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Barriers to Substance Abuse Treatment Utilization in Rural Versus Urban Pennsylvania

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BARRIERS TO SUBSTANCE ABUSE TREATMENT UTILIZATION IN RURAL VERSUS URBAN PENNSYLVANIA

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This study examined predisposing, enabling, and need barriers to utilizing substance abuse treatment resources in a sample of rural and urban outpatients. Fifty-three participants from rural (n=17) and urban (n=36) treatment centers were surveyed for quantitative and qualitative indicators of barriers to treatment. Results suggest rural outpatients were significantly younger and less racially/ethnically diverse than their urban counterparts. Rural participants also perceived treatment as being less available, but not less accessible than their urban counterparts. Multivariate analyses did not suggest significant differences in barriers to professional versus nonprofessional treatment; however there was limited power to detect such differences. Results from qualitative data analysis suggests rural outpatients were worried most about confidentiality concerns, whereas their urban counterparts worried most about illness/need related factors prior to seeking professional treatment. Taken together, data from this study suggests potentially unique barriers to treatment for persons coming from rural versus urban areas. Rural outpatients seem likely to have to overcome racial barriers, perceptions of low treatment availability and confidentiality concerns whereas urban outpatients seem likely to have to overcome gender barriers and perceptions of illness/need severity factors that act as

barriers to treatment. Implications for defining geographic location and for overcoming barriers to science and practice in rural and urban areas with underserved groups are discussed.

Acknowledgements

“Praise the LORD, O my soul; all my inmost being, praise his holy name. Praise the LORD, O my soul, and forget not all his benefits- who forgives all your sins and heals all your diseases, who redeems your life from the pit and crowns you with love and compassion, who satisfies your desires with good things so that your youth is renewed like the eagle's. “ Psalms 103:1-5

During the course of this project I have been offered and have accepted help from family members, friends, bosses, employers, co-workers, professors, pastors, etc., and each contributed to my life in their own unique way. Although their acts of kindness ranged from strong guidance and direction to a gentle word of encouragement, I was able to complete this project because these people were available and accessible.

Rather than naming each person specifically, I send to all of you a heartfelt, “Thank-you.” As a token of my thankfulness I vow to be of service to those who follow the same path.

The research contained herein is not just about numbers and data. Instead, each data point, each line item, and every contribution to this project represents someone else’s story of seeking and receiving help from the various “helping places” in their lives. Thank you all for sharing your stories. May you find and continue to accept the various sources of help in your life. As my story, and the stories of countless others can attest, “…if we are painstaking about this phase of your development, we will be amazed before we are halfway through.”

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CHAPTER I: SCOPE OF THE PROBLEM

Recent research has demonstrated that approximately 22.3 million people over the age of 12 (i.e., 9.% of the population) abused or were dependent on alcohol or illicit drugs (Substance Abuse and Mental Health Services Administration [SAMHSA], 2008). In spite of research which has established the effectiveness of substance abuse treatment (National Institute of Drug Abuse [NIDA], 1999) , estimates on the rates of treatment-seeking for those who meet criteria for substance use disorders (SUDs) are surprisingly low with the most reliable estimate indicating that approximately 10% of those who need treatment actually engage in some type of formal intervention (SAMSHA, 2006). Whereas science has established an effective arsenal to treat the substance dependant, less is known about the processes that facilitate or inhibit the use of such services.

Because the substance abusing phenomena has historically been concentrated in large urban areas (Musto, 1997), there may be widespread misconceptions that small town America has been insulated from this occurrence. Contrary to popular belief, research has revealed consistent similarities between urban and rural rates of substance abuse/dependence. For example, results from the annually administered National Survey on Drug Use and Health (NSDUH) found that residents in metropolitan and nonmetropolitan areas abused substances at similar rates, with 9.6 percent of those in metropolitan areas and 8.2 percent of those in nonmetropolitan areas indicating substance abuse during the previous year (Office of Applied Statistics, 2005). Moreover, this same study indicated that similar rates of substance abuse between rural and urban areas has been consistent in the recent past (Johnston, O'Malley, Bachman, & Schulenburg, 2004).

It would seem that similar trends in substance abuse, coupled with the dearth of knowledge about the treatment seeking process, would result in research that examines barriers to treatment entry in both rural and urban areas; however, this is not so. In fact, most of what is known about substance abuse and corresponding treatment-seeking experiences is thought to be generalized from research that has been conducted with urban populations (Roehrich, Meil, Semiansky, Davis, & Dunn, 2007). Moreover, few studies have incorporated geographic location as an exploratory variable which potentially suggests ignorance to salient differences across the rural-urban continuum and how these differences might impact service utilization. For example, evidence suggests that in some instances, persons from rural and urban backgrounds have different attitudes about helpseeking (Warner & Leukefeld, 2001), different privacy concerns, and varying attitudes toward outsiders (Donnermeyer, 1997). Despite these salient rural-urban complexities, as of the date of this manuscript there has been no comprehensive review of the research on substance abuse treatment utilization across the rural-urban continuum thus suggesting a general ignorance of the impact of geographic location on health services use.

There are also several reasons why extant research on help-seeking across population densities may be of limited utility. In their research on substance abuse trends in rural Pennsylvania, Roehrich, Meil, Simansky, Dunn, and Davis (2006) posit that research which examines rural-urban differences is limited because of: haphazard use of the term rural, lack of descriptive information about study samples, and the oft minimized heterogenetity inherent between rural populations. D'Onofrio (1997) noted "several disparities and ambiguities in the definition of rural" in her written report on alcohol

abuse with adolescents. Moreover, rigorous classifications of rural and urban, such as those employed by the United States Census Bureau (USCB), are not uniformly utilized throughout the available research. For example, the USCB identifies an urban area as settled areas with populations of 2500 or those areas of with populations of at least 50,000. Rural areas are those which do not meet these criteria. In contrast, a recent United States Department of Agriculture (USDA) publication on rural economics uses the 1993 Office of Management and Budget system of rural-urban classification which defines urban areas as those which "include central counties with one or more cities of at least 50,000 residents or with an urbanized area of 50,000 or more and total area population of at least 100,000" (USDA, 2005). We propose that a more promising solution to resolving such inconsistencies is to use population density as an indicator of urbanicity. Classifying samples according to the number of persons living in a given square mile can help researchers determine the *degree* of rurality and urbanicity of a given area thus abandoning rigid rural-urban dichotomies that minimize the variability that occurs along the rural-urban continuum.

Given the potential help-seeking differences between urban and rural areas, there exists the possibility that many of those who need help choose to seek it from sources that are not examined in mainstream psychological research. Such sources might include telephone helplines, religious or church affiliated programs, and jail/prison treatment centers. It is possible that nonprofessional sources of help offer a certain safety and/or anonymity that professional sources do not. As such, these differences warrant a closer examination of the degree to which they are utilized in persons residing across the rural-urban continuum.

Hartnoll (1992) summarized the importance of treatment utilization research when he posited, “If only a rather small proportion of people in need of help actually seek help, treatment and rehabilitation services are very imperfectly achieving their purpose” (Hartnoll, 1992, pg. 429). Although the individual and societal costs of untreated substance dependence are sufficient to warrant additional research, it is also important to consider that the science of substance abuse treatment, which has equipped the clinician with effective intervention strategies, is of little utility if those who need treatment most are not being reached. Because substance abuse affects every level of society, including those areas at polar ends of the rural-urban continuum, practitioners in all population centers must understand what factors are bringing clients to treatment and what factors may be impeding others from being treated. Given the contemporary emphasis on largely dispositional qualities (e.g., motivation and stage of change) to explain the rates with which clients seek treatment, research that examines help-seeking as an interaction between person and environment might help to correct faulty attributions as to why those who need treatment do not utilize it. The Health Behavior Model offers a more promising theoretical understanding of these issues.

CHAPTER II: REVIEW OF THE RELEVANT LITERATURE

Trends in Substance Abuse and Dependence

There are several reasons why understanding trends in substance abuse/dependence is key to understanding treatment seeking. First, increases or decreases in the prevalence of substance abuse/dependence are a direct indicator of the amount of treatment that is needed. In other words, as the number of persons dependant on illicit substances increases so does the need for treatment in a given area. If the available treatment resources are insufficient to address the demand of those who need treatment then many of those who need services may not get them. Another reason trends in substance abuse/dependence are relevant to research on treatment seeking is that changes in drug-specific trends are indicative of specialty treatment need. For example, research has identified that effective intervention for heroin and other opiates may require the use of specialty treatment (i.e., agonist/partial agonist therapy) which may or may not be available in a given area. Therefore increases in the abuse of heroin or other opiates might require substantial changes in health provision for a given area. Finally, trends in substance abuse/dependence influence policy decisions. For example, given the relatively similar trends in substance abuse/dependence amongst rural and urban areas, one could argue in favor of funding treatment based on proportion of abusers as opposed to the general population of a given area. Overall, trends in abuse/dependence are directly related to treatment need. For this reason, the following sections address trends in rural and urban substance abuse. Implications for treatment need are discussed as well.

National Survey Reports

The widespread prevalence of substance abuse is not a new phenomenon; however documented accounts of how many people abuse substances is relatively recent (Musto, 1997). Speculations peaked at the turn of the 19th century and prompted several governmental attempts to control the epidemic including the Harrison Act, Prohibition, and the Hague Treaty (Musto, 1997). It has also been noted that early governmental attempts to control the abuse of substances were largely based upon anecdotal accounts as well as moral and religious concerns that until recently were not heavily substantiated in the literature (Musto, 1997).

Formal epidemiological research on substance abuse/dependence trends began appearing during the 1970s with the most widely cited research utilizing two major approaches: survey methods and epidemiologic networks. One such study, Monitoring The Future (MTF; Johnston, O'Malley, Bachman, & Schulenburg, 2004), is a longitudinal survey of 8th, 10th, and 12th graders, many of whom have completed follow-up surveys since 1975. Approximately 17,000 respondents from between 120 and 146 public and private schools complete initial surveys, a proportion of which are followed-up annually for twelve years post-high school (i.e, until 30 years of age). After age 30, follow up surveys are completed every 5 years (e.g., ages 35, 40, 45).

MTF lends some insight into geographic location differences in substance abuse trends. Specifically, the MTF survey authors created three mutually exclusive categories that are based on a number of factors including population of a given area, the vicinity to the nearest population center, and other factors previously discussed. The first category is noted as large metropolitan statistical areas (MSAs), which are the eight largest cities

represented in the sample (e.g., Philadelphia). The second category is noted as "other-MSA" and includes the next 16 largest cities from which the sample was drawn (e.g., Pittsburgh). The third category is "non-MSAs" which includes all areas that do not contain a town of at least 50,000. Overall, the use of illicit substances is generally equally distributed across all geographic location categories for cocaine, heroin, and marijuana. Trends in abuse and dependence across these categories lend support to the notion that geographic location has little impact on what substance is used and how often it is used. For example, in regards to cocaine use, there are relatively few differences in prevalence, with 3.5% of those in large cities, 5.7% in other metropolitan areas, and 4.6% of those in non-metropolitan areas reporting having used cocaine in the last year. Statistics for crack cocaine show that use of the drug is no longer limited to large urban areas as was once portrayed in popular media. In fact, those in non-metropolitan areas (2.4%) reported using crack cocaine at higher rates than their counterparts in other-metropolitan (2.3%) and metropolitan (1.8%) areas, although not significantly so. Heroin use, regardless of the administration route, is also equally prevalent across population densities with 1.0% of those in large cities, 1.0% in other metropolitan areas, and 1.1% in non-metropolitan areas indicated having used heroin in the last year. Twelfth graders across the sample also showed little differences in the use of marijuana with 32.3% of those in large cities, 38.1% in other metropolitan areas, and 32.2% of those in non-metropolitan areas endorsing usage in the past year. There were however significant differences in heavy drinking (5 or more drinks in a row over a two week period). Heavy drinking decreased to 23.3% in large cities which is a lower level than the prevalence rates in metropolitan and nonmetropolitan areas (29.8% and 30.5%, respectively).

The National Survey on Drug Use And Health (NSDUH), formerly known as the National Household Survey on Drug Abuse, is the other major epidemiological study of substance abuse trends that utilizes the survey method. Established in 1970, NSDUH is a federally sponsored annual survey of persons aged 12 or older that reports information about the pattern of substance use and other health-related topics such as treatment admissions, criminal behavior and HIV/AIDS risk behavior. Revisions in the design of the survey occurred in 2002 which allow for national and state-level estimates of use and abuse; however such revisions render comparisons with data from previous years impossible.

Analyses of recent NSDUH data indicates several important longitudinal trends in substance abuse and dependence across population densities. There were relatively few longitudinal changes between 2002 and 2004 in the estimated proportion of the population that abused or were dependent on illicit drugs (3.0 percent in 2002, 2.9 percent in 2003, and 3.0 percent in 2004) and alcohol abuse or dependence (7.7 percent in 2002, 7.5 percent in 2003, and 7.8 percent in 2004). The exception to this occurrence was abuse/dependence upon hallucinogens. There were increases from 2002 to 2003 (0.2 to 0.1 percent) and from 2003 to 2004 (0.1 to 0.2 percent). Moreover, the estimates for heavy drinking in 2004 (6.9% of the population aged 12 or older) was similar to those of 2002 (6.7%) and 2003 (6.8%). Notably, heavy alcohol use was associated with illicit drug use, with 32.2% of respondents who met criteria for heavy drinking also indicating they had used illicit drugs in the past month.

Regarding geographic location trends, illicit drug use in completely rural counties declined between 2002 (6.7%) and 2003 (3.1%), but was 4.6 percent in 2004. The rate in

2004 was not significantly different from the rate in 2003 or 2002. Among people aged 12 or older, the rate of past month alcohol use in large metropolitan areas was 52.7 percent compared with 49.7 percent in small metropolitan areas and 43.7 percent in nonmetropolitan areas. There was less variation across county types in rates of binge and heavy drinking. The rate of heavy alcohol use was 6.4 percent in large metropolitan areas, 7.9 percent in small metropolitan areas, and 7.0 percent in nonmetropolitan areas.

The data also suggests relatively few geographic location differences in abuse or dependence. For example, the rate for substance abuse or dependence in 2004 for persons aged 12 or older was 9.5 percent in large metropolitan counties, 9.8 percent in small metropolitan counties, and 8.2 percent in nonmetropolitan counties. Nonmetropolitan counties had the lowest rate with 7.0 percent of persons indicating substance abuse or dependence. There were some noteworthy age-related differences. For example, data indicate that rural youths aged 12 to 17 reported higher rates of past month and binge alcohol use than did their nonrural counterparts (OAS, 2004). Furthermore, rural youths in the same age range reported less perceived risk from alcohol use, lower levels of alcohol use disapproval, and less perceived parental disapproval than did youths in living in nonrural areas.

Still other data supports the notion that substances are being used in different rates across population densities. For example, Robertson and Donnermeyer (1998) analyzed data from the 1991 NHSDA by classifying respondents into three categories: nonmetropolitan-urban, metropolitan rural, and nonmetropolitan rural. From the sample of over 32,000 respondents the research revealed relatively few differences between the three residential categories. Specifically, discriminant analysis revealed that marijuana

and other drug use did not vary by the three residential categories. Warner & Leukefeld (2001) found that inmates from rural counties were more likely than prisoners from frontier and urban places to have reported using hallucinogens. This same study found that use of alcohol, sedatives, amphetamines, and other opiates, was significantly related to level of urbanicity, with participants from rural and very rural areas reporting highest use. The difference in these results could be due to populations that were sampled in the studies.

While survey reports of the prevalence of substance abuse/dependence continue to dominate the literature, self-reports of such behavior is subject to several limitations. Most notably, survey reports can result in under/overreporting of use. Moreover, D'Onofrio (1997) noted that response bias may be related to variables such as race/ethnicity, age, and gender, as well as the participant social desirability (D'Onofrio, 1997). Another potential limitation of the aforementioned survey methods is non-sampling bias. For example, data from the MTF studies does not include information from high-school drop outs or those who are institutionalized. Such exclusions can skew the data and result in biased estimates of abuse. Furthermore, residents of areas with a large number of high school dropouts and/or a large number of institutionalized youths may not be adequately represented by such estimates. As such, it could be argued that a more multifaceted approach to estimating substance abuse trends is needed to more fully understand trends.

The Community Epidemiological Framework

During the mid-1970s researchers began to realize that multiple indicators of drug abuse were needed to accurately estimate drug usage prevalence. At the time, the now

defunct Narcotic Treatment Administration (NTA) needed accurate prevelance estimates to inform policy decisions about effective treatment for heroin addiction. Faced with numerous methodological limitations inherent in prevalence studies (e.g. definitional problems) the NTA concluded that a community-level network of researchers was needed to provide data about indirect indicators of change in substance abuse/dependence trends. Consequently, the National Institute of Drug Abuse (NIDA) convened the Community Epidemiology Work Group (CEWG). In its current capacity, the CEWG meets biannually and consists of members from 20 selected metropolitan areas to evaluate numerous indicators of drug abuse such as: drug abuse treatment admissions and discharges, drug-related deaths, drug exposed newborns, emergency room drug episodes, public health data, etc. As summarized by Kozel, Robertson, and Falkowski (2003) the CEWG approach is similar to that utilized by the Centers for Disease Control in that it relies on reports of health-care providers to monitor substance abuse/dependence trends.

Key findings from the 2005 proceedings of the CEWG indicate several noteworthy drug abuse trends. In regards to crack/cocaine, the CEWG found that crack/cocaine continues to be of great concern in most of the sample cities. Specifically, notes from the proceeding indicate that crack/cocaine has accounted for serious gang activity in many of the sample cities (including Philadephia) and dominates the treatment system, with more clients reporting for treatment to get help with crack/cocaine usage than all other substances (National Institute on Drug Abuse, 2005). For example, in Philadelphia, 45.5% of law enforcement indicators of substance abuse were associated with crack/cocaine. Moreover, primary admissions for crack/cocaine abuse exceeded those for other substances in many of the work group cities, including Philadelphia where

33.8% of admissions were for cocaine. The CEWG symposium also found that local/state level drug mortality data across the participating cities indicated that cocaine-related deaths outnumber fatalities from other substances. Heroin abuse indicators are also highly suggestive of increasing patterns of substance abuse in the sampled cities. For example, data from participating cities suggest that heroin abuse is exceedingly high in Boston and Newark, with Philadelphia and other areas close behind. Treatment admissions for heroin as the primary substance of abuse are also high in Newark (81.8%) and Boston (74.2%). It should be noted that trends in heroin usage are tricky because they may be impacted by the purity of the drug and the amount of resources allocated to treat addicts.

Trends in the use of narcotic analgesics and other opiates were also examined by the CEWG. Interestingly, the researchers noted that increases in sales of these drugs to hospitals, physicians, and pharmacists appear to correlate with increased availability of these drugs on the black market. For example, in Seattle, researchers noted that methadone sales, for pain management only, have increased 359% from 1997 to 2003. Similarly, more treatment seekers in Seattle have cited “other opiates” (e.g., methadone) as their primary drug, with rates increasing from 3 to 12% in opiate substitution treatment clinics. Similar trends have been found in Philadelphia where the rate “other opiate”-implicated deaths increased from 9.6% in 2003 to 11.6% of deaths in 2004. Additionally, fetanyl-implicated deaths in Philadelphia rose to 35 as of the latest data.

The CEWG approach offers many contributions to researchers examining the epidemiology of substance abuse/dependence. Kozel et al (2002) note that the CEWG approach provides for quick data collection via access to local and state level data. Also, the data can be interpreted by local experts for communication to national panels.

Furthermore, the CEWG approach provides access to community level data that is minimally accessible by national estimates. Although the convention of the CEWG has netted noteworthy contributions to the understanding of what substances are being used and by whom, data from CEWG is limited to epidemiological trends in urban areas, thus excluding the proportion of the population in rural areas. Of note, the latest CEWG meeting included representatives from Maine and Ohio to bolster the representation from non urban areas; however the limited scope of data from these two areas cannot accurately cache drug abuse trends in all rural areas.

Regional Data

There have also been a few contributions to the literature on the rates of substance abuse/dependence in Pennsylvania. Data from NSDUH estimates that 2.68 percent of Pennsylvanians met criteria for illicit drug abuse or dependence in 2003. The same study estimated that 7.56 percent of Pennsylvanian's met criteria for alcohol abuse or dependence during the same time period (Office of Applied Statistics, 2004). The Drug Abuse Warning Network (DAWN; United States Department of Health & Human Services, 2004) is another source for state and local data on substance abuse/dependence trends. As a national surveillance system, DAWN data comes from hospital emergency rooms, medical examiners, and coroners. Because DAWN data is compiled from major metropolitan areas around the country, data exists for both Philadelphia and Pittsburgh; however emergency department statistics are only available for Philadelphia. DAWN data reveals that drug related emergency room visits comprised approximately 1 percent of all Philadelphia area emergency departments. The three drugs most commonly indicated drugs in these emergency room visits are: cocaine (44.8%), alcohol in-

combination (35.7%), and marijuana (24.4%). Of the 21 metropolitan areas that provide data to DAWN Philadelphia ranks in the top two cities for emergency room visits for various drugs including cocaine, marijuana, and benzodiazepines. Whereas data from DASIS and DAWN are useful in that they represent regional estimates of substance abuse/dependence trends these estimates have limited utility to those interested in usage trends in smaller geographical units such as counties. Another potential limitation of relying on the DASIS and DAWN systems is the difficulty in teasing out differences due to drug toxicity rather than differences due to usage trends.

The Pennsylvania Youth Survey (PAYS; Pennsylvania Commission on Crime and Deliquency [PCCD], 2005) is a biennial survey of 6^{th}, 8^{th}, 10^{th}, and 12^{th} graders that assesses statewide trends in the use/abuse of alcohol, tobacco, and other drugs (ATOD). The survey was designed to assess prevalence of substance use and abuse, but also to assess risk and protective factors. Moreover, the survey utilizes questions about the use of ATOD that allow for direct comparisons to be made with the nationwide Monitoring the Future Study. The 2005 PAYS was administered to 14,348 public school students in grades 6 – 12. The schools in the sample were assigned to one of six regions of the state, each with varying degrees of rural and urban counties. This resulted in 24 grade – by - region cells. A secondary sample was taken from the southwest region of the state because the original sample was so small. The sample consisted of White (60.1%), African-american (4.2%), Latino (2.7%, Asian (1.8%), and American Indian (.7%).

The authors noted that compared to previous PAYS survey results, the 2005 results show a stark contrast between younger and older students. Younger students (i.e., those in grades 6-10) have substance abuse rates that are significantly lower than those

indicated in national studies such as MTF. The report also acknowledged some of the lowest substance abuse rates ever recorded. For example, the PAYS 2005 data indicated that the past 30-day use of alcohol by 8th graders was 14.5% whereas national data from MTF was nearly 3 percentage points higher (PCCD, 2005). Similar results were found for marijuana. Overall, 14.9% of PAYS respondents indicated an episode of binge drinking in the last 30 days. Alcohol is the most popular drug among adolescents today. Minimal difference was discovered between state and national groups for the rate of alcohol use in the "past 30 days". Rates of "lifetime" use for 8th, 10th, and 12th graders are between 7.0 and 11.1 percentage points higher than national findings. Furthermore compared to national findings, binge drinking is more relevant among older students than younger students. Of the four grade levels, only the 12th graders of the state sample reported a higher rate of binge drinking than the national sample. Alcohol use was found to be more pervasive among students in the southwest region of the state and most contained in the south-central region of the state. Between 1989 and 2001, there has been a steady increase of "past 30 day" marijuana users among 12th graders (13.9% and 25.6%, respectively); however this decreased in 2003 to 21.4%. Both, the increase between 1989 and 2001 and the decrease since 2001 match the findings of national surveys. In regards to marijuana use in the past 30 days, 8th and 10th graders reported slightly lower use than their national counter parts, as 12th graders reported about the same use. The northeast region of the state reported the most "lifetime" and "past 30 day" marijuana use (32.1% and 13.1%, respectively). Furthermore, students in the predominantly rural south-central region of the state reported the lowest prevalence of use for lifetime and past 30 day use, at 18.3% and 7.8%, respectively).

Since inhalants are easy to obtain, they are popular among younger students. Due to changes of the wording on the survey, it is difficult to compare the reports of inhalant use from 2001 to 2003. However, 8th, 10th and 12th graders reported 2.1% – 3.5% lower inhalant use than their national counterparts. Also similar to national results, prevalence was lowest among 12th graders (2%) and highest among 8th graders (5%). The northeastern region of the state has the highest reported "lifetime" prevalence (11.7%), while the southeastern region is the lowest (9%). The southwest region of the state reported the lowest "past 30 day" use (2.8%), with the northeast peaking the state totals (4.1%).

Lifetime cocaine use among Pennsylvanian eighth (1.8%) and 10th (3.9%) graders was slightly lower than the national survey (3.6% and 5.1%, respectively). Lifetime use of cocaine by Pennsylvanian 12th graders (7.4%) are similar to national 12th graders (7.7%). As for crack, both "lifetime" and "past 30 days" are similar or slightly lower than the national group. Heroin use follows a similar pattern but is beginning to become more prevalent among 12th graders in the state. Eighth graders in the state use hallucinogens slightly less than national 8th graders, while state 10th and 12th graders have patterns similar to national students. Eighth, 10th and 12th graders reported slightly lower methamphetamine use than their national counterparts. Finally, the use of ecstasy among 8th, 10th and 12th graders of the state closely matches the national use.

Taken together, the results of large scale survey and community epidemiologic studies suggests a significant treatment need nationally and regionally in communities across the rural-urban continuum. The following section examines the degree to which substance abuse treatment is utilized by those who need it.

Substance Abuse Treatment Utilization in Rural and Urban Areas

In citing the importance of treatment utilization research, Fortney et al., (1995) notes that failed opportunities to utilize treatment interrupts continuity of care and squanders health care resources—which are widely believed to be scarce in rural areas (Donnermeyer, 1997) . Despite the individual and economic costs of not understanding treatment utilization, not much research has been devoted to the topic, specifically as it is impacted by geographic location. To further complicate matters, health services utilization is an interdisciplinary topic for which the literature has not been integrated into a comprehensive review. In fact, recent publications noted by this author span the fields of clinical psychology (Smith, Peck, & McGovern, 2004); criminology (Bouffard & Smith, 2005; Robertson, 1997); and medicine (Rost, Fortney, Fischer, & Smith, 2002); as well as more specialized fields such as behavioral economics (Bray, Davis, Graver, Schroeder, Buck, Dilonardo, & Vandivort, 2005). Whereas a review of the data from all of the aforementioned fields is beyond the scope of the current project, detail is given to national and regional estimates of treatment usage as well as a review of facilitating and impeding factors to treatment utilization that have particular relevance to client experiences across population densities.

One of the major issues that pervades the literature on substance abuse treatment utilization is that treatment utilization is inconsistently defined across studies. As noted by Andersen, McCutcheon, Aday, Chiu, & Bell (1983) over twenty years ago, research on treatment use falls along two major themes. The first theme deals with the process of treatment utilization and the corresponding characteristics of the population. These

characteristics include family income, insurance coverage, and health attitudes. The other theme in the research is behaviorally based and operationalizes treatment utilization as an outcome indicator of passage through the system. For example, utilization rates and satisfaction scores refer to outcome indicators of treatment utilization. Aday and Andersen (1974) posited the need for researchers to disassemble treatment utilization into three factors: predisposing factors, enabling factors, and need factors. Their model is discussed at length at the end of this section.

National Estimates

One of the primary sources of data on the use of substance abuse treatment services is the Treatment Episode Data Set (TEDS). Specifically, data from the admission-based TEDS system comes from facilities that receive State alcohol and/or drug funding to provide substance abuse treatment services. Therefore the data is not all inclusive, but instead represents information from publicly funded agencies. According to a) report from the TEDS (SAMHSA, 2003) , approximately 26.3 million persons aged 12 or older needed substance abuse treatment in the year 2002. Of these, approximately 30% (7.7 million) were illicit drug users for which a mere 18% (1.4 million) received specialty treatment. The remaining 18.6 million persons who needed treatment represented persons aged 12 or older who needed alcohol treatment, of which 1.5 million (8%) received treatment. For both illicit drugs and alcohol, the rate of treatment need was approximately twice as high for males as for females with the greatest need for treatment among those aged 18 to 25. In 2002 approximately 6 million drug dependent persons and 17 million alcohol dependants did not receive specialty treatment for their problem. Among those untreated for their problem, only 6 percent of drug dependants and 4.5 percent of alcohol

dependants perceived an unmet need for treatment. Results from this analysis also revealed that the most common reason for needing but not receiving treatment were not being ready to stop and the cost of treatment.

A more recent report of TEDS data indicates that five substances accounted for approximately 96% of TEDS admissions in 2007: alcohol (40%), opiates (19%; primarily heroin), marijuana/hashish (16%), cocaine (13%), and stimulants (8%; primarily methamphetamine; SAMHSA, 2009). Trends analysis suggests that between 1993 to 2003, admissions for alcohol as a primary substance fell from 57% in 1993 to 42% in 2003. During the same time span heroin admissions increased slightly from 12 percent in 1993 to 15% in 2003. Moreover, sixty one percent of heroin admissions reported injection as the primary route of administration. Admissions for cocaine/crack also decreased from 1993 to 2003 from 17 percent to 14 percent respectively. Methamphetamine/amphetamine and other stimulant admissions also increased from 2 percent in 1993 to 7 percent in 2003. Narcotic painkiller admissions skyrocketed between 1992 and 2002 by 155 percent (Substance Abuse and Mental Health Services Administration, 2004). Moreover, there appears to be a direct relationship between narcotic painkiller admission and level of urbanicity with increasingly higher admission rates for rural and very rural areas. Other data from TEDS indicates that more than half (62%) of all treatment admissions were for outpatient services and more admits were referred via the criminal justice system (36%) than any other referral source.

The Drug and Alcohol Services Information System (DASIS) evaluated rates of treatment across population densities. A recent report on data from DASIS revealed that in spite of similar trends in abuse/dependence between urban and rural areas, only 6% of

all admissions to substance abuse treatment facilities were to facilities in rural areas (Substance Abuse and Mental Health Services Administration, 2005). The report also revealed that 52% of rural admissions, as compared to 40% of urban admission, were for alcohol as the primary substance of abuse. Moreover, admissions in rural areas were more likely to be the result of referrals from the criminal justice system than were those in urban areas (47 and 35 percent, respectively). These results suggest that rural alcoholics may be more likely to seek treatment than do their illicit drug using counterparts.

Regional Estimates

Data from DASIS also reveals trends substance abuse treatment admissions in Pennsylvania. Results from 2004 indicate that approximately 85,000 admissions were achieved during that year. The top three primary substances of abuse as cited in the data were: alcohol (n=19,276), heroin (n=19,079), and alcohol with secondary drug (n=14315). Moreover, men accounted for 68.1 percent of all admissions. In regards to the racial characteristics of those admitted for treatment, data from the survey indicates that Whites accounted for 75.4 percent of admissions.

Another study examined state-level treatment needs by looking at substance related deaths and arrests in every state (McAuliffe, LaBrie, Woodworth, Zhang, & Dunn, 2003). By converting the mean drug and alcohol mortality and arrest rates into z-scores, the authors created indices of need including an alcohol need index (ANI), drug need index (DNI) and substance need index (SNI), with scores ranging from 0 (lowest) to 100 (highest). These indices were then used as a standard of comparison for NHSDA's state estimates. The results of their study suggest wide variability between states with

regard to treatment need. For example, the range of TEDS alcohol treatment admission rates among the 50 states ranged from 66 per 100,000 to 1,152 per 100,000, with a median alcohol admission rate of 347 per 100,000. More results from the study revealed that the Northeast region of the country consisted of places with more severe alcohol and drug use disorders. Specifically, New York's DNI approximated the upper limit of the drug need index (i.e., 100), while Pennsylvnia's DNI was approximated at 33. In regards to the alcohol need index, higher index scores were associated with more rural states, with New Mexico's ANI being the highest at 89. The largest groups of states that had the lowest ANI scores spanned New Jersey (ANI= 32) to Illinois (ANI=35), with Pennsylvania's ANI measuring 27.

Theoretical Background

Despite the various treatment modalities available to today's substance dependent, the evidence points to the fact that approximately 10% of those who meet criteria for substance use disorders actually participate in some type of intervention. In order to improve treatment seeking rates, researchers have attempted to clarify the factors that facilitate and inhibit treatment entry. This literature has revealed that treatment seeking is a multifaceted and dynamic process which spans two broad categories of factors that influence treatment seeking: dispositional factors and contextual factors (Duran et al, 2005). Dispositional factors are individual or person-centered variables such as patient motivation and/or stage of change, patient problem recognition, self-perception of illness severity and demographic characteristics such as gender, income, education, and race/ethnicity. Contextual factors are systemic and oftentimes encompass larger systems of influence such as social support, the availability of services and helping professionals,

the geographical accessibility of treatment, and community norms. It is somewhat misleading to classify these factors in a dichotomous dispositional-contextual category because many of these variables are intertwined.

The Behavioral Model of Health Services Use

As it was previously noted, the literature on health service utilization spans several academic fields and has not been comprehensively integrated as it relates to substance abuse treatment experiences across population densities. Integrating the available information from multiple perspectives is a daunting task that requires an organizing framework so that variables can be logically explored for outcomes. The most widely cited framework for health care utilization is the Behavioral Model of Health Services Use as posited by Aday and Andersen (1973; Andersen, 1995). According to Andersen (1995) the model was proposed to explore why individuals use health services and to operationalize access to health care in a manner that might impact public policy. In their model, the authors posit that access to and the use of health care systems (e.g., substance abuse treatment) is a function of the interaction between an individual's predisposition to use services, along with enabling or inhibiting factors of service use and an overall need for care. Predisposing factors are population based and refer to patient demographics. Enabling resources refer to the personal and community level resources that must be available for service use to occur. Finally, need factors refer to either a professionally evaluated or self-perceived need for services. In a recent evaluation of the health behavior model, Andersen (1995) suggested small changes to the model including adding social relationships as a measure of enabling resources, deemphasizing perceived need as the primary determinant of service use, and has added psychological variables to

predisposing characteristics including mental dysfunction, cognitive impairment, and autonomy.

Application to Substance Abuse Treatment Utilization

As it was originally proposed, the behavioral model seemed more oriented toward medical service utilization to the exclusion of health fields such as clinical psychology. However, since then there have been substantial contributions to the literature that use the model, or aspects thereof to improve understanding about the use of psychological services in general and substance abuse treatment services specifically. Predisposing factors have received considerable attention in the literature. For example, the evaluation of gender differences in substance abuse experiences (i.e., etiology, disease progression, and treatment needs) is a relatively new phenomenon in psychological science (Ashley, 2003). Recently, however, substance abuse researchers have begun to question the generalizability of substance abuse research which, historically, has used samples that underrepresent women. The results of such inquiries have netted specific treatment considerations for both men and women that can be implemented to improve treatment outcome for these groups. Despite the paucity of research examining the gendered experience for substance abuse, the available data has revealed several noteworthy differences. First, research has long cited differences in disease progression and underlying biological mechanisms. Data from Project MATCH (1997) revealed that women in the study began experiencing drinking problems and appeared to exhibit a loss of control of their drinking at a later age than did their male counterparts. Moreover, women in this same study progressed more rapidly from regular drinking to the occurrence of drinking problems and treatment seeking. It is suspected that gender

differences in disease progression as noted in Project MATCH and other studies is attributable to metabolic differences in men and women, specifically high blood ethanol levels after alcohol ingestion due to lower average total body water content. (Jones & Jones, 1976). Several studies also site gender differences in barriers to treatment. Greenfield, Weis, Muenz, Vagge, Kelly, and Bello, (1998) found that men are less likely to have children and more likely to have more resources than their female counterparts. Also, women seem to be more clear about their reasons for using, citing loneliness, depression, and financial concerns as the main reasons for drug abuse. Men, on the other hand, indicated less knowledge about contributing factors to their drug abuse.

There is also evidence that gender may be an explanatory variable in predicting the use of mental health services across population densities. For example, Speer, Williams, West, & Dupree (1991) found that well-educated women were more likely to utilize outpatient mental health treatment than were there male counterparts. Another study found that rural residents, regardless of gender, were less likely to have participated in certain mental health services (e.g., case management and day treatment) than were their nonrural counterparts (Sullivan, Jackson, & Spitzer, 1996). Such conflicting results suggest that further inquiry is required.

There is also evidence that patterns of substance abuse treatment utilization differs across racial/ethnic groups. For example, Angold et al (2002) surveyed the parents of over 4,000 children in rural North Carolina. The results of their study found no significant racial/ethnic differences in regards to the prevalence of psychiatric disorder; however there was a significant difference in the use of mental health services—African Americans were less likely to use specialty mental health services than were their White

counterparts (3.2% and 6.1% respectively). In another study, Lopez (2004) examined over 9000 White, Hispanic, and African-American juvenile drug-user and found significant differences between racial/ethnic groups on frequency of drug use, past treatment utilization, self-reported dependency, and polysubstance abuse. Specifically, Black and Hispanic juveniles were less likely to perceive a need for treatment; however, clients across racial groups who recognized their own dependency were more likely to acknowledge the need for treatment as compared to their same race counterparts who did not recognize a problem. One possible explanation of such results can be found in studies which examine perceptions of racial barriers. For example, in her study of almost 4,000 survey respondents in the South, Brown (2006) found that 36% of respondents, including 54% of African-Americans and 23% of Whites, perceived racial barriers to health care in their community. Moreover, those who perceived racial barriers were more likely to report less satisfaction with the quality of care they received suggesting a possible explanation for differences in treatment utilization between racial/ethnic groups. Overall, more research is needed to examine what if any, effect one's race/ethnicity has on perceived barriers to substance abuse treatment.

According to Aday and Andersen, health beliefs are also predisposing characteristics to health service use. Health beliefs are "attitudes, values, and knowledge that people have about health and health services that might impact their subsequent perceptions of need and use of health services (Andersen, 1995, pg. 2). The extent to which privacy concerns and conservative help-seeking attitudes act as barriers to treatment utilization across population densities is largely unknown. However there is some evidence that warrants further examination. For example, some populations (i.e.,

rural persons) may be less likely to seek help due to privacy concerns. Duran et al (2005) found that rural American Indians were less likely to have utilized behavioral health services that are provided by tribal organizations due to privacy concerns. Another study found that men in rural areas hold the most negative attitudes about help-seeking (Hoyt, Conger, Valde, and Weihs, 1997). In spite of these negative attitudes toward help-seeking there is evidence that education about mental health can increase positive attitudes toward seeking help (Esters, Cooker, & Ittenbach, 1998).

Enabling variables are the second class of factors discussed in the behavioral model. These are considered factors that facilitate or inhibit treatment utilization can be either personal or community-wide; however both must exist in order to facilitate treatment utilization (Andersen, 1995). Individual enabling factors refer to the resources individuals have that enable service use, including but not limited to income, insurance coverage, etc. Enabling factors can also include qualities of the community that are related to the availability of personnel and services, the ease of accessibility of said services, travel to treatment, and waiting times. Several federal and state-level databases are useful in examining enabling factors across geographic location. For example, data released by the United States Department of Agriculture cited sizeable differences in income, education, and insurance coverage for persons in rural versus urban areas (USDA, 2003). More specifically, Goins, Williams, Carter, Spencer, and Solovieva (2005) found that rural elders experienced barriers to treatment that were directly related to enabling factors including transportation difficulties and financial limitations. These factors are suspected to prohibit many rural persons from seeking treatment (Agency for Health Care Policy and Research, 1996).

Community level factors have also received attention in the literature on mental health or substance abuse treatment seeking across population densities. The availability of substance abuse treatment services is one such variable. According to recent research, about 82% of adults with alcohol dependence or abuse nationwide lived within 5 miles of a treatment facility (Office of Applied Statistics, 2002). However, further analysis of the data indicates that a mere 62% and 21% of persons in rural and frontier (i.e., the least most populated areas) respectively, lived within 5 miles of a treatment facility. Almost 100% of adults with alcohol dependence or abuse who reside in large metropolitan areas have at least two treatment facilities to choose from within a 15 mile radius. These numbers are strikingly different from rural and frontier areas where 67% and 42% of adults who were dependent on or abused alcohol had two or more facilities to choose within 15 miles. The data is similar when one examines the availability of mental health services in rural versus urban areas with research indicating that the practice of psychology in rural areas is a much needed service that is often complex, with most psychologists indicating a lack of training in substance abuse treatment (Celluci & Vik, 2001). Given that rural substance abusers must travel farther distances for treatment it is also logical to conclude that accessibility might be a barrier to treatment since mobility is not a given, especially for the substance abuser.

Need factors are the final class of variables incorporated into the Aday and Andersen model; however very little research exists that examines how these factors are impacted by geographic location. The aforementionaed national, regional, and local estimates suggest that the base rates for substance use disorders across population densities is substantial thus indicating a professionally evaluated need for treatment.

There is also evidence that shows the predictive utility of self-perceived need factors in treatment seeking. For example, research has shown that chronic rural substance abusers are less likely to seek help for alcoholism or drug addiction in comparison to their urban counterparts partially because they do not perceive their substance abuse as a problem (Warner & Leukefeld, 2003). These results highlight the importance of perceived illness severity and suggest that improving problem recognition, or self-perceived need for treatment, may improve entry into treatment.

Regarding geographic location differences in illness/need-related factors, Warner and Leukefeld (2001) found that the explanatory power of illness severity was greatly attenuated when rural and very rural status was included in their model. In other words, persons in rural or very rural areas sought help at different rates than did their urban counterparts, despite having similar illness profiles. In explaining their results, the authors noted that rural and very rural residents were lower in problem recognition. Similarly, Ross, Lin, and Cunningham found that urban residents were more likely to seek help than their rural counterparts, regardless of illness severity. These results suggest that illness severity may not be as robust a measure of treatment seeking as was once believed.

Notably, a severe limitation in the previous research on treatment utilization has been narrow definitions of treatment. Considering the aforementioned paucity of treatment facilities in rural areas, as well as the distrust for helping professionals and differing help-seeking attitudes, it is reasonable to speculate that rural residents might be seeking help from nonprofessional sources (i.e., services/professionals with less stigma attached to it). One study of the general population found that 27% of respondents who

met criteria for substance use disorders had sought help from non professional sources such as telephone hotlines, a self-help group, or a vocational program (Ross, Lin, and Cunningham, 1999). These results suggest that a considerable portion of alcoholics or addicts may be presenting for treatment at venues that have not been largely scrutinized in the scientific literature. Moreover, such data suggests the need to broadened narrow ideas of treatment to include both professional and nonprofessional sources.

In sum, the research on substance abuse and dependence trends and the corresponding utilization of substance abuse treatment across population densities is lacking. The studies that are available have limited generalizability because of varied definitions of rural, the heterogeneity within rural and urban populations, a paucity of knowledge about rural help-seeking attitudes, and because of narrow definitions of treatment utilization. As such, the present study will serve to update the knowledge available on factors that might positively or negatively impact the rates with which substances abusers in rural and urban areas seek treatment. Such research will allow policy makers and clinicians to maximize on characteristics that promote treatment seeking and to directly address the barriers to treatment across population densities. Overall, the extant research leaves a few key questions unanswered—all of which are addressed in the present research. For example, research has yet to uncover in what ways different definitions of rural and urban impact data analysis. This study also sought to answer the question on whether there are rural-urban differences in predisposing, enabling, and illness/need factors that predict treatment utilization. Finally, this study sought to answer the question of whether there are rural-urban differences in the

professional and nonprofessional sources frequented for help with substance use disorders.

Hypotheses

Hypothesis 1. Predisposing variables It was hypothesized that there would be significant rural-urban differences on key predisposing variables (gender, race/ethnicity, age, and help-seeking beliefs). Specifically, it was hypothesized that rural residents receiving treatment would be less diverse, and that urban residents would endorse higher scores on the help-seeking measure (i.e., they will endorse more favorable attitudes toward help-seeking).

Hypothesis 2. Enabling variables Regarding enabling variables, it was hypothesized that there would be significant rural-urban differences on key variables such as income, insurance coverage, education level, availability of treatment, and accessibility of treatment. Specifically, it was predicted that urban residents would report a larger income than rural residents, endorse having health insurance moreso than rural counterparts, and would have obtained a higher level of education than rural counterparts. It was also hypothesized that rural residents would perceive treatment as being less available and accessible than their urban counterparts as evidenced by lower accessibility and availability scores.

Hypothesis 3. Need factors. Regarding illness/need factors it was hypothesized that here would be significant rural-urban differences on key factors such as severity of dependence and problem recognition. Specifically, it was predicted that rural outpatients would have higher alcohol and substance dependence scores and that urban residents

would be more apt to recognize addiction problems (i.e., they will have higher problem recognition scores).

Hypothesis 4. Given the aforementioned differences in predisposing, enabling, and illness/need factors, it was hypothesized that there would be significant rural-urban differences in the length of time to get into treatment. Specifically, that rural residents would report longer delays for treatment seeking than their urban counterparts.

Hypothesis 5. It was also hypothesized that there would be a significant interaction between predisposing, enabling, and illness/need factors. Specifically, it was thought that treatment seeking will not be related to illness severity alone. Rather, predisposing and enabling factors will attenuate the predictive utility of illness severity.

Hypothesis 6. Given privacy concerns and differences in help-seeking attitudes, it was hypothesized that there would be significant rural-urban differences in where people have gone for help (i.e., professional versus nonprofessional sources).

CHAPTER III: PROCEDURES

Methods

Participants

A multistage sampling method was utilized for this study. In stage one, the researcher employed a stratified random sampling method to select treatment centers from a complete list of licensed drug and alcohol providers in the state of Pennsylvania. The list of facilities is organized by county and is published annually by the Pennsylvania State Department of Health (PA Department of Health, 2006). The researcher classified counties as either rural or urban according to the Center for Rural Pennsylvania's definition of a rural county ,which is those counties with population densities less than 274 person per square mile. From these lists of approximately 50 centers (25 rural, 25 urban) the researcher randomly chose drug and alcohol facilities then telephoned respective treatment administrators in an attempt to introduce them to the study. In the event a treatment administrator could not be reached directly, the researcher followed up with a letter and an email. Stage one of the sampling method did not net any treatment centers willing to grant consent to participate as many administrators were unable to be reached or did not respond to efforts to contact them. However, the researcher obtained feedback from treatment administrators about reasons for their reluctance to participate in this research. Notably, rural areas seem more likely to have treatment administrators who serve as the lead administrator for more than one center in a given county/counties. For example, two rural Northwestern Pennsylvania counties (and their 8 treatment centers) share the same treatment administrator. As such, a failure to garner consent from this administrator automatically disqualified all 8 treatment centers. Again, this phenomenon

seems unique to rural counties where there may be fewer staff resources. In more urban counties, many treatment administrators did not return phone calls for reasons unknown to the researcher. When asked for feedback on how to make the research more amenable for everyday life in treatment facilities, typically, treatment administrators from rural areas cited a lack of office space, lack of staff, and confidentiality concerns as reasons they chose not to participate.

In stage two of the sampling method, the researcher added both internet and mail-in options to the data collection method. In order to bypass potential barriers to research participation, treatment administrators were allowed to choose a data collection method based upon their knowledge about staff, resources, and patient preference. Also, the researcher contacted key informants in the drug and alcohol treatment community for assistance with sampling. These informants included a federal social worker with 6 years in the D&A treatment field, a treatment facility CEO, and a research analyst who has overseen research endeavors in rural Pennsylvania. Two urban treatment centers granted consent to participate as a result of this second stage.

With two additional data collection methods and insights from key informants, the researcher implemented stage three of the sampling method. This method was convenience sampling by working with key informants who contacted other persons they knew in the field including county administrators, counselors, and recovering addicts/alcoholics. This method netted one rural treatment center who agreed to participate in the research. Through a series of cold calls the researcher acquired consent from 3 additional rural treatment centers to participate in the research as well, which brought the final number of treatment centers who granted consent to participate to 6. Of

the six drug and alcohol treatment facilities who granted consent for participation in the research, data was collected from two rural and two urban centers. The other two centers dropped out of the study without contributing data for reasons yet unknown.

The resultant sample in this study consisted of 53 participants with 32% (n=17) of the sample coming from rural treatment centers and 68% (n= 36) of the sample coming from urban treatment centers. Participants received a $5.00 gift certificate for completing the research survey.

Materials

The experimenters created a survey to assess predisposing, enabling, and illness/need factors (See Appendix A). For the purposes of this research, predisposing factors are demographic variables and help seeking attitudes. Enabling factors are measured as the availability of treatment, the accessibility of treatment, other barriers to treatment (which are discussed later). Finally, illness/severity factors are measured as the severity of alcohol dependence, the severity of drug dependence, and problem recognition. The following sections detail how each of these were measured.

Predisposing Factors

Because several demographic variables impact treatment utilization rates, these were examined according to gender, race/ethnicity, and age. Help seeking attitudes were assessed via the Attitudes Toward Seeking Professional Psychological Help Scale (ATSPPHS; Fischer & Turner, 1970). The 10-item scale has been widely used in the psychological literature and has proven reliability and validity (Hatchett, 2006). Scores range from 0 to 30 with higher scores indicating more favorable attitudes about help-seeking. The ATSPPHS is presented in Appendix B.

Enabling Factors

Perceptions of treatment availability and accessibility were the major enabling variables assessed in this study. Several items were designed to assess treatment availability and accessibility. For the purpose of this study treatment availability was defined as the perceived quantity of treatment options in a given area. The availability questions were designed as Likert scale items which read, "There are several agencies in my city/town that help people who have problems with alcohol/drugs", "As far as I know, there are more than enough 12 step meetings such as AA and NA in the area where I live", and "It is easy to get treatment for alcohol problems in my city/town." Item responses ranged on a scale from 1 (strongly disagree) to 5 (strongly agree) with higher scores indicating more availability. Overall, respondent scores on the availability measure could possibly range from 3 to 15, with higher scores indicating higher perceived treatment availability. Scores on these items were summed to yield a Perception of Availability Scale (PAS) total score.

Four items assessed treatment accessibility which for the purpose of this study was defined as the perceived ease with which one can access available services. The first question was, "How many miles did you travel to participate in treatment?". Responses for this item ranged from less than 1 mile (8 points) to 26 or more miles (0 points). Another item read, "On average, how long does it take you to get to the outpatient treatment facility from your home using your usual mode of transportation?". Scores on this item ranged from less than 10 minutes (6 points) to more than an hour (0 points). A third item assessing treatment accessibility concerned waiting lists. Responses on this item ranged from less than 1 week (8 points) to more than a month (0 points). Finally, a

fourth item assessing accessibility reads, “How do you normally get to treatment?” There are eight responses for this item; however endorsement of any mode of transportation was coded as 1. Endorsement of the final response (i.e., “I do not have reliable transportation”) was coded as “0”. Scores were summed to yield a Perception of Accessibility (PASc) total score, w hich could potentitally range from 0 to 23 with higher scores indicating more perceived accessibility.

Other enabling factors were assessed with additional items such as the number of days patients had to wait until they received treatment, marital status, educational attainment, employment, and income.

Participant rural or urban status was also considered an enabling variable given the speculated community resource differences across geographic locations. First, surveys were coded according to whether or not the were sent to treatment centers in rural or urban areas. Second, the survey itself includes two items that assess level of urbanicity. The first item read, “How would you describe the area where you lived the most over the past 12 months?” Response categories for this item range from 0 (Very rural) to 4 (Urban). The other item that assesses level of urbanicity specifically asks respondents to identify the zipcode they resided in most during the last 12 months.

Illness/need Factors

Four variables were assessed to account for illness/need factors: severity of alcohol dependence, severity of drug dependence, treatment history, and problem recognition. Severity of alcohol dependence was assessed via the Alcohol Dependence Scale (ADS; Skinner & Allen, 1982). The ADS is a 25 item measure of withdrawal symptoms, increased tolerance, impairments in control, knowledge of drinking

compulsion, and alcohol seeking behavior. Items are scored on a scale from 0 to 3. Scores on the ADS range from 0 to 47 and are divided into quartiles for interpretative purposes. Quartiles are categorized as low, intermediate, substantial, and severe levels of alcohol dependence. Research has shown that a score of 9 or more is reliably predictive of a DSM diagnosis of alcohol dependence. Other research has shown that the ADS has adequate content, construct, and criterion validity (National Institutes of Health [NIH], 2003). The ADS is presented in Appendix C.

Severity of drug dependence was assessed via the Severity of Dependence Scale (SDS; Gossop, Darke, Griffiths, Hondo, Powis, Hall, & Strang, 1999). The SDS is a five item self-report instrument. The instrument focuses on psychological aspects of dependence including impaired control and drug preoccupation. It has been used with patients addicted to heroin, cocaine, amphetamines, and benzodiazpines. Studies show the SDS has acceptable reliability and validity; however its ability to correctly diagnose cannibis dependence has been questioned (Dawe, Loxton, Hides, Kavannah, Mattix, 2002). Cutoff scores of 3, 4, and 6 are used for cannabis, amphetamine, and benzodiazepine dependence respectively. The SDS is presented in Appendix D.

Five items were used to assess treatment history. The first item reads, “How long have you been getting treatment for alcohol and/or drugs at this agency.” The second item assesses if the respondent is a first time or repeat treatment admission. This item reads, “How many times have you received treatment for alcohol and/or drugs. A third item establishes the dependent measure and reads, “Prior to the treatment you are receiving now, have you EVER sought help for alcohol or drug problems from” a list of four nonprofessional and four professional sources of help proceeds this stem. For the

purpose of this research, nonprofessional sources of help are defined broadly as non-specialist providers including 12 step meetings, social service agencies, telephone helplines, or a church/religious organization. Professional sources are help included the current treatment agency, a family doctor/physician, hospital emergency room, or jail/prison treatment center. Participants respond yes or no to this item to yield a total Nonprofessional Help Seeking score that potentially ranges from 0 to 4. Similarly, scores were computed for a Professional Help Seeking score that ranges from 0 to 4. A fourth item examines the time it took for respondents to first seek treatment. This item reads, "Thinking back to the first time you realized you needed treatment for alcohol and/or drugs, how long did it take you to decide to get help?" Finally, a fifth item asks participants how many times they received counseling for drugs/alcohol at this agency.

Nine items were taken from the Texas Christian University Treatment Motivation Scales to assess respondent problem recognition. The items were drawn from the problem recognition subscale. Extensive research has been conducted on the psychometrics of the scale which have yielded acceptable reliability and validity (Knight, Holcom, & Simpson, 1994). Typical items on this subscale are "Your alcohol/drug use is a problem for you", and "Your alcohol/drug use was more trouble than it was worth. For this study, the items are ranged on a scale from 1 (Disagree Strongly) to 7 (Agree Strongly). Scores range from 9 to 63 with higher scores indicating a higher level of problem recognition. The TCU Treatment Motivation Scale is presented in Appendix D.

Although any of the aforementioned predisposing, enabling, and illness/need factors could end up being a barrier to treatment, the researcher created an independent scale to further assess respondent's experience with receiving treatment. Several barriers to treatment were identified in the previous research for inclusion in this study. Specifically, the researchers identified 10 (i.e., common reasons people have for NOT wanting treatment). Typical items on this scale include, "I t would be difficult to find a ride to and from treatment", "I'm embarrassed at needing help for my alcohol and drug/use. Scores range from 0 to 20 with higher scores indicating the presence of more barriers to treatment.

Given the inherent limitations in conducting survey research on a socially unacceptable topic, the researcher chose to create three items to serve as manipulation checks to assess respondent test-taking attitude. The first item reads, "Have you ever used the drug derbisol?" This item acts as a validity check on participant recall of past substance abuse. The second validity item reads, "I answered all the questions on this survey". The third validity item reads, "I answered all questions as honestly as possible." Affirmative endorsement of two or more validity items will render a protocol unusable. These latter two items, while suspected to be high in face validity, serve as gentle reminders for participants to answer all questions in an honest fashion.

Procedures

Treatment centers who granted consent to participate in the study were visited by the researcher on an agreed upon date. Signs advertising the research opportunity were displayed by treatment center administrators (See Appendix E). At all sites, the

researcher was given an office or meeting space wherein the survey was administered in group format. Informed consent was read aloud to all participants. Upon submitting a survey participants were given a $5.00 gift certificate and debriefing letter (See Appendix F).

Plan of Analysis

After protocols were evaluated for manipulation checks, the data was explored for descriptive information. Next, the experimenter will compare subjective and objective classifications of rural and urban. In the third step of the analysis the researcher conducted t-test and ANOVAs (for continuous variables) or chi-square analyses (for categorical variables) on predisposing, enabling, and illness severity factors across rural and urban residents. Since illness severity is such a key variable, the third step in the analysis was to correlate subjective and objective measures of addiction severity. Specifically, the researcher correlated scores from the ADS and SDS with responses to the item that reads, “Thinking back to the 30 days before you entered treatment at this agency, how severe (i.e., bad) was your addiction to alcohol/drugs?” Responses on this item range from 0 (I did not drink/use drugs at all) to 4 (I was severely addicted to alcohol/drugs). Although it was hoped to proceed with the analysis by incorporating predisposing, enabling, and need factors into a logistic regression model, the sample size prohibited such analysis. As such, MANOVAs were conducted to examine the impact of rural/urban status, and various covariates, on the use of nonprofessional and professional help.

CHAPTER IV

RESULTS

Quantitative Data

A major goal of this research was to arrive at an appropriate definition of rural and urban for this and future studies. Consequently, both objective and subjective measures of rural and urban were assessed to determine whether widely used definitions of rural and urban (e.g., objective classifications) are likely to impact data analysis results. Much of the previous research on rural/urban comparisons utilizes an objective description of rural and urban, which typically is a variable that is defined by the United States Census Bureau or another federal/governing agency. In such studies, the objective classification of rural and urban is a dichotomous variable.

In this study an objective classification of rural/urban was based upon the Center for Rural Pennsylvania's guidelines, which identify a specific rural and urban as rural/urban by the number of persons per square mile. For example, counties with less than 274 persons per square mile are described by the Center for Rural Pennsylvania as rural counties . Those with more than 274 persons per square mile are described as urban counties. Using these guidelines data was obtained from two rural counties with population densities of 222 and 49 persons per square mile respectively. Data was selected from a single urban county with a geographic location of 1,755 persons per square mile. A total of 34 subjects completed surveys from two urban treatment centers. Data from treatment centers located in rural counties were coded as 0 whereas those from urban treatment centers were coded as 1.

Subjective determinations of rural and urban were made according to client perception via an item that asked participants to describe the area where they resided longest over the previous 12 months. Possible responses (and their respective codes) were as follows: Very rural (0), Rural (1), Suburban (2), Urban (3), and Very Urban (4). Approximately 60% of outpatients at rural treatment centers perceived their home community rural and urban as being either rural or very rural . Similarly, 53% of participants at urban treatment centers perceived their rural and urban as being either urban or very urban.

A chi-square test of independence was conducted to determine if treatment center location and perception of rural and urban were independent of each other. Analysis yielded an insignificant relationship, (X^2 [4,53]= 7.86, p>.05) thus suggesting there would not be significant differences in data analysis with the use of objective versus subjective classification for further analyses. Given this result, and given the small sample size in the overall study, it was decided to use the rural/urban dichotomous variable for the remainder of analyses. A frequency distribution for this analysis is presented in Table 1. Notably, these results are less reliable given insufficient cell sizes.

Predisposing Factors

According to the Aday and Andersen (1973) Behavioral Model of Health Services Use, predisposing variables are the constellation of factors that predispose someone to utilize services. In this study, the predisposing variables of interest were gender, age, race/ethnicity, marital status, sexuality/sexual behavior. Health beliefs are were also assessed as a predisposing variable, which is consistent with the Andersen model as well.

The majority of rural participants were female (N=10, 67%), single (N=8, 53%), and endorsed having had sex with only members of the opposite sex during the past 12 months (N=12, 82%). The majority of urban participants were female as well (N=22, 65%), single (N=27, 80%), and endorsed only having had sex with members of the opposite sex during the last 12 months (N=20, 60%). Participant age ranged from 22-68 years, with rural subjects (M=33 years, SD=8.00) being generally younger than their urban counterparts (M=44, SD=13.47). The sample was racially diverse and consisted of Caucasians (55%, N= 27), Blacks/African Americans (41%, N=20), and other/mixed race ethnicity (4%, N=2). The rural sample was 100% Caucasian. The urban sample was more racially mixed and consisted predominantly of Caucasians (37%), Black/African Americans (57%).

Two hypotheses were made regarding predisposing variables. First, it was hypothesized the rural sample would be less racially diverse than the urban sample. A chi-square test was conducted to determine whether the racial variability was as expected. Results suggest the rural sample was significantly less diverse than the urban sample with X^2 (3, 49) = .497, $p<.05$. Results from an independent samples t-test show that rural participants were significantly younger than their urban counterparts as well, with $t(48)=-2.97$, $p<05$. There was a trend for significant marital status differences between the rural and urban samples, with rural samples being more likely to be married; however this comparison was not significant, X^2 (3, 49) =6.99, $p=.07$. Given the borderline significance of this result a meaningful difference in marital status may have been detected with a higher sample size.

It was also hypothesized there would be significant rural-urban differences in help-seeking beliefs/attitudes. To analyze this data the researcher summed responses to the Attitudes Toward Seeking Psychological Help Scale. An independent samples t-test was conducted to compare help-belief scores from rural (M=22.76, SD=3.36)and urban (M= 21.97, SD = 5.43) outpatients. Results indicated no significant rural-urban mean differences on the total scale score, with t (50)=.55, p>.05. Responses to attitudes toward counseling effectiveness were assessed via the item, "Overall I do not believe that counseling for alcohol/drug problems works." Responses ranged on the scale of 0(disagree) to 3 (agree). Responses were reversed scored so that higher responses indicated more favorable attitudes to counseling effectiveness. Results suggested no significant rural-urban mean differences to this item, with t(50)=1.62, p>05.

Notably, there was a significant correlation between objective measure of the attitude toward counseling and subjective evaluations of counseling effectiveness, with r(47)= .565, p>05. This result suggests that across the rural-urban continuum, persons who hold more positive help-seeking beliefs tended to evaluate treatment effectiveness more favorably. These variables and other selected predisposing factors are presented in Table 2, with appropriate test statistics and p-values.

It is unknown whether previous drug and alcohol treatment may have predisposed participants to seek treatment on this occasion. As such several treatment related variables were analyzed. Approximately 83% (N=44) of all participants endorsed having received professional counseling for drugs and/or alcohol in the past and there were no significant differences between the rural (81%, N=13) and urban samples (89%, N=31), with X^2 (1, 49) = .497, p=.48. Whereas fifty three percent of all participants endorsed

having received counseling at the surveyed agency in the past, results suggested no significant differences between the rural (56%, N= 8) and urban (40%, N= 14) outpatients in whether they were first time recipients of counseling at the surveyed agency [X^2 (1, 49)= 2.970, p=.226]. Additionally, there were no significant differences in how many weeks participants had been participating in counseling with *t*(49)= .553, p>.05. Descriptive data for these variables are presented in Table 3.

Enabling Factors

The Aday and Andersen (1973) model also includes consideration of enabling variables, which are defined as the constellation of factors that enable someone to utilize treatment. In this study, the enabling variables of interest were: treatment availability, treatment accessibility, income, and health insurance.

The major enabling factor hypotheses concerned whether there would be rural-urban differences in perception of treatment availability and accessibility. Treatment availability was assessed via three likert scale items. The researcher computed a Perception of Availability Scale (PAS) total score by summing responses to these three items. Availability total scores ranged from 0 (poor availability) to 12 (high availability), with higher scores indicating greater levels of perceived availability. An independent samples t-test was conducted to evaluate mean PAS score differences between rural (M= 8.18, SD= 3.26) and urban (M= 11.63, SD= 2.34) outpatients. Data analysis indicated that rural residents perceived treatment as being less available than did their urban counterparts, t(50)=-4.37, p<.01. Cohen's d= .02, a small effect. (See Table 5 for PAS inter-item correlations).

A Perception of Accessibility (PAcS) total score was also computed by summing responses to four accessibility items, with higher scores indicating higher levels of perceived accessibility. An independent samples t-test was conducted to determine if there were significant PAcS mean differences between rural (M= 14.18, SD= 4.34) and urban (M= 12.11, SD= 3.34) outpatients. Results from this analysis indicated there was a trend toward significance with urban outpatients perceiving treatment as being less accessible; however this comparison was not significant, t(50)=1.89, p=.07. (See Table 6 for PAcS inter-item correlations).

Notably, all three items on the PAS were significantly correlated with the PAS total scores. Moreover, the strongest predictor of perceptions of treatment availability was the amount of 12 step meetings in a given area.. All four items on the PAcS were significantly correlated with PAcS total scores. Notably, the strongest predictor of perceptions of treatment accessibility was the amount of time it takes to get from home to treatment thus suggesting that accessibility may be most accurately defined as the distance in time, and not necessarily in miles, that must be traveled to access treatment. Also of note, treatment availability and treatment accessibility as conceptualized in this study are likely two distinct factors as they were not significantly related, r(50)=.096, p>.05.

Rural-urban differences on additional enabling variables were assessed as well. There were no significant educational differences [X^2 (5,49)= 3.38, p=.07]; however this comparison approached significance as rural outpatients endorsed having more post-high school education than their urban counterparts. There were also no significant differences in rural-urban income, X^2 (5, 49)= 5.86, p>.05. It was predicted that urban residents

would be more likely to have health insurance; however, this result was not significant, X^2 (1, 49)= .475, p>.05. Data for all enabling variables are presented in Table 4.

Illness Severity/Need Factors

Illness/need factors are related to impairment and distress. The Aday and Andersent (1973) model suggests an individual is likely to seek treatment if he/she recognizes a problem and/or if there is a professionally evaluated need. Analyses of these variables are presented below. As operationalized in this study, illness severity/need factors include alcohol/drug dependence, problem recognition, and length of time to treatment. Treatment history was also considered an illness severity/need factor.

Alcohol and drug dependence were assessed both objectively and subjectively. Objective determinations were made via standardized instruments: the ADS and the SDS. There were no significant mean differences in alcohol dependence or substance dependence scores across outpatients from rural and urban treatment centers, with $t(49) = -1.216$, $p>.05$ for alcohol dependence scores and $t(49)=.266$, $p>.05$ for substance dependence scores.

Subjective evaluations of alcohol and drug severity were compared across rural and urban outpatients as well. There were no significant mean differences . There were also no significant differences in problem recognition scores between rural (M=54.50, SD= 9.65) and urban (M=56.17, SD= 9.83) outpatients, $t(49)=.321$, $p>.05$. Descriptive data for illness severity/need factors are presented in Table 7.

In their study of rural and urban prisoners, Leukefeld and Warner (2003) reported that rural prisoners had sought treatment at a later point in their addiction than did their

urban counterparts. To test this in the current study, participants were asked the following question: “Thinking back to the first time you realized you needed treatment for alcohol and/or drugs, how long did it take you to decide to get help?” As this was a closed-ended question, item responses ranged from less than 7 days (coded as 1) to 6 or more years (coded as 8). The researcher conducted a chi-square test for independence to examine the hypothesis that rural outpatients would have sought treatment later in their addiction than their urban counterparts. Results do not support this hypothesis, X^2 (8,50)=16.15, p>.05. This result, however, is at best questionable as 77% of the cells had expected counts less than five. Data from this analysis are presented in Figure 1.

Type of Help Sought

In order to establish the dependent measure for multivariate analyses, participants were asked to indicated whether they had utilized various sources of help via an item which read, “Prior to the counseling you are receiving now have you ever sought help from…”. A list of 4 nonprofessional sources of help followed this prompt and participants had the choice of responding “yes” or “no”. Similarly, a list of 4 professional sources of help followed this same prompt.

In the entire sample, the most frequently cited source of nonprofessional help sought in the past was telephone helplines (N=41, 81%). Responses from rural participants (N=16) suggests they most frequently had utilized telephone helplines (N=15, 93%)and social service agencies (N=13, 86%) and least likely to have utilized church/religious organizations (N=9, 60%) and 12 step groups (N=5, 31%). Urban outpatients (N=34) indicated they most frequently had utilized telephone helplines (N=26, 76%) and social service agencies (N=25, 73%) but had utilized churches/religious

organizations (N=24, 70%) and 12 step groups (N=11, 32%) less frequently. Overall, there were no significant differences in where sources of professional and nonprofessional help utilized between rural and urban participants. See Tables 8 and 9 for descriptives, chi-square and p-values for nonprofessional and professional help utilized, respectively.

To analyze mean differences in the amount of nonprofessional help utilized in the past a Nonprofessional Help Scale (NHS) score was computed by summing affirmative responses to the various sources of nonprofessional help. Scores could range from 0 to 4, with higher scores indicating a greater use of nonprofessional help sources. A Professional Help Seeking score (PHS) was summed in the same fashion for affirmative responses to the various sources of professional help sought in the past. PHS scores could range from 0 to 4 with higher scores indicating a greater use of professional help sources. An independent samples t-test was conducted to determine whether there were rural-urban mean differences in Professional Help Seeking (PHS) scores. Results suggested there were no significant differences between rural (M=1.80, SD=1.32) and urban (M=1.86, SD=1.03) mean PHS scores, $t(48)= -1.70$, $p>.05$. Similarly, there were no significant mean differences between rural (M=1.25, SD=.93) and urban (M=1.56, SD=1.40) Nonprofessional Help Seeking (NHS) scores with $t(48)= -.80$, $p>.05$. Notably, there was a significant correlation between NHS and PHS scores, $r(50)=.54$, $p<.01$.

The researcher hypothesized that predictions about treatment utilization might be improved if the variable “type of help sought” (i.e., professional versus nonprofessional) was regressed with multiple independent variables. However, the results of the present study suggest that a reasonably accurate prediction of professional treatment utilized can

be made about 81% (N=12) of the rural sample and 89% (N=31) of the urban sample. Similarly a reasonably accurate predication can be made about non-professional help given that 94% of both rural (N=14) and urban (N=33) samples indicated they had sought non-professional help. Given the small sample size in the current study regression analysis was unlikely to yield greater predictive utility for the few remaining participants unaccounted for with the current predictions.

Multivariate Analyses

Another major goal of the current research was to examine the effect of rural/urban status and various covariates on the use of professional and nonprofessional treatment. To accomplish this the researcher conducted a series of multivariate analyses. A oneway between-subjects multivariate analysis of variance (MANOVA) was conducted to assess the effects of treatment location on use of professional versus nonprofessional treatment. Two dependent variables (DVs) that measured the type of help sought were used. The overall means, standard deviations, and intercorrelation for the two DVs are presented in Table 12. As reported in the table, the inter-correlations between the DVs were moderate and significant ($p < .001$) which justified the use of MANOVA to reduce the Type-I error rate. Table 13 presents means and standard deviations for the DVs broken-down by treatment location.

Exploratory data analyses failed to detect any significant between group differences for any of the DVs using the 5% level of significance; and Box's *M* test was not significant ($p = .18$), indicating equality of variances- covariances among the two DVs across the levels of the independent variables (IVs). SPSS MANOVA was used for the analyses. Using the Hotelling's T criterion, the combined DVs were not significantly

affected by geographic location, Hotelling's T= .012 $F(2,6) = .283$, $p > .05$. Univariate results were not reviewed considering the absence of main effects in the multivariate analyses. Given the absence of effects in this multivariate analysis further MANOVAs were not conducted.

Qualitative Data

The present study also included an open-ended item, which read, "Was there anything at all that made you feel anxious, worried, or afraid to get help for alcohol and/or drugs on this occasion?" Twenty-seven of the 53 participants responded to this item, yielding a 51% overall response rate. Eight of the 27 responses (30%) to this item came from rural participants for a 47% rural response rate. The remaining 19 responses came from urban outpatients, thus yielding a 53% urban response rate. Responses were analyzed for themes. Multifaceted responses were classified into more than one thematic category as appropriate. Results from the theme analysis are presented below followed by a table of verbatim responses.

Predisposing Factors

Responses from participants in rural treatment centers were not significant for barriers to treatment associated with demographics such as race/ethnicity, age, etc. However, rural and urban outpatients endorsed help-seeking beliefs as being barriers to treatment. For example, one rural participant expressed concern that participating in treatment would result in one being "labeled." Three urban residents expressed anxiety about treatment effectiveness itself. Specifically, one urban outpatient wrote:

"Also I didn't trust the treatment centers as far as their effectiveness."

Enabling Factors

Enabling factors were predominantly endorsed by urban participants. Specifically, data from a few of these participants suggests concern over the effects treatment might have on one's financial security or job status. Data from rural treatment centers did not suggest individual or community enabling factors as a theme for those participants.

Illness Severity/Need Factors

Several urban participant responses suggested that need factors are distressing for these participants. For example, one urban participants wrote, "yes. I was sick of living the same life style and my health is not getting better." Another urban participant simply wrote, "sick and tired of being sick and tired." Data from rural treatment center participants did not fit into this thematic category.

Additional Themes

Approximately 50% of rural responses to this item indicated various forms of confidentiality concerns as reasons that they felt uneasy about getting drug/alcohol treatment on this occasion. Notably, responses suggest participant confidentiality concerns were both macro and micro in that respondents endorsed fear/anxiety about potential negative evaluation (i.e., being "looked down on" or "being labeled") from family, friends, and the larger community. For example, one participant's response suggests she was concerned about the larger community's reaction to her treatment seeking. Specifically, she wrote:

> "Yes. I didn't realize how confidential counseling would be. Thought I may be investigated. Relapse frightens me when I'm done with the program. I figured people would find out about my problem and discriminate against me which I

believe has already happened but I can't prove it."

Another rural participant's response suggested she may have been more concerned about family and friends' reaction to her had she sought treatment. She wrote:

"my biggest fear and concern about attending the methadone clinic was my mom and other members finding out and not knowing how they would react."

Three urban participants also cited confidentiality concerns as being a barrier to treatment. Urban participant confidentiality concerns were also macro and micro as adequately represented by one participant who wrote:"Everyone would know that I was having drinking problems again…"

CHAPTER V SUMMARY, CONCLUSION, AND RECCOMENDATIONS

This study examined potential barriers to drug and alcohol treatment utilization in a sample of rural and urban outpatients by using the Behavioral Model of Health Services Use (1973) as a theoretical guide for data analysis. There was also a largely exploratory component of the research geared toward examining the data analytic impact of differing definitions of "rural" and "urban." It was hypothesized that there would be significant rural-urban differences on key individual variables that predispose one to use treatment, e.g., race/ethnicity and help seeking beliefs. Hypotheses were also made for key factors that enable the use of treatment, namely perceptions of treatment availability and accessibility, income, insurance coverage, and education level. Regarding illness/need factors it was hypothesized that rural outpatients would have higher substance and alcohol dependence scores, but endorse lower levels of problem recognition and thus also report having taken a longer time to get into treatment. Given the expected differences in help-seeking beliefs it was hypothesized that rural and urban outpatients would have utilized nonprofessional help sources differently as well.

The hypotheses about predisposing variables were supported in striking ways. For example, the rural sample was 100% Caucasian as compared to the urban sample which was over 50% African-American, 40% Caucasian, and 10% other/mixed race. Given census statistics from the rural counties sampled a proportionate representation of minorities would be between 6-10% (United States Census Bureau, 2005). There was also a statistically significant 10 year age difference between the rural and urban samples, such that the rural sample was younger. Overall, the demographic make-up of this study's sample are not consistent with regional treatment trends. For example, data from the

Treatment Epidsode Data Set (Office of Applied Statistics, 2008) suggests that 68% of all treatment admissions in Pennsylvania were males which is unlike the sample in this study which was 66% female. Also, this study's sample was much more diverse than data from treatment admissions in Pennsylvania from 2008 which suggests that 79% of all admissions were for Caucasians as compared to 57% for the current study (Office of Applied Statistics, 2008). There is the possibility that the sample from this study represents the demographic makeup of the larger population areas of the region which have been known to consist of pockets of Black and White populations, with smaller numbers of other minority groups. There is also the possibility that women were more likely to complete the survey, and that potential male participants were less likely to participate, given the sensitive nature of the questions. This is consistent with empirical evidence which suggests that gender and sensitivity of research topic impact survey participation rates, however more research is needed on how these factors interact with persons from across the rural/urban continuum (Diaz, Mainous, McCall, & Geesey, 2008). Overall, these findings while striking, are somewhat limited given the small sample size in the current research, as well as the overreliance on methadone clinics in sampling. Nonetheless, the results from the analysis of factors that predispose individuals to seek treatment suggest that men and older adults may be underserved populations in both rural and urban communities as they were underrepresented in our sample. Results also suggest that younger rural substance abusers are receiving help. Moreover, given the disproportionate absence of racial/ethnic minorities in the rural sample for this study, it is likely that minority group membership may serve as a barrier to treatment utilization in rural, but not in urban, communities.

Only one of the hypotheses for enabling variables was supported. Specifically rural outpatients perceived treatment as being less available, but not less accessible than their urban counterparts. There were no rural-urban differences on other factors that enable treatment utilization such as income, education, or insurance coverage. The fact that rural outpatients perceived treatment as less available than urban outpatients is not surprising, given empirical evidence which suggests that there are far fewer per capita treatment facilities available in rural and frontier areas than in urban areas (Office of Applied Statistics, 2002). The lack of rural-urban differences in perceptions of treatment accessibility is somewhat surprising given the intuitive conclusion that less densely populated areas (i.e., rural areas) consist of more wide open spaces that must be traversed in order to physically get to treatment. Moreover, there is research which indicates that the rural healthcare infrastructure lags behind that in urban areas (Center for Rural Pennsylvania, 2003) and that recruitment and retention of qualified providers is also an issue in rural areas (Roehrich, Meil, Semiansky, Davis, and Dunn, 2008)--all of which suggests that perceptions of treatment accessibility would have been poorer in rural areas. However, qualitative data from the current study suggests that urban outpatients may be facing unique access barriers such as poverty, lack of transportation, etc. For example, while rural participants did not endorse *any* enabling factor barriers to treatment on the open-ended item, urban participants endorsed several including concerns over how treatment would impact individual resources such as job security and financial status both of which could potentially serve as access barriers to treatment. In our study, 65% of urban participants endorsed earning less than $10,000/year. These participants may not have available funds to get to treatment or may be preoccupied with resolving day-to-day

living struggles. Given that treatment accessibility was highly correlated with the distance one must travel from home to treatment center, it may be that transportation acts as a barrier to treatment utilization for the urban poor who have fewer miles to travel, but may have less money to get there. It is also possible that rural residents, with a presumed belief on self-reliance, are less likely to endorse having access difficulties as compared to their urban counterparts as this might be admitting limitations to one's self-reliance. Overall, the results from analysis of enabling factors suggest that more research is needed to refine our understanding of treatment availability and treatment accessibility. Also additional research is needed to investigate how these concepts are perceived by rural and urban residents themselves and how those perceptions may be influenced by sociocultural factors such as locus of control, income, etc.

None of the hypotheses regarding illness/need related differences between the rural and urban outpatients were supported which is inconsistent with the most reliable data available. For example, Warner and Leukefeld (2001) found that as compared to their urban counterparts, participants from rural and very rural communities had more problematic addiction histories, but yet endorsed lower problem recognition, especially those from very rural areas. Quantitative results from the present study do not support these differences. In contrast, open-ended responses to the item which prompted participants to reflect on anything that made them anxious about getting treatment suggest that rural and urban participants may in deed have underlying differences in need/illness related barriers to treatment that were not detected by other items on the survey. For example, approximately 15% of urban participants who responded to the open ended item indicated they were most concerned by aspects of their

alcoholism/addiction (i.e., illness/need factors), thus suggesting a level of problem recognition. On the other hand, none of the rural respondents to this item indicated any concern over illness/need related factors. It is possible that more qualitative studies on the recognition of alcoholism/addiction could further elucidate this finding. It's also possible that the psychological instruments were not sensitive enough to detect meaningful differences.

Although there were no significant rural-urban differences in past non-professional help seeking experiences data from the present study support the notion that persons who seek drug treatment most likely have a history of "natural recovery" attempts. In fact, the majority of participants in this study (i.e., 94%) endorsed having sought help from a nonprofessional source making nonprofessional help seeking the most reliable prediction in the current study. Overall, these result suggest that addicted persons have likely tried to recover on their own, potentially with some success and with self-change strategies that may or may not be emphasized in professional treatment. And so its possible that a major " barrier " or deterrent to professional treatment that is rarely discussed is nonprofessional treatment and/or self-changing efforts. Unfortunately, there are very few studies to compare this data to as nonprofessional sources of help and natural recovery are largely taboo topics in addiction research (Chiauzzi & Liljegren, 1993). As in previous analyses, the power to detect meaningful differences on this domain was severely weakened by sample size. Also, nonprofessional help as defined in the current study was limited to a few basic categories. Meaningful differences might have been found if more response categories had been used such as seeking help from a family member, friend, neighbor, key informant in the community, etc. Nonetheless the

implications of these results are promising and support emerging research. For example, in the current study rural outpatients sought help from a family doctor or physician and pastors/religious organizations moreso than their urban counterparts, which suggests that primary care physicians and religious leaders are likely front-line providers for these issues in rural communities. This fact is promising given recent data which suggests an increase in religious establishments throughout rural and urban Pennsylvania (Center for Rural Pennsylvania, 2003).

Finally, exploratory analysis on the impact of defining rural and urban yielded insignificant differences between subjective and an objective classification based upon population density. At the time of this manuscript there are no studies available to elucidate this finding so more research is needed given the small sample herein. Also, the methodology of comparing various definitions of rural and urban should become standard so that research consumers can make better predictions as to the validity of the findings to their local settings.

There are several noteworthy implications from the current study. First, the combined results from the current study suggest that the Behavioral Model of Health Services Use s a valuable theoretical tool to organizing treatment-related information into a conceptually clear and concise theory. However, the theory lacks in its ability to conceptually organize information regarding the use of non-professional help, which appears to be a much more common phenomenon given that less than 10% of those who need professional treatment actually receive it. In other words, the research enterprise might best refocus its energy toward evaluating nonprofessional help sources which appear to be the norm in recovery from drug and alcohol abuse. Regarding implications

for research, the present study suggests the need for a greater collaboration between science and practice. The concerns expressed by several treatment administrators suggest a lack of knowledge and possibly a general distrust of the research enterprise. This suggest that education on the benefits of research, as well as its applicability to practice, might help to facilitate better bridges between academics and practitioners. Finally, the results from this study suggest that practitioners might well assess self-change efforts and/or nonprofessional sources of help patients have utilized so as to better understand the trajectory of their drug abusing and help-seeking.

There are several noteworthy strengths in the current research. First, the research is a novel attempt at working with patients across the rural-urban continuum currently receiving treatment, as opposed to utilizing archival data or captive populations which seem to be the preferred sampling technique in much of the rural/urban substance abuse treatment research. This technique is work-intensive and requires relationship building with various agencies in multiple geographic locations. While the sample is small, this study suggests there are treatment administrators and outpatients willing to engage in the research process and contribute to the bridge between science and practice. Second, this study relies on both qualitative and quantitative data, which yielded complementary results. Third, results from this study demonstrate the importance of methodology when researching rural-urban issues. For example, data was not collected for this study until contact was made with key informants in the community, thus suggesting that “pure” sampling methodologies(e.g., random sampling) might be inappropriate for use with underserved groups, e.g., rural persons and racial/ethnic minorities.

There are also several limitations to the current study. First, the sample size served as a handicap for several analyses. A larger sample size would have yielded an increase in the power to detect borderline significant results and quite possibly larger effect sizes would have been found for analyses that yielded a significant difference. Second, a few of the survey items were not designed in a way that maximized the available data. For example, rather than using closed-ended responses for the question, "how long did it take you to decide to get help?" the researcher might have opted to use open ended responses which would have allowed the use of more sensitive statistical tests as opposed to relying heavily on categorical comparisons. This issue applied to many of the items. Another limitation in the current research is that many of the participants took the survey after dosing methadone, which may have affected their ability to more accurately recall pertinent information. Even so 100% of the participants responded "yes" to the item which asked, "Did you answer all questions as honestly as possible?" Another major limitation in the current study is the lack of a measure of interrater reliability for the open ended item analysis. The process of arriving at a team of raters exceeded the resources for the current project, but this task is detrimental in order to arrive at a more reliable understanding of the data.

Whereas epidemiologic research on substance dependence is replete, there are far fewer studies that examine why so few people across the rural-urban continuum utilize professional treatment. Fortunately, the Health Behavior Model offers a promising way of organizing data; however the model is severely limited in its ability to meaningfully contribute to our knowledge about what factors facilitate or prohibit individuals from engaging in or benefitting from what appears to be the most frequently form of help

substance dependants utilize—nonprofessional help. More research is needed to understand how predisposing, enabling, and need factors impact the use of more broadly defined sources of help so that practitioners can maximize the limited treatment dollars available. Additionally, more research is needed to investigate in what ways, if any, definitions of rural and urban impact data analysis results. For example, the National Survey on Drug Use and Health utilizes a metro/non-metro classification of geographic location that is based upon overall population of a given area and proximity to an urban area. In what ways might the results from these investigations be different if more than one method of classifying *areas* is utilized? The current research suggests that people perceive "rural" and "urban" differently and thus may be influenced to seek treatment in different ways.

Despite the limitations inherent in this study, several conservative recommendations can be made to practitioners and researchers alike, namely that barriers to substance abuse treatment utilization may likely be specific to geographic location. Regarding decreasing barriers to treatment utilization in rural areas, practitioners may want to target rural minorities given their absence in the small sample for this study. Even in racially homogenous environments one might expect a proportionate presence of racial/ethnic minorities in treatment settings. The absence of a proportionate representation possibly suggests a need for specific outreach possibly using key informants such as church leaders, community leaders, etc. The other major barrier to treatment utilization in rural areas is confidentiality concerns which appear to be both macro- and micro-. Given these barriers an initial recommendation is for practitioners to begin investigating an as of yet unexplored service delivery method for treating the rural

substance dependant that can bypass these concerns. One such method is telehealth. Given the large percentage of participants in this study who utilized telephone helplines, telehealth services seem a feasible treatment delivery service worthy of further exploration.

Results from the current study suggest that unlike their rural counterparts, urban participants are confronted with perceived illness severity barriers to treatment. Specifically, qualitative data from the present study suggests that urban residents may perceive their addictions as being more severe to the point they feel it is untreatable or that they do no know how to live without abusive use of substances. Such data suggests that while urban residents are perceiving a need for treatment their actual treatment utilization attempts may be stymied by perceptions that their condition is beyond relief. Therefore, a second recommendation is that practitioners working in urban areas may want to engage in hope-instilling outreach which emphasizes the effectiveness of substance abuse treatment for persons who perceive themselves as being even in severe addiction. A third recommendation gleaned from the current research concerns the importance of building collaborative relationships with rural substance abuse treatment centers. This recommendation is based in the great difficulty the experiment experienced in obtaining a rural sample for the present study. Rural outpatient service providers should be sought out by researchers, not just for data contribution purposes, but in the general interest of forging collaborative, mutually beneficial relationships.

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Table 1.

Perception of Geographic Location

Variable	Very Rural (n= 6)	Rural (n=12)	Suburban (n=11)	Urban (n=13)	Very Urban (n= 7)	Total
Rural Treatment Center Clients (n=15)	20%	40%	27%	13%	-	100%
Urban Treatment Center Clients (n=34)	9%	18%	21%	32%	21%	100%
Total	6	12	11	13	7	Grand total= 49

Table 2
Predisposing Characteristics of a Rural and Urban Treatment Center Sample

Variables	Rural (n= 15)	Urban (n=34)	df	Total (N = 49) X^2 or t	Sig.
Gender					
Male	33%	35%	1	.02	.89
Race/ethnicity			3	16.97	.00
Black/African American	-	57%			
Asian/Asian American	-	3%			
White/Caucasian	100%	37%			
Hispanic/Latino	-	-			
Mixed race/ethnicity	-	3%			
Average age (range: 22 – 68)	33	44			
(median age)	(31)	(47)		-2.97	.01
Living situation			4	6.49	.17
Apartment rental	40%	44%			
House/trailer rental	-	<1%			
Own home	13%	-			
Friends/family	33%	26%			
No permanent living situation	14%	26%			
Marital Status			3	6.99	.07
Married	20%	3%			
Single	53%	80%			
Partnered	20%	6%			
Divorced	7%	12%			
Average number of occupants in household	2.7	2.6	-	.180	.86
Sexuality			3	3.68	.30
Heterosexual	82%	60%			
Homosexual	6%	9%			
Bisexual	6%	3%			
Not sexually active	6%	29%			
Attitude Toward Seeking Psychological Help Score	M=22.76 (3.36)	M= 21.97 (5.43)	49	.55	.58
Subjective rating of counseling effectiveness	M= 2.53 (.87)	M= 2.01 (1.03)	49	1.63	.11

Table 3.
Rural-Urban Differences in Help-Seeking Experiences

Variable	Rural (N=15)	Urban (N=35)	X^2	(p-value)
"How many times have you sought counseling for drugs and/or alcohol			.50	.48
First time	19%	11%		
Repeat	81%	89%		
"How many times have you sought counseling at this agency?"			2.97	.23
First time in counseling at this agency	44%	60%		
Repeat at this agency	56%	40%		
How many weeks in counseling at this agency?	M= 7.3	M = 7.1	.55	.58

Table. 4
Selected Enabling Factors of a Rural and Urban Outpatient Sample

Variables	Rural (n= 15)	Urban (n=34)	Total (N = 49) df	X^2 or t	Sig.
Highest grade completed			5	3.38	.07
Less than HS	7%	9%			
High school	29%	51%			
Trade/2 year	43 %	37%			
Four year college	21%	3%			
Master's degree	-	-			
Post master's	-	-			
Household income					
Less than $10,000	40%	65%	5	5.85	.32
$10,000 - $20,000	13%	18%			
$20,000 - $30,000	7%	3%			
$30,000 - $40,000	13%	9%			
$40,000 - $50,000	20%	3%			
$50,000 +	7%	3%			
Insurance Coverage	75%	80%	1	.475	.69
Mean Availability Score	8.18	11.63	50	-4.37	.00
Mean Accessibility Score	14.18	12.11	50	1.89	.07

Table 5.
Correlations Between Perception of Availability Scale (PAS) Items

Item	1	2	3	4
1. PAS Total Score	--			
2. There are several drug and/or alcohol treatment agencies in my city or town	.75**	--		
3. There are several 12-step meetings available in my city or town.	.85**	.45**	---	
4. It is easy to get treatment for drug/alcohol problems in my city/town.	.80**	.39**	.55**	--

** p<.01

Table 6.
Correlations Between Perception of Accessibility Scale (PAcS) Items

Item	1	2	3	4	5
1. PAcS Total Score	-				
2. How many miles do you travel to get to drug and alcohol treatment?	.51**	-			
3. How long does it take to get from home to treatment?	.70**	.31*	-		
4. What mode of transportation do you use to get to treatment (0=no reliable, 1=reliable transportation)	.61**	.17	.49**	-	
5. How long did you have to wait to get treatment?	.39**	-.10	-.09	-.07	-

* p<.05
** p<.01

Table 7.
Illness/Need Related Variables in a Rural and Urban Outpatient Sample

Variable	Total	Rural	Urban	df	t	p-value
Mean ADS score	9.47 (9.78)	7.53 (6.68)	10.97 (10.56)	49	1.22	.23
Mean SDS score	12.21 (2.65)	12.35 (3.29)	12.14 (2.61)	49	.27	.79
Mean problem recognition score	55.65 (9.71)	54.50 (9.21)	56.17 (9.83)	49	.32	.57
Subjective alcohol dependency rating	1.60 (1.32)	1.41 (1.06)	1.68 (1.44)	47	-.69	.49
Subjective substance dependency rating	3.63 (1.05)	3.71 (.98)	3.60 (1.09)	50	.33	.74

Table 8.

Professional Treatment Utilization in a Sample of Rural and Urban Outpatients

Treatment Source	Total	Rural	Urban	X^2	P-value
Family doctor another physician	56%	40%	64%	2.34	.13
Hospital emergency room	34%	47%	29%	1.53	.27
Jail/prison treatment center	58%	64%	56%	.61	.74
Other agency	43%	44%	41%	.03	.86

Table 9.
Nonprofessional Treatment Utilization in a Sample of Rural and Urban Outpatients

Treatment Source	Total (N=50)	Rural (N=16)	Urban (N=34)	X^2	P value
AA/NA or other 12 step group	32%	31%	32%	.01	.94
church, pastor, or religious organization	67%	60%	70%	1.14	.57*
social service agency	77%	86%	73%	1.10	.58*
telephone helpline	81%	93%	76%	1.92	.33

* 50% or more of cells have expected counts less than 5

Table 10.
Rural and Urban Outpatients' Verbatim Endorsement of Predisposing, Enabling, and Illness/Need Barriers to Treatment

Theme	Rural	Urban
Predisposing Barriers		
Demographic Factors	None	None
Help-seeking beliefs	"In asking 4 help that means I am admitting 2 a problem which means people could then label me"	"Also I didn't trust the treatment centers as far as their effectiveness." "I didn't think it would work. I've tried everything else (multiple times) and it failed." "yeah these people want you to catar to them"
Enabling Barriers		
Individual resources	None	"Afraid I might lose my job. No insurance. Welfare for single woman no children insurance is limited." "The possibility of being homeless; not wanting to go through another treatment facility; not wanting to be around other addicts; afraid it wouldn't work; afraid of lost time or losing time."
Community Resources	None	None
Illness/Need Barriers		
	"fear of not knowing how to live sober. "	"yes I was unsure after coming to treatment if I actually wanted treatment. But learning the different feelings early on and that they are feelings and will pass made my stay accepting. " "sick and tired of being sick and tired" "I was scared to let go of the drug I did not want to go through the sickness" "yes. I was sick of living the same life style and my health is not getting better"

Table 11
Additional Themes on Potential Barriers to Treatment from a Sample of Rural and Urban Outpatients

Theme	Rural	Urban
Confidentiality		
	"yes. I didn't realize how confidential counseling would be. Thought I may be investigated. Relapse frightens me when I'm done with the program. I figured people would find out about my problem and discriminate against me which I believe has already happened but I can't prove it."	"Everyone would know that I was having drinking problems again…"
		"I was afraid of what people would say and think. My ego was in the way because I had eight years clean and relapsed."
		"Not me but my fiance was afraid to get treatment because her mother still paid for health insurance and she was afraid that she might find out"
	"my biggest fear and concern about attending the methadone clinic was my mom and other family members finding out and not knowing how they would react."	
	"To be looked down on."	
Miscellaneous	"mental health; Just the system a vicious cycle meds and things that I have found are not necessary to get better. I am no longer on any meds for depression or anxiety. "	"I have been worried about getting the correct amount of medication due to my amount of use before coming and currently still am."
		"just doing it"
		"very time consuming at this place, besides counseling and group they want you to go to other places for help and that's very consuming to me"
		"Not being with my son"

Table 12

Means, Standard Deviations, and Intercorrelation for Dependent Variables

			Pearson's Correlations	
Type of Help Sought	*M*	*SD*	1	2
1. Nonprofessional (NHS)	1.50	1.27	1.00	.54
2. Professional (PHS)	1.84	1.11		

Table 13

Type of Help Sought Means and Standard Deviations by Rural and Urban Treatment Location

Group		Type of Help Sought	
		NPHS	PHS
Rural	*M*	1.27	1.80
	SD	.96	1.32
Urban	*M*	1.56	1.88
	SD	1.34	1.04

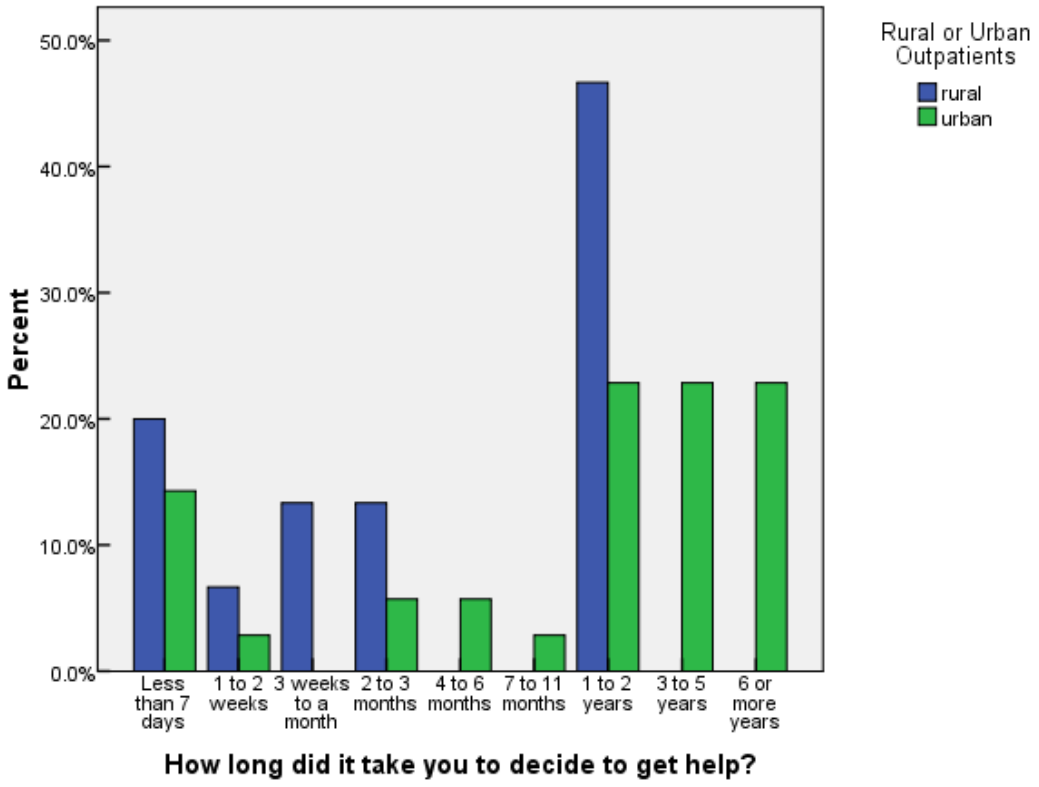

Figure 1. Rural and urban outpatients' self-reported time taken to seek treatment after realization of a problem.

Appendix A

The Substance Abuse Treatment Survey

INTRODUCTION

Thank-you for agreeing to take our survey! Your answers are very important to us because they will help us understand more about your experiences as a client receiving substance abuse treatment services in the state of Pennsylvania.

There are six brief sections to this survey:

1. Where Have You Turned for Help?
2. How Much Did You Drink Before You Came to Counseling?
3. How Do You Feel About Counseling?
4. What Are Your Thoughts About the Treatment You're Getting Now?
5. What Are Your Thoughts About Addiction?
6. Did Anything Get in the Way of You Getting Treatment?

In addition to these six sections, there is also a brief section where you can provide us with background information about who you are. REMEMBER: All of your responses are private and will never be associated with your name. As such, feel free to be as honest as possible.

BEFORE YOU BEGIN

Completing this survey should be fairly easy, but here are a few things to remember:

1. Do not write your name anywhere on the survey.
2. Please read the instructions at the beginning of each section.
3. Once you have completed the survey write down the survey ID number on your verification form.
4. Seal the survey in the postage paid envelope marked SURVEY
5. Fill out the verification form and seal it in the postage paid envelope marked VERIFICATION.

Where Have You Turned For Help?

Directions:

1. The following questions ask you to recall where you have turned to for help in dealing with alcohol and/or drug problems.
2. Carefully read each question and the possible answers provided. Answer each question by circling the ONE choice that is true for you.
3. Answer all questions as honestly as possible.

1. Thinking back to the first time you realized you needed treatment for alcohol and/or drugs, how long did it take you to decide to get help?

A. less than 7 days
B. 1 to 2 weeks
C. 3 weeks to a month
D. 2 to 3 months
E. 4 to 6 months
F. 7 to 11 months
G. 1 to 2 years
H. 3 to 5 years
I. 6 or more years

2. How many times have you received counseling for alcohol and/or drugs?

A. This is my first time in counseling for alcohol and/or drugs.

B. This is not my first time in counseling for alcohol and/or drugs.

3. How many weeks have you been getting counseling for alcohol and/or drugs at this agency?

A. 1 week or less
B. 2 weeks
C. 3 weeks
D. 4 weeks
E. 5 weeks
F. 6 weeks
G. 7 weeks
H. 8 weeks or more

4. How many times have you received counseling for alcohol and/or drugs at this agency?

A. This is my first time in counseling for alcohol and/or drugs at this agency.

B. I have received alcohol and/or drug counseling at this agency a few times.

C. I have received alcohol and/or drug counseling at this agency several times.

Prior to the counseling you are receiving now, have you EVER sought help for alcohol or drug problems:

3. from this agency before?	Yes	No
4. from your family doctor or another physician?	Yes	No
5. at a hospital emergency room?	Yes	No
6. at an AA, NA, or another 12 step group meeting?	Yes	No
7. from a church, pastor, or religious organization?	Yes	No
8. from a social service agency (e.g., CYS, DFS)?	Yes	No
9. from a telephone hotline?	Yes	No
10. from a prison/jail treatment center?	Yes	No
11. from another agency that helps people with alcohol/ drug problems that is not listed above?	Yes	No

12. Was there anything at all that made you feel anxious, worried, or afraid to get help for alcohol and/or drugs on this occasion? (Please write your remarks in the space below)

HOW MUCH DID YOU DRINK BEFORE YOU STARTED COUNSELING?

Directions:

1. The following questions ask about your alcohol intake **during the 30 days before you began counseling at this agency**.
2. Carefully read each question and the possible answers provided. Answer each question by circling the ONE choice that is true for you. If none of the answers is an exact fit, choose the ONE that best represents your answer.
3. Answer all questions as honestly as possible. If you do not understand a question give it your best guess.

During the 30 days before you began counseling…

1. How much did you drink drink?
   a. Enough to get high or less
   b. Enough to get drunk
   c. Enough to pass out

2. Did you often have hangovers on Sunday or Monday mornings?
   a. No
   b. Yes

5. Did you have "DTs" (delirium tremens)- that is, seen, felt, or heard things not really there; felt very anxious, restless, and over excited?
   a. No
   b. Sometimes
   c. Several times

6. When you drank, did you stumble about, stagger, and weave?
   a. No
   b. Sometimes
   c. Often

7. As a result of drinking, did you feel

3. Did you have the "shakes" when sobering up (hands tremble, shake inside)?

a. no
b. Sometimes
c. Often

4. Did you get physically sick (e.g., vomit, stomach cramps) as a result of drinking?

a. No
b. Sometimes
c. Almost everytime I drink

overly hot and sweaty (feverish)?

a. No
b. Once
c. Several times

8. As a result of drinking, have you seen things that were not really there?

a. No
b. Once
c. Several times

During the 30 days before you began counseling…

9. Did you panic because you feared you may not have a drink when you needed it?

a. No
b. Yes

10. Did you had blackouts ("loss of memory" without passing out) as a result of drinking?

a. No, never
b. Sometimes
c. Often
d. Almost every time I drink

11. Did you carry a bottle with you or keep one close at hand?

a. No

14. Did you had a convulsion (fit) following a period of drinking?

a. No
b. Yes

15. Did you drink throughout the day?

a. No
b. Yes

16. After drinking heavily, was your thinking fuzzy or unclear?

b. Some of the time

c. Most of the time

a. No

b. Yes, but only for a few hours

c. Yes, for one or two days

d. Yes, for many days

12. After a period of abstinence (not drinking), did you end up drinking heavily again?

a. No

b. Sometimes

c. Almost every time I drink

17. Did you feel your heart beating rapidly?

a. No

b. Yes

c. Several times

13. During the 30 days before you got counseling,

did you passed out as a result of drinking?

a. No

b. Once

c. More than once

18. Did you almost constantly think about drinking and alcohol?

a. No

b. Yes

During the 30 days before you began counseling…

19. Did you hear "things" that were not really there?

a. No

b. Yes

c. Several times

20. Did you have weird and frightening sensations when drinking?

a. No

b. Once or twice

c. Often

21. Did you have "feel things" crawling on you that were not really there (e.g., bugs, spiders)?

a. No

b. Yes

c. Several times

22. With respect to blackouts (loss of memory):

a. Have never had a blackout

b. Have had blackouts that last less than an hour

c. Have had blackouts that last for several hours

24. Did you gulp drinks (drink quickly)?

a. No

b. yes

25. After taking one or two drinks, could you usually stop?

a. Yes

b. No

26. Thinking back to the 30 days before began counseling at this agency, how severe (i.e., bad) was your addiction to alcohol?

a. I did not drink alcohol at all.

b. I drank but I was not addicted.

c. I was only slightly addicted to alcohol.

d. I was somewhat addicted to alcohol.

e. I was severely addicted to alcohol.

d. Have had blackouts that last a day or more

23. Have you tried to cut down on your drinking and failed.

a. No

b. Once

c. Several times

TELL US ABOUT YOUR DRUG USE

Directions:

1. Carefully read each question and the possible answers provided. Answer each question by circling the ONE choice that is true for you.
2. Answer all questions as honestly as possible.

Prior to coming to treatment, which drug did you use **MOST**? Please circle the ONE answer that best fits.

a. Cocaine/Crack

b. Marijuana/Hash

c. Methamphetamine/ Crystal meth

d. Heroin

e. Prescription painkiller (Example: OxyContin)

f. Ecstacy

g. Inhalants (Example: glue, gasoline, etc.)

h. I used multiple drugs often.

i. I used a drug that is not listed here. Please specify the drug: _____

j. I did not use drugs at all.

	Never/ Almost Never	Sometimes	Often	Always/ Nearly/Always
2. Do you think your drug use was out of control?	0	1	2	3
3. Did the prospect of missing a fix (or dose) make you worried?	0	1	2	3

4. Did you worry about your drug use?	0	1	2	3
5. Did you wish you could stop?	0	1	2	3
6. How difficult did you find it to go without the drug you used most?	0	1	2	3

7. Have you ever used the drug derbisol?

a. I have never used derbisol

b. I may have used derbisol.

c. I am certain I used derbisol

8. Thinking back to the 30 days before you entered treatment at this agency, how severe (i.e., bad) was your addiction to drugs?

a. I did not use drugs at all.

b. I used drugs but I do not think I was addicted.

c. I feel that I was only slightly addicted to drug(s).

d. I feel that I was somewhat addicted to drug(s).

e. I feel that I was severely addicted to drugs.

HOW DO YOU FEEL ABOUT COUNSELING?

Directions:
1. Please respond to the following items according to your own true feelings. Please use the response format of

3 = agree
2 =partly agree
1 = partly disagree
0 = disagree

1. If I believed I was having a mental breakdown, my first inclination would be to get professional attention.

0 Disagree 1 Partly Disagree 2 Partly Agree 3 Agree

2. The idea of talking about problems with a counselor strikes me as a poor way to get rid of emotional conflicts.

0 Disagree 1 Partly Disagree 2 Partly Agree 3 Agree

3. If I were experiencing a serious emotional crisis at this point in my life, I would be confident that I could find relief in counseling.

0 Disagree 1 Partly Disagree 2 Partly Agree 3 Agree

4. There is something admirable in the attitude of a person who is willing to cope with his or her conflicts *without* resorting to professional help.

0 Disagree 1 Partly Disagree 2 Partly Agree 3 Agree

5. I would want to get counseling if I were worried or upset for a long period of time.

0 Disagree 1 Partly Disagree 2 Partly Agree 3 Agree

6. I might want to have counseling in the future.

0	1	2	3
Disagree	Partly Disagree	Partly Agree	Agree

7. A person with an emotional problem is not likely to solve it alone; he or she *is* likely to solve it with professional help.

0	1	2	3
Disagree	Partly Disagree	Partly Agree	Agree

8. Considering the time and expense involved in counseling, it would have doubtful value for a person like me.

0	1	2	3
Disagree	Partly Disagree	Partly Agree	Agree

9. A person should work out his or her own problems; getting counseling would be a last resort.

0	1	2	3
Disagree	Partly Disagree	Partly Agree	Agree

10. Personal and emotional troubles, like many things, tend to work out by themselves.

0	1	2	3
Disagree	Partly Disagree	Partly Agree	Agree

11. Overall, I do not believe that counseling for alcohol/drug problems works.

0	1	2	3
Disagree	Partly Disagree	Partly Agree	Agree

TELL US YOUR THOUGHTS ABOUT TREATMENT

Directions:

1. Carefully read each question and the possible answers provided. Answer each question by circling the ONE choice that is true for you.
2. Answer all questions as honestly as possible.

1. How did you find out about the treatment agency where you are currently getting treatment?

a. Family doctor
b. County worker/social worker
c. Lawyer
d. Friend
e. Family member
f. Telephone book
g. Previous experience
h. Probation officer
i. Advertisement
g. Other (Please specify): _____

2. How many miles do you travel to get treatment at this agency?

a. less than 1 mile
b. 1 to 2 miles
c. 3 to 5 miles
d. 6 to 10 miles
e. 11 to 15 miles
f. 16 to 20 miles
g. 21 to 25 miles
h. 26 or more miles

3. How do you normally get to this agency?

a. I drive my own car.
b. A friend or family member brings me in their car.
e. I take the subway
f. I walk

c. I take the bus.

d. I ride a taxi

g. I use more than one mode of transportation

4. On average, how long does it take you to get to the outpatient treatment facility from your home using the mode of transportation you chose in number 3?

a. Less than 10 minutes

b. 11 to 20 minutes

c. 21 to 30 minutes

d. 31 to 45 minutes

e. 46 minutes to 1 hour

f. more than an hour

5. There are several agencies in my city/town that help people who have problems with alcohol/drugs.

1	2	3	4	5
Strongly Agree	Agree	No opinion	Disagree	Strongly Disagree

6. As far as I know, there are more than enough 12 step meetings such as AA and NA in the area where I live.

1	2	3	4	5
Strongly Agree	Agree	No opinion	Disagree	Strongly Disagree

7. It is easy to get treatment for alcohol or drug problems in my city/town.

1	2	3	4	5
Strongly Agree	Agree	No opinion	Disagree	Strongly Disagree

8. Some agencies have waiting lists for treatment. Waiting lists are the number of days clients are told they must wait until they begin treatment. Thinking back to when you first contacted this agency, about how long did you have to wait until you began treatment?

a. Less than 1 week

b. 7 to 13 days

c. 14 to 20 days

d. 21 to 27 days

e. about one month

f. 1 to 2 months

g. 3 to 6 months

h. 7 months to a year

WHAT ARE YOUR THOUGHTS ABOUT ADDICTION?

Directions:

1. Please respond to the following items according to your own true feelings about your drinking and drug use.

2. Using the scale below, circle the ONE number that best describes how you feel about your alcohol/drug use.

Disagree Strongly			Not Sure			Agree Strongly
1	2	3	4	5	6	7

1. Your alcohol/drug use is a problem for you

Disagree Strongly			Not Sure			Agree Strongly
1	2	3	4	5	6	7

2. Your alcohol/drug use was more trouble than it was worth.

Disagree Strongly			Not Sure			Agree Strongly
1	2	3	4	5	6	7

3. Your alcohol/drug problems caused problems with the law.

Disagree Strongly			Not Sure			Agree Strongly
1	2	3	4	5	6	7

4. Your alcohol/drug use caused problems in thinking or doing your work.

Disagree			Not			Agree

Strongly			Sure			Strongly
1	2	3	4	5	6	7

5. Your alcohol/drug use caused problems with family or friends.

Disagree Strongly			Not Sure			Agree Strongly
1	2	3	4	5	6	7

6. Your alcohol/drug use caused problems in finding or keeping a job.

Disagree Strongly			Not Sure			Agree Strongly
1	2	3	4	5	6	7

7. Your alcohol/drug use caused problems with your health?

Disagree Strongly			Not Sure			Agree Strongly
1	2	3	4	5	6	7

8. Your alcohol/drug use caused your life to become worse and worse.

Disagree Strongly			Not Sure			Agree Strongly
1	2	3	4	5	6	7

9. Your alcohol/drug use was going to cause your death if you did not quit.

Disagree Strongly			Not Sure			Agree Strongly
1	2	3	4	5	6	7

COMMON CONCERNS PEOPLE HAVE

Directions

1. Thinking back to when you first decided to get treatment for alcohol or drug use what were some of the concerns you had that may have made it difficult for you to get treatment?

2. Using the scale below, circle the answer that best describes how concerned you were about each of the common reasons people have for NOT wanting to get treatment.

0	1	2
I was not concerned about this at all	I was somewhat concerned about this	I was very concerned about this

	I was NOT concerned about this at all	I was SOMEWHAT concerned about this	I was VERY concerned about this
How much did this concern you?			
1. It would be difficult to find transportation to and from treatment	**0**	**1**	**2**
2. I did not know where to go for help with my alcohol or drug problem.	**0**	**1**	**2**
3. I don't believe that therapy or counseling works for alcohol or drug problems.	**0**	**1**	**2**
4. I did not have health insurance.	**0**	**1**	**2**
5. I didn't know about any alcohol or drug treatment facilities in my area.	**0**	**1**	**2**
6. I don't like talking about feelings.	**0**	**1**	**2**
7. I'm embarrassed at needing help for my alcohol/drug use.	**0**	**1**	**2**
8. I did not want anyone I know	**0**	**1**	**2**

to see me going to get treatment.

9. I'm embarrassed at needing help for alcohol or drug use.	**0**	**1**	**2**
10. I did not have a babysitter.	**0**	**1**	**2**

GENERAL INFORMATION

Directions:

1. Carefully read each question and the possible answers provided. Answer each question by circling the **ONE** choice that is true for you.
2. Answer all questions as honestly as possible.

1. What is your gender?
    a. Male
    b. Female

2. What is your race/ethnicity?
    a. Black or African-American
    b. Asian or Asian-American
    c.Caucasian/White
    d. Hispanic/Latino
    e. Native American
    f. Mixed race/ethnicity

3. What is your highest level of education **completed**?
    a.Less than high school
    b.High school
    c.Trade school/Two year college (community college)
    d.Four year college

e.Graduate school (Master's degree)

f.Graduate school (Post-Master's)

4. How many months during the past year (12 months) did you work?

   a. 1 to 3 months

   b. 4 to 6 months

   c. 7 to 9 months

   d. 10 to 12 months

   e. I did not work

5. How old are you? (Please write your age in years): _____

6. Describe your living situation for MOST of the past 12 months. (Please circle ONLY one answer)

   a. I rented an apartment or townhouse

   b. I rented a house or trailer

   c. I lived in a house that I own

   d. I lived with friends or family

   e. I did not have a permanent living situation

7. How many people lived in the place where you resided MOST over the last twelve months? _____

8. How much was your household income over the last twelve months

   a. Less than $10,000

   b.$10,000 to $20,000

   c. $20,000 to $30,000

   d. $30,000 to $40,000

   e. $40,000 to $50,000

   f. $50,000 and above

9. Are you currently:

a. Married

b. Single

c. Partnered

d. Divorced

10. How would you describe your sexuality?

a. I have sex with members of the opposite sex.

b. I have sex with members of the same sex.

c. I have sex with both men and women.

d. I have not been sexually active.

11. How would you describe the area where you lived the most over the past 12 months? : (Please circle the best response)

a.Very Rural

b. Rural

c. Suburban

d. Urban

12. What **county** and state did you live in the most during the last 12 months?

County: _____

State: _____

13. Did you answer all the questions on this survey? Yes No

14. Did you answer all questions as honestly as possible? Yes No

THANK YOU FOR COMPLETING OUR SURVEY!

APPENDIX B

Attitudes Toward Seeking Psychological Help Scale

1. If I believed I was having a mental breakdown, my first inclination would be to get professional attention.

0	1	2	3
Disagree	Partly Disagree	Partly Agree	Agree

2. The idea of talking about problems with a counselor strikes me as a poor way to get rid of emotional conflicts.

0	1	2	3
Disagree	Partly Disagree	Partly Agree	Agree

3. If I were experiencing a serious emotional crisis at this point in my life, I would be confident that I could find relief in counseling.

0	1	2	3
Disagree	Partly Disagree	Partly Agree	Agree

4. There is something admirable in the attitude of a person who is willing to cope with his or her conflicts *without* resorting to professional help.

0	1	2	3
Disagree	Partly Disagree	Partly Agree	Agree

5. I would want to get counseling if I were worried or upset for a long period of time.

0	1	2	3
Disagree	Partly Disagree	Partly Agree	Agree

6. I might want to have counseling in the future.

0	1	2	3
Disagree	Partly Disagree	Partly Agree	Agree

7. A person with an emotional problem is not likely to solve it alone; he or she *is* likely to solve it with professional help.

0	1	2	3
Disagree	Partly Disagree	Partly Agree	Agree

8. Considering the time and expense involved in counseling, it would have doubtful value for a person like me.

0	1	2	3
Disagree	Partly Disagree	Partly Agree	Agree

9. A person should work out his or her own problems; getting counseling would be a last resort.

0	1	2	3
Disagree	Partly Disagree	Partly Agree	Agree

10. Personal and emotional troubles, like many things, tend to work out by themselves.

0	1	2	3
Disagree	Partly Disagree	Partly Agree	Agree

APPENDIX C

Alcohol Dependence Scale

1. How much did you drink drink?
   a. Enough to get high or less
   b. Enough to get drunk
   c. Enough to pass out

2. Did you often have hangovers on Sunday or
   Monday mornings?
   a. No
   b. Yes

3. Did you have the “shakes” when sobering up
   (hands tremble, shake inside)?
   a. no
   b. Sometimes
   c. Often

4. Did you get physically sick (e.g., vomit,
   stomach cramps) as a result of drinking?
   a. No
   b. Sometimes
   c. Almost everytime I drink

5. Did you have “DTs” (delirium tremens)- that is,
   seen, felt, or heard things not really there; felt
   very anxious, restless, and over excited?
   a. No
   b. Sometimes
   c. Several times

6. When you drank, did you stumble about, stagger,
   and weave?
   a. No
   b. Sometimes
   c. Often

7. As a result of drinking, did you feel overly hot
   and sweaty (feverish)?
   a. No
   b. Once
   c. Several times

8. As a result of drinking, have you seen things that
   were not really there?
   a. No
   b. Once
   c. Several times

9. Did you panic because you feared you may not have a drink when you needed it?
   a. No
   b. Yes

10. Did you had blackouts ("loss of memory" without passing out) as a result of drinking?
   a. No, never
   b. Sometimes
   c. Often
   d. Almost every time I drink

11. Did you carry a bottle with you or keep one close at hand?
   a. No
   b. Some of the time
   c. Most of the time

12. After a period of abstinence (not drinking), did you end up drinking heavily again?
   a. No
   b. Sometimes
   c. Almost every time I drink

14. Did you had a convulsion (fit) following a period of drinking?
   a. No
   b. Yes

15. Did you drink throughout the day?
   a. No
   b. Yes

16. After drinking heavily, was your thinking fuzzy or unclear?
   a. No
   b. Yes, but only for a few hours
   c. Yes, for one or two days
   d. Yes, for many days

17. Did you feel your heart beating rapidly?
   a. No
   b. Yes
   c. Several times

13. During the 30 days before you got counseling,

did you passed out as a result of drinking?

a. No

b. Once

c. More than once

18. Did you almost constantly think about drinking and alcohol?

a. No

b. Yes

19. Did you hear "things" that were not really there?

a. No

b. Yes

c. Several times

24. Did you gulp drinks (drink quickly)?

a. No

b. yes

20. Did you have weird and frightening sensations when drinking?

a. No

b. Once or twice

c. Often

25. After taking one or two drinks, could you usually stop?

a. Yes

b. No

21. Did you have "feel things" crawling on you that were not really there (e.g., bugs, spiders)?

a. No

b. Yes

c. Several times

26. Thinking back to the 30 days before began counseling at this agency, how severe (i.e., bad) was your addiction to alcohol?

a. I did not drink alcohol at all.

b. I drank but I was not addicted.

c. I was only slightly addicted to alcohol.

d. I was somewhat addicted to alcohol.

e. I was severely addicted to alcohol.

22. With respect to blackouts (loss of memory):

a. Have never had a blackout

b. Have had blackouts that last less than an hour

c. Have had blackouts that last for several hours

d. Have had blackouts that last a day or more

23. Have you tried to cut down on your drinking and failed.

a. No

b. Once

c. Several times

APPENDIX D

Substance Dependence Scale

	Never/ Almost Never	Sometimes	Often	Always/ Nearly Always
1. Do you think your drug use was out of control?	0	1	2	3
2. Did the prospect of missing a fix (or dose) make you worried?	0	1	2	3
3. Did you worry about your drug use?	0	1	2	3
4. Did you wish you could stop?	0	1	2	3
5. How difficult did you find it to go without the drug you used most?	0	1	2	3

APPENDIX E

Texas Christian University Treatment Motivation Scales—Problem Recognition Subscale

1. Your alcohol/drug use is a problem for you

Disagree Strongly			Not Sure			Agree Strongly
1	2	3	4	5	6	7

2. Your alcohol/drug use was more trouble than it was worth.

Disagree Strongly			Not Sure			Agree Strongly
1	2	3	4	5	6	7

3. Your alcohol/drug problems caused problems with the law.

Disagree Strongly			Not Sure			Agree Strongly
1	2	3	4	5	6	7

4. Your alcohol/drug use caused problems in thinking or doing your work.

Disagree Strongly			Not Sure			Agree Strongly
1	2	3	4	5	6	7

5. Your alcohol/drug use caused problems with family or friends.

Disagree Strongly			Not Sure			Agree Strongly
1	2	3	4	5	6	7

6. Your alcohol/drug use caused problems in finding or keeping a job.

Disagree Strongly			Not Sure			Agree Strongly
1	2	3	4	5	6	7

7. Your alcohol/drug use caused problems with your health?

Disagree Strongly			Not Sure			Agree Strongly
1	2	3	4	5	6	7

8. Your alcohol/drug use caused your life to become worse and worse.

Disagree Strongly			Not Sure			Agree Strongly
1	2	3	4	5	6	7

9. Your alcohol/drug use was going to cause your death if you did not quit.

Disagree Strongly			Not Sure			Agree Strongly
1	2	3	4	5	6	7

APPENDIX F

VERBATIM RESPONSES TO OPEN ENDED ITEM

1. Afraid I might lose my job. No insurance. Welfare for single woman no children insurance is limited.

2. Not being with my son

3. yes. I was sick of living the same life style and my health is not getting better.

4. Everyone would know that I was having drinking problems again. Also I didn't trust the treatment centers as far as their effectiveness.

5. yes I was unsure after coming to treatment if I actually wanted treatment. But learning the different feelings early on and that they are feelings and will pass made my stay accepting.

6. The possibility of being homeless; not wanting to go through another treatment facility; not wanting to be around other addicts; afraid it wouldn't work; afraid of lost time or losing time.

7. I am homeless, not sure I'll have a place to return to.

8. yes repercussions from CYF; fear of letting them know I relapsed.

9. I was afraid of what people would say and think. My ego was in the way because I had eight years clean and relapsed.

10. I was ashamed to reach out for help so I kept on drinking until I had to go to Jail and through Jail I got help and some recovery and I went to pyramid from pyramid in came to power for more structure

11. Just the idea of failure. I think that held me back several times. I remember wanting it so bad and being so afraid of letting myself and others down. "Failure" played a big role in my seeking treatment*

12. mental health; Just the system a vicious cycle meds and things that I have found are not necessary to get better. I am no longer on any meds for depression or anxiety. *

13. yes. I didn't realize how confidential counseling would be. Thought I may be investigated. Relapse frightens me when I'm done with the program. I figured people would find out about my problem and discriminate against me which I believe has already happened but I can't prove it. *

14. fear of not knowing how to live sober. *

15. my biggest fear and concern about attending the methadone clinic was my mom and other family members finding out and not knowing how they would react. *

16. To be looked down on. *

17. waking my mom hoping she had the money to get me well. Going to certain people who had benzos getting there and they are gone. *

18. In asking 4 help that means I am admitting 2 a problem which means people could then label me*

19. I have been worried about getting the correct amount of medication due to my amount of use before coming and currently still am.

20. just doing it

21. very time consuming at this place, besides counseling and group they want you to go to other places for help and that's very consuming to me

22. I didn't think it would work. I've tried everything else (multiple times) and it failed.

23. sick and tired of being sick and tired

24. yeah these people want you to catar to them

25. Just knowing I had to get right for the next day

26. Not me but my fiance was afrraid to get treatment because her mother still paid for health insurance and she was afraid that she might find out

27. I was scared to let go of the drug I did not want to go through the sickness

* denotes rural participant response