported in the literature that were not evaluated with this survey tool (e.g., stigma). Including a question about stigma in future surveys would seem to improve the instrument and therefore future research. Further research on the nature of the finances and transportation barriers may be beneficial, as may research on how and why personal stress and family stress are barriers to accessing MBH care.

## Conclusions

PCPs in frontier areas of Idaho are highly utilized medical professionals, and seem to provide at least a substantial portion of the MBH care to the residents of their communities. This research suggests that about 30% of frontier Idaho residents who visit their PCP may have a MBH problem, and that mood disorders, anxiety disorders and substance abuse disorders are the three most common MBH problems encountered in PCPs' practices. Despite attempts at referring patients to specialized MBH professionals, PCPs perceive that there are significant barriers that may prevent these patients from following up as directed. The most commonly reported barriers were difficulty with finances and transportation. Difficulty with alcohol and drug abuse was also a highly reported barrier to accessing MBH care. Sadly, in about a quarter of cases, the MBH professionals themselves were perceived as the barrier to accessing MBH care. Finally, frontier PCPs reported feeling prepared to both identify and treat MBH problems. When provider type was more closely examined, Midlevel Providers (although they reported feeling prepared to identify and treat MBH problems) seemed to believe that further training—particularly in the identification of MBH problems—would be beneficial.

With a solid response rate and proportional numbers of providers reflective of the overall population, these results seem generalizable to all of frontier Idaho. The present study has potential to help provide valuable groundwork and information that may be helpful to lawmakers in the development of new MBH policy in frontier areas of Idaho. With further research in MBH care in conjunction with policy development, one can only hope that debilitating MBH problems will be controlled, reducing the stress that poor MBH has on both individuals and society as a whole.

# REFERENCES

America's Health Rankings. (2009). 2009 Results. In *America's Health Rankings*. Retrieved from http://www.americashealthrankings.org/measure/2009/overall.aspx

American Psychiatric Association. (2000). *Diagnostic and statistical manual of mental disorders* (Revised 4th ed.). Washington, DC: Author.

Andrews, G., Hall, W., Teeson, M., & Henderson, S. (1999). *The national survey of mental health and wellbeing: The mental health of Australians.* Canberra, Australia: Commonwealth Department of Health and Aged Care.

Barrett, J. (1991). Treatment practices in primary care: Setting directions for health outcome research. *Journal of Family Practice, 33(1),* 19-22. Retrieved from: http://findarticles.com/p/articles/mi_m0689/is_n1_v33/ai_11198392/?tag=content;col1

Bikson, K., McGuire, J., Blue-Howells, J., & Sommer, L. (2009). Psychosocial problems in primary care: Patient and provider perceptions. *Social Work in Health Care, 48,* 736-749. doi: 10.1080/00981380902929057

Caldwell, T. M., Jorm, A. F., & Dear, K. B. G. (2004). Suicide and mental health in rural, remote, and metropolitan areas in Australia. *Medical Journal of Australia, 181(7),* S10-S14. Retrieved from: http://www.mja.com.au/public/issues/181_07_041004/cal10801_fm.pdf

Caracci, G. (2006). Culture and urban mental health. *Psychiatric Times, 23(14),* 40-47. Retrieved from: http://staging.psychiatrictimes.com/display/article/10168/51601?pageNumber=3

Eckert, K. A., Taylor, A. H., Wilkinson, D., & Tucker, G. R. (2004). How does rural mental health status relate to accessibility and remoteness? *Medical Journal of Australia, 181(10),* 540-543. Retrieved from: http://www.mja.com.au/public/issues/181_10_151104/eck10502_fm.html

Fortney, J. C. (2010). A commentary on rural mental health services research. *The Journal of Rural Health, 26,* 203-204. doi: 10.1111/j.1748-0361.2010.00296.x

Gale, J. A., & Lambert, D. (2006). Mental healthcare in rural communities: The once and future role of primary care. *North Carolina Medical Journal, 67(1),* 66-70. Retrieved from http://www.ncmedicaljournal.com/wp-content/uploads/NCMJ/jan-feb-06/Gale.pdf

Gamm, L. D. (2004). Mental health and substance abuse services among rural minorities. *The Journal of Rural Health, 20(3),* 206-209. doi: 10.1111/j.1748-0361.2004.tb00030.x

Geller, J. M. (1999). Rural primary care providers' perceptions of their roles in the provision of mental health services: Voices from the plains. *The Journal of Rural Health, 15(3),* 326-334. doi: 10.1111/j.1748-0361.1999.tb00754.x

Gunn, W. B., & Blount, A. (2009). Primary care mental health: A new frontier for psychology. *Journal of Clinical Psychology, 65(3),* 235-252. doi: 10.1002/jclp.20499

Healthy People 2010. (2010). Healthy People 2010. In *Healthy People*. Retrieved from http://www.healthypeople.gov/

Healthy People 2020. (2011). Healthy People 2020 Summary of Objectives. In *Healthy People*. Retrieved from http://www.healthypeople.gov/2020/topicsobjectives 2020/pdfs/MentalHealth.pdf

Hickie, I., & Groom, G. (2002). Primary care-led mental health service reform: An outline of the Better Outcomes in Mental Health initiative. *Australian Psychiatry, 10(4),* 376-382. doi: 10.1046/j.1440-1665.2002.00498.x

Higgins, E. S. (1994). A review of unrecognized mental health illness in primary care: Prevalence, natural history, and efforts to change the course. *Archives of Family Medicine, 3(10),* 908-917. Retrieved from: http://archfami.ama-assn.org/ cgi/reprint/3/10/908.pdf

Judd, F. K. (2006). Progressing the agenda for rural mental health research. *Rural and Remote Health, 6*. Retrieved from: http://www.rrh.org.au/publishedarticles/ article_print_615.pdf

Judd, F. K., & Humphreys, J. S. (2001). Mental health issues for rural and remote Australia. *Australian Journal of Rural Health, 9(5),* 254-258. doi: 10.1111/j.1440-1584.2001.tb00431.x

Judd, F. K., Jackson, H. J., Komiti, A., Murray, G., Hodgins, G., & Fraser, C. (2002). High prevalence disorders in urban and rural communities. *Australian and New Zealand Journal of Psychiatry, 36,* 104-113. Retrieved from: http://www.clgs.cn/uploadfiles/2008-7/2008714131641745.pdf

Kessler, R. C., Berglund, P., Demler, O., Jin, R., Merikangas, K. R., & Walters, E. E. (2005). Lifetime prevalence and age-of-onset distributions of DSM-IV disorders in the National Comorbidity Survey replication. *Archives of General Psychiatry, 62*, 593-602. Retrieved from: http://clclinic.cos.ucf.edu/Documents %20and%20Files/Kessler,%20Berglund,%202005.pdf

Kringlen, E., Torgersen, S., & Cramer, V. (2006). Mental illness in a rural area: A Norwegian psychiatric epidemiological study. *Social Psychiatry and Psychiatric Epidemiology, 41,* 713-719. doi: 10.1007/s00127-006-0080-0

Lewis, G., & Booth, M. (1994). Are cities bad for your health? *Psychological Medicine, 24(4)*, 913-916. doi: 10.1017/S0033291700029007

Mark, T. L, Shern, D. L., Bagalman, J. E., & Cao, Z. (2007). Ranking America's mental health: An analysis of depression across the states. *Mental Health America,* 1-46.

McCabe, S., & Macnee, C. L. (2002). Weaving a new safety net of mental health care in rural America: A model of integrated practice. *Issues in Mental Health Nursing, 23*, 263-278. doi: 10.1080/016128402753543009

McDonald, T. W., Harris, S. M., & LeMesurier, E. A. (2005). Mental health care issues in a predominantly rural and frontier state: Results and implications from a comprehensive survey. *Journal of Rural Community Psychology, E8*. Retrieved from: http://www.marshall.edu/jrcp/8_1_McDonald.htm

McDonald, T. W., Schaeffer, A. K., & Theiler, A. A. (2011). *Providers' perceptions of prevalent mental health problems: Differences and similarities across urban, rural and frontier regions.* Manuscript under review.

Murray, G., Judd, F., Jackson, H., Fraser, C., Komiti, A., Hodgins, G., et al. (2004). Rurality and mental health: The role of accessibility. *Australian and New Zealand Journal of Psychiatry, 38(8),* 629-634. doi: 10.1111/j.1440-1614.2004.01426.x

National Center for Frontier Communities (2007). *The consensus definition – 2007 update*. Retrieved from http://www.frontierus.org/documents/consensus.htm

National Center for Frontier Communities (2009). *Developing the consensus definition*. Retrieved from http://www.frontierus.org/defining.htm

Paykel, E. S., Abbott, R., Jenkins, R., Brugha, T. S., & Meltzer, H. (2000). Urban-rural mental health differences in Great Britain: Findings from the National Morbidity Survey. *Psychological Medicine, 30(2),* 269-280. Retrieved from: http://journals.cambridge.org/download.php?file=%2FPSM%2FPSM30_02%2FS003329179900183Xa.pdf&code=90bebe9cfc7bf1094c8f885f98070afa

Pedersen, C. B., & Mortensen, P. B. (2006). Are the cause(s) responsible for urban-rural differences in schizophrenia risk rooted in families or in individuals? *American Journal of Epidemiology, 163(11),* 971-978. doi: 10.1093/aje/kwj169

Peen, J., Schoevers, R. A., Beekman, A. T., & Dekker, J. (2009). The current status of urban-rural differences in psychiatric disorders. *ACTA Psychiatrica Scandinavica, 2009,* 1-10. doi: 10.1111/j.1600-0447.2009.01438.x

Probst, J. C., Laditka, S. B., Moore, C. G., Harun, N., Powell, M. P., & Baxley, E. G. (2006). Rural-urban differences in depression prevalence: Implications for family medicine. *Health Services Research, 38(9),* 653-660. Retrieved from: https://www.stfm.org/fmhub/fm2006/October/Janice653.pdf

Rainer, J. P. (2010). The road much less traveled: Treating rural and isolated clients. *Journal of Clinical Psychology, 66(5),* 475-478. doi: 10.1002/jclp.20680

Roberts, L. W., Battaglia, J., & Epstein, R. S. (1999). Frontier ethics: Mental health care needs and ethical dilemmas in rural communities. *Psychiatric Services, 50(4),* 497-503. Retrieved from: http://www.psychservices.psychiatryonline.org/cgi/reprint/50/4/497

Smalley, K. B., Yancey, C. T., Warren, J. C., Naufel, K., Ryan, R., & Pugh, J. L. (2010). Rural mental health and psychological treatment: A review for practitioners. *Journal of Clinical Psychology, 66(5),* 479-489. doi: 10.1002/jclp.20688

Theiler, A. A., & McDonald, T. W. (2010, November). *Urban-rural differences in the prevalence of mental health problems: An explanation for discrepant findings*. Poster presented at the annual meeting of the American Public Health Association in Denver, CO.

Webb, S. D. (1984). Rural-urban differences in mental health. In H. Freeman (Ed.) *Mental health and the environment*. London: Churchill Livingston, 226-249.

Weich, S., Twigg, L., & Lewis, G. (2006). Rural/non-rural differences in rates of common mental disorders in Britain. *British Journal of Psychiatry, 188,* 51-57. doi: 10.1192/bjp.bp.105.008714

Ziller, E. C., Anderson, N. J., & Coburn, A. F. (2010). Access to rural mental health services: Service use and out-of-pocket costs. *The Journal of Rural Health, 26,* 214-224. doi: 10.1111/j.1748-0361-2010.00291.x

Zimmerman, M. A., & Wienckowski, L. A. (1991). Revisiting health and mental health linkages: A policy whose time has come… again. *Journal of Public Health Policy, 12(4)*, 510-524. Retrieved from: http://www.jstor.org/stable/3342561

APPENDIX A

**Definition of Frontier**

## CONSENSUS DEFINITION MATRIX:
For the Designation of Frontier

| **DENSITY - PERSONS PER SQUARE MILE** | **POINTS** |
|---|---|
| 0-12 | 45 |
| 12.1-16 | 30 |
| 16.1-20 | 20 |
| NOTE: PER COUNTY OR PER DEFINED SERVICE AREA WITH JUSTIFICATION | |
| TOTAL POINTS DENSITY | |
| | |
| **DISTANCE - IN MILES TO SERVICE/MARKET** | |
| >90 Miles | 30 |
| 60-90 | 20 |
| 30-60 | 10 |
| <30 | 0 |
| NOTE: STARTING POINT MUST BE RATIONAL, EITHER A SERVICE SITE OR PROPOSED SITE | |
| TOTAL POINTS DISTANCE IN MILES | |
| | |
| **TRAVEL TIME - IN MINUTES TO SERVICE/MARKET** | |
| >90 Minutes | 30 |
| 60-90 | 20 |
| 30-60 | 10 |
| <30 | 0 |
| NOTE: USUAL TRAVEL TIME; EXCEPTIONS MUST BE DOCUMENTED (i.e. WEATHER, GEOGRAPHY, SEASONAL) | |
| TOTAL POINTS TRAVEL TIME IN MINUTES | |
| | |
| **TOTAL POINTS ALL CATEGORIES** | |

© National Center for Frontier Communities (formerly the Frontier Education Center)

Total Possible Points 105
Minimum Points Necessary for Frontier Designation = 55
“Extremes” = 55-105

APPENDIX B

**Frontier Primary Care Provider Survey of Mental and Behavioral Health Problems**

What professional degree(s) do you hold? (circle as appropriate)

MD DO NP PA-C PhD Other

In what year did you obtain your professional degree? _____

How long have you worked in your current location (in years)? _____

In your practice, do you have patients who present to you with mental or behavioral health problems?

Yes _____ No _____

If no, you do not need to complete the rest of the survey. Please send it back with the remainder of the survey blank.

In your practice, approximately what percentage of patients present to you for a mental or behavioral health problem *as their chief complaint*?

Approximately _____%

In your practice, approximately what percentage of patients are identified as having a mental or behavioral health problem *after* your history of present illness and physical examination?

Approximately _____%

In your practice, approximately what percentage of cases were you the first provider to care for the patient's mental or behavioral health problems?

Approximately _____%

What do you feel are the *top three* mental or behavioral health problems that you identify or treat? (check as appropriate)

_____ Mood Disorders (e.g., depression, bipolar disorder)

_____ Anxiety Disorders (e.g., generalized anxiety, panic, post-traumatic stress)

_____ Schizophrenia or Schizoaffective Disorder

_____ Substance Abuse (e.g., drug or alcohol abuse)

_____ Domestic Violence (e.g., family violence or spousal abuse)

_____ Other: _____

_____ Other: _____

_____ Other: _____

When you identify patients with mental or behavioral health problems, how often do you refer them to mental health professionals (e.g., psychiatrists, psychologists, clinical social workers, or counselors)?

Always Most of the time Sometimes Rarely Never

If never, you do not need to answer the following two questions.

Do you believe your patients have difficulty following up with the mental or behavioral health specialist you have referred them to?

Yes _____ No _____

If yes, which of the following reasons do you believe your patients have difficulty following up with mental or behavioral health specialists? (check all that apply)

_____Finances
_____Personal stress
_____Alcohol abuse
_____Employment or career issues
_____Difficulties with Activities of Daily Living
_____Other problem:_____
_____Legal issues
_____Family stress
_____Drug abuse
_____Transportation

How prepared do you feel to *identify* mental and behavioral health problems in your patients?

Very Unprepared Unprepared Neutral Prepared Very Prepared

How prepared do you feel to *treat* mental and behavior health problems in your patients?

Very Unprepared Unprepared Neutral Prepared Very Prepared

How much do you feel additional training in the *identification* of mental and behavioral health problems would be beneficial to you?

Not at all Beneficial Not Very Beneficial Neutral Beneficial Very Beneficial

How much do you feel additional training in the *treatment* of mental and behavioral health problems would be beneficial to you?

Not at all Beneficial Not Very Beneficial Neutral Beneficial Very Beneficial

Thank you for completing this survey. Your responses will help us better understand how primary care providers perceive mental and behavioral health issues in frontier counties of Idaho. If you have any questions regarding the survey or would like a summary of the study's results when the study is completed, please email me at alextheiler@u.boisestate.edu.

APPENDIX C

**Introductory Letter**

Alex Theiler
Boise State University
1910 University Dr.
Boise ID 83725-1835

Dear Primary Care Provider,

Currently, researchers in the Department of Community and Environmental Health at Boise State University are conducting a study of primary care providers' perceptions of mental and behavioral health problems in the 26 counties of Idaho classified as "frontier." As a primary care provider in one of these frontier counties, we'd like to invite you to complete a short survey. This survey, which should take about five minutes to complete, asks about your experiences and perceptions of frontier residents seeking care for mental and behavioral health problems. The responses you and other primary care providers make to this survey will help us share important information with legislators and other personnel who make decisions about the provision of mental and behavior health care in Idaho.

Although your response will be greatly appreciated, completion of this survey is voluntary and you are in no way required to respond. **Your responses to the survey will be completely anonymous and will never be linked to your name or location**.

Thank you for helping us expand what is understood about mental and behavioral health care in frontier Idaho. If you would like to take the survey, please answer the questions found in the following pages and return it in the pre-paid envelope. If you have any questions about the research, or would like a copy of the results after tabulation, please email me at alextheiler@u.boisestate.edu or call me at (208) 860-2635.

Sincerely,

Alexander A Theiler
Department of Community and Environmental Health
Boise State University

APPENDIX D

**Reminder Letter**

Alex Theiler
Boise State University
1910 University Dr.
Boise ID 83725-1835

Dear Primary Care Provider,

Two weeks ago, you should have received a survey from us on providers' perceptions of mental and behavioral health problems in frontier areas of Idaho. We haven't received a response from you, and would greatly appreciate your input. Please take the time to complete and return this survey, which may directly help formulate new policies and procedures for the provision of mental and behavioral health in frontier Idaho.

Thank you for your time. Your responses are greatly appreciated.

Sincerely,

Alexander A. Theiler
Department of Community and Environmental Health
Boise State University