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EXPLORING UNMET NEEDS AND BARRIERS TO PSYCHOLOGICAL AND BEHAVIORAL
HEALTH SERVICES IN RURAL APPALACHIA

A Dissertation submitted to
the Graduate College of
Marshall University

In partial fulfillment of
the requirements for the degree of
Doctor of Psychology
Marshall University Psy.D. Program

By
Sarah Rachel Jarvis, M.A.

Approved by
Pamela Mulder, Ph.D., Committee Chairperson

Keith Beard, Psy.D.

Chris Legrow, Ph.D.

Marshall University

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Abstract

Residents living in rural communities face many challenges, one of which is the need for adequate mental health services. Various factors including accessibility, quality, and social stigma often impact an individual's decision to seek services, especially when they are related to psychological distress. This project highlights the characteristics of several rural communities within Appalachia to determine if there is an unmet need for psychological services and what barriers may be keeping potential patients from seeking psychological services. Both archival and survey data will be analyzed to determine the perceived need for psychological services and what barriers community leaders feel are preventing people from receiving services. Finally, possible solutions to aid the mental health crisis in rural communities will be proposed.

Exploring Unmet Needs and Barriers to Psychological and Behavioral Health Services in Rural Appalachia

It should be common knowledge that America's health care system is in shambles. A slowing economy and dramatic increases in personal debt have left many Americans without the means to provide themselves or family members with adequate health care. The consequences of our national health care crisis are even more devastating when looking at rural communities and the status of the rural mental health care system. This project highlights issues specific to rural communities and their challenges to receiving adequate mental health services. Research into the needs and barriers facing residents in rural Appalachia will also be explored and possible solutions to the rural mental health crisis will also be offered, including the development of social support networks, use of telehealth to address mental health issues, and the promise of an integrated approach model, which incorporates both medical and psychological health professionals.

Overview of Rural Populations and Need Identification

Throughout the literature the term "rural" is often cited as being very difficult to operationally define. Numerous sources are often utilized to define the "rurality" of a location including the U.S. Census Bureau, the Office of Management and Budget, and the United States Department of Agriculture (Jameson & Blank, 2007). Many factors also contribute to the delineation of an area being considered "rural," such as population density, settlement size, distance to urban areas, access to services, land use, economy, job availability, and other socioeconomic factors (Stamm, Lambert, Piland, & Speck, 2007). Residents in rural areas are also greatly impacted by these factors.

Rural residents are often considered "vulnerable," because of their limited income, high rates of unemployment, lack of health insurance, poor health, and limited social and health resources (Jameson & Blank, 2007). In contrast to urban areas, persons living in rural communities are often left without adequate resources for mental health needs, despite being at an increased risk for mental health problems (Campbell, Kearns, & Patchin, 2006). This is

especially troubling because rural areas report prevalence rates of mental health issues as high as their urban counterparts and even higher rates when looking specifically at incidences of depression, substance abuse, stress disorders (Jameson & Blank, 2007) , and suicide, particularly among young adults (Lyneham & Rapee, 2007).

Barriers to Adequate Mental Health Services

Several factors have been identified as potential barriers to mental health services in rural areas, including accessibility, quality of care, and social stigma, all of which will be addressed. First, accessibility can take many forms; however, for operational purposes, accessibility refers to any limiting factor that could impede on the patient's ability to seek services. In a study by DeVoe, Baez, Angier, Krois, Edlund, & Carney (2007), three major themes, insurance, access, and cost, were all found to be interrelated among low-income rural Oregon residents. The challenges of accessibility to these residents were found to be in recruiting service providers to the local area and in finding current providers who welcomed these recruits into their practices (DeVoe, et al., 2007).

The issues of accessibility can also be applied to those who care for individuals in psychological distress. In many rural communities persons in nontraditional roles are often the first to respond to such emergencies (Jameson & Blank, 2007; Stamm, et al., 2007). For example, rural residents with severe mental illness are less likely to have access to mental health providers and are more often served by the correctional system, as opposed to the health care system (Stamm, et al., 2007).

Additionally, when comparing insured and uninsured patients, access concerns were more heavily reported in those with public insurance, whereas patients with private health insurance concerns centered on provider acceptance and the affordability of a co-pay (DeVoe, et al., 2007). The costs of care are also an issue in rural areas due to high rates of poverty, which has been correlated with mental distress (Stamm, et al., 2007).

Many rural areas are also considered "federally designated health professional shortage

areas” due to the lack of accessibility to needed health care professionals, both medical and psychological (Stamm, et al., 2007). Accessibility also leads to unrecognized/undiagnosed problems, which results in many rural residents being in poorer health due to a lack of preventative health services (Stamm, et al., 2007). The perceived high costs of psychological care, particularly behavioral health interventions, also impact the rate at which individuals seek care when in psychological distress (Kenkel, Deleon, Mantell, & Steep, 2005).

The second barrier facing rural residents is quality of care. When examining the nature of rural communities, primary care physicians are often the only providers for both medical and mental health needs (Stamm, et al., 2007). This raises many ethical questions with regards to patient care and level of competency. The scope of a physician’s practice also comes into question as the provider is required to render services to a wide variety of presenting problems, leading the provider to test his/her range of competency. Networking and making referrals for appropriate services is also a challenge for rural primary care providers, due to the lack of such services, which is again in contrast to more urban settings (Stamm, et al., 2007). Quality assurance programs that monitor a wide range of care including preventative and rehabilitative care are also generally non-existent in rural areas, as are services for the disabled (Stamm, et al., 2007).

Social stigma is the final barrier that will be mentioned. As noted earlier, rural areas are areas of low population density. Additionally, they are often described as communities in which “everybody knows everybody,” which raises concerns of confidentiality. This also influences the rate at which people seek services for mental health issues (Jameson & Blank, 2007). In fact, rural residents often report confidentiality concerns as being a limiting factor to seeking care (Jameson & Blank, 2007). Social stigma, related to mental illness has also been found to be higher in rural areas, than in urban areas (Komiti, Judd, & Jackson, 2006) and has been found to be linked to low self-esteem and social isolation (Jameson & Blank, 2007). Researchers have also found that accessing mental health services may be even more stigmatizing than actually receiving such services (Komiti, et al., 2006).

Research Question

After examining the complexities of providing psychologically based services to rural populations, it seems reasonable to ask the following questions. First, is there an unmet need for psychological and behavioral health services in rural Appalachia? And second, what are the barriers that prevent people living within these rural communities from seeking psychological and behavioral health services? To adequately address these questions, characteristics of a specific region within Appalachia were selected and analyzed using archival data, current quantitative, and qualitative data collected via anonymous surveys. Finally, suggestions for meeting such a need and evidence based models to address identified barriers will be discussed.

Methods

Participants

Four counties in the state of West Virginia were selected for analysis. The counties included Cabell, Mason, Putnam, and Lincoln, each of which was selected because of its “rurality” and relative distance to Marshall University. Additionally, known risk factors that contribute to psychological distress were also selected for examination including educational attainment, divorce rates, poverty, disabilities rates, utilization of special education services, and substance abuse estimates. To demonstrate the prevalence of the above psychological risk factors and to show that people within this region have a need for psychological and behavioral health services, archival data from the United States Census Bureau, SAMSHA, and West Virginia Board of Education were reviewed in this examination. Two specific groups were also targeted for the current data collection, local residents in a town that was geographically central to the four county catchment area and community leaders, such as teachers, elected officials, organization members, local business owners/managers, principals, and volunteers. Only those 18 years and older could complete the questionnaire. Informed consent was given in the form of a written document before completion of the questionnaire. Participants were thanked for their participation.

Instrument

To gauge local residents' awareness of mental health services, perceived need of such services, and how far they would be willing to travel to receive such services, a brief 3-question anonymous questionnaire was developed and utilized. Data collection aimed at local residents was collected in one town, which is geographically central to the four county catchment area.

A second survey targeted towards community leaders within the catchment area was used to determine if community leaders felt that there was an unmet need for mental health services in their community and what barriers they felt kept people within their community from seeking psychological services. This survey was also brief, anonymous, and consisted of six questions. One asked for the participant to identify his/ her role in the community, four questions focused on perceived need and the last question asked participants to select which three, of a list of potential barriers, they felt contributed most to people within their community not seeking psychological services.

Procedure

The catchment area consisted of the following counties within West Virginia, Cabell, Lincoln, Mason, and Putnam, each of which as stated was selected based on their "rurality" and relative distance to Marshall University. Archival data was collected from the United States Census Bureau (Census 2000), West Virginia Board of Education (2007-2008 Academic School Year), and SAMSHA, the Office of Applied Statistics (National Survey on Drug Use and Health 2002-2004). Specific statistical information from these resources was selected based on research which points to socio-demographic contributors to mental health issues such as highest level of educational attainment, divorce, poverty, disability status, utilization of special education and substance abuse. Additionally, only towns and schools within relative geographic-closeness to the identified central location were used because it is believed that this data would more accurately represent a potential patient population. This includes abstractions of statistical data for the selected geographic catchment area.

The first survey targeted local residents who were within the town of Milton, West Virginia. They were asked about their perceived need for mental health services within their community and how far they would be willing to travel for services. Again, the town of Milton, was selected due to its central location to the counties mentioned in the catchment area and because this town serves as a hub for many smaller townships. Data collection sites were selected based upon their central value to the community and the possible traffic that passes through the selected locations which were a medical facility, a grocery store, a library and a local fire department during bingo night, all of which were located in Cabell County.

The second survey, which targeted community leaders, was collected in three major high schools, one large middle school, three town halls (two during meeting nights), and one organization meeting, all of which occurred throughout selected areas in Cabell, Putnam, and Lincoln counties. Mason County was excluded from this portion of data collection due to the lack of established townships within 45 minutes of the central location, Milton, West Virginia. This perimeter was established based on the residents' responses to how far they were willing to travel. To collect the surveys, a data collection box was utilized.

Results

Archival Data Collection

The first set of archival analysis is from the U.S. Census Bureau, Census 2000. Within the catchment area, the following data sets were used to analyze factors that have been correlated with mental health issues. These factors include rurality, based upon total population within city limits, (doesn't include those who live in outlying areas), highest level of educational attainment, divorce rate, percent below poverty level, median family income, and disability status from ages 5-65, as represented in Tables 1-3.

Table 1.

Town Data: Total Pop., Educational Attainment, Divorce, U.S. Census Bureau, Census 2000

TOWN/ COUNTY	Total Pop.	Ed. Attainment	Divorce (n and %)
Milton, Cabell	2,206	High School	280 (15.7%)
Hamlin, Lincoln	1,119	High School	116 (12.7%)
West Hamlin, Lincoln	696	High School	52 (28.9%)
Hurricane, Putnam	5,222	High School	136 (8.2%)

Table 2.

Town Data Poverty, Median Income (MI) U.S. Census Bureau, Census 2000

TOWN/ COUNTY	Families	No Husband Present	Individuals	MI
Milton, Cabell	105 (16.6%)	68 (54%)	382 (17.4%)	\$31,786
Hamlin, Lincoln	65 (20.3%)	36 (41.9%)	235 (22.6%)	\$30,250
West Hamlin, Lincoln	52 (28.9%)	28 (63.6)	232 (35.4%)	\$27,308
Hurricane, Putnam	136 (8.2%)	48 (22.1%)	566 (10.3%)	\$43,155

Table 3.

Town Data: Disability Status, U.S. Census Bureau, Census 2000

TOWN/COUNTY	Ages 5-20	Ages 20-64	Ages 65+
Milton, Cabell	436 (16.1%)	369 (30.4%)	197 (48.3%)
Hamlin, Lincoln	34 (18.4%)	223 (40.5%)	115 (48.1%)
West Hamlin, Lincoln	22 (13.5%)	160 (43.0%)	39 (43.8%)
Hurricane, Putnam	63 (5.8%)	617 (18.9%)	373 (49.0%)

In order to gain a better understanding of the significance of these factors, particularly poverty and disability status, census data of the specific counties within the catchment area were gathered and compared to the state's averages, see Tables 4-7.

Table 4.

County Data, Percent Below Poverty, Median Family Income (MFI) U.S. Census Bureau, Census 2000

COUNTY	Families	Families, No Husband Present	Individuals	MFI
Cabell	13.7%	36.6%*	19.2%*	\$37,691
Lincoln	22.8%*	48.5%*	27.9%*	\$28,297
Mason	16.6%*	42.0%*	19.9%*	\$32,953*
Putnam	7.1%	21.8%	9.3%	\$48,674

Note. The asterisks indicate that the values presented are higher than those of the state of West Virginia.

Table 5.

State Data, Percent Below Poverty, Median Family Income (MFI), U.S. Census Bureau, Census 2000

STATE	Families	Families, No Husband Present	Individuals	MFI
West Virginia	13.9%	35.5%	17.9%	\$36,484

Table 6.

County Data: Disability Status, U.S. Census Bureau, Census 2000

COUNTY	Ages 5-20	Ages 21-64	Ages 65+
Cabell	1,982 (9.8%)*	12,939 (23.5%)	7,036 (47.6%)
Lincoln	594 (12.5%)*	4,925 (37.5%)*	1,649 (57.9%)*
Mason	514 (9.6%)*	3,752 (25.0%)*	1,738 (46.0%)
Putnam	778 (7.0%)	5,191 (16.7%)	2,726 (46.5%)

Note. The asterisks indicate that the values presented are higher than those of the state of West Virginia.

Table 7.

State Data: Disability Status, U.S. Census Bureau, Census 2000

STATE	Ages 5-20	Ages 21-64	Ages 65+
West Virginia	34,350 (9.1%)	247,261 (23.8)	129,170 (48.6%)

When cross comparing the data, these results indicate that the selected townships tend to be generally poorer, more likely to be on disability, and more likely to be divorced, when compared to the state's data. These factors can be described as psychosocial risk factors, all of which could contribute to psychological and behavioral health issues.

To further examine what the needs of the specific communities may be, information from the West Virginia Department of Education was compiled and examined incidences of factors such as disabilities, autism, behavior disorders, mental impairments, and specific learning disabilities for each of the four counties (Table 8). Individual school information regarding the number of students receiving free/reduced lunch, as an indicator of socioeconomic status, and those with special needs, as defined by the West Virginia Department of Education, are represented in Tables 9-12. Each of these factors has also been associated with psychological and behavioral health issues and demonstrates a potential client population.

Table 8.

County School Data, Enrollment, Disabilities, Autism, Behavior Disorder (BD), Mental Impairments (MI), Specific Learning Disability (SLD), West Virginia Department of Education, 2007-2008

COUNTY	Enrollment	Disabilities	Autism	BD	MI	SLD
Cabell	12,346	1,843	62	47	431	356
Lincoln	3,523	726	7	9	134	182
Mason	4,400	885	15	49	131	255
Putnam	9,201	1,615	35	108	179	376

Note. When referencing these numbers it is important to note that they are for the total county, which includes schools that are not within the selected catchment area; however, they do provide

information regarding psychologically related conditions.

Table 9.

*Specific Schools Within Cabell County, Total Enrollment, Free/Reduced Lunch, Special Needs,
West Virginia Department of Education, 2007-2008*

SCHOOL	Total Enrollment	Free/Reduced Lunch	Special Needs
Cabell Midland High	1,846	607	204
Milton Middle	635	239	93
Culloden Elementary	207	110	31
Milton Elementary	621	326	102
Nichols Elementary	226	71	30
Ona Elementary	317	108	22

Table 10.

*Specific Schools Within Lincoln County, Total Enrollment, Free/Reduced Lunch, Special Needs,
West Virginia Department of Education, 2007-2008*

SCHOOL	Total Enrollment	Free/Reduced Lunch	Special Needs
Lincoln County High	863	495	162
Duval PK-8	530	367	102
Hamlin PK-8	545	358	100
West Hamlin	468	349	114

Table 11.

*Specific Schools Within Mason County, Total Enrollment, Free/Reduced Lunch, Special Needs,
West Virginia Department of Education, 2007-2008*

SCHOOL	Total Enrollment	Free/Reduced Lunch	Special Needs
Hanna High School	264	132	52

Table 12.

Specific Schools Within Putnam County, Total Enrollment, Free/Reduced Lunch, Special Needs, West Virginia Department of Education, 2007-2008

SCHOOL	Total Enrollment	Free/Reduced Lunch	Special Needs
Hurricane High	1,077	273	198
Hurricane Middle	872	257	170
Hurricane Town Elementary	382	130	63
Lakeside Elementary	286	168	63

Finally, Substance Abuse and Mental Health Services Administration (SAMSHA) data was used to provide information on the prevalence of substance abuse within the catchment area and to demonstrate that there is a portion of the population that is in need of, but not receiving, psychological services. Additionally, this data also provides information on the prevalence those experiencing psychological distress. When interpreting these results, note that the collecting agent (SAMSHA, Office of Applied Statistics) combines **Cabell, Lincoln, Mason,** and Wayne Counties in their analysis. This is important because one of the catchment area counties, Putnam, is not included and a county not part of the catchment area, Wayne, is added. It was felt that this data set was still most representative of the desired population, since the majority of the catchment area counties were accounted for in their data set, please see Tables 13-18. Further, SAMSHA notes that the estimates are based on a survey-weighted hierarchical Bayes estimation approach and the 95% prediction interval was generated by Markov Chain Monte Carlo techniques (SAMSHA). (These estimates indicate that there is a substantial portion of this population that uses illicit drugs, is in need of, but not receiving psychological services, and is in psychological distress).

Table 13.

Substate Estimates from the 2002-2004 National Survey on Drug Use and Health, SAMHSA, Office of Applied Studies, South Central Region II

AREA			Any Elicit Drug Use, Other Than Marijuana in Past 12 Months, Aged 12
South Central Region II:	Estimate	95% Confidence Interval	
(Cabell, Lincoln, Mason,	7.82	5.99-10.16	
& Wayne Counties)			
West Virginia	7.15	6.21-8.22	

Table 14.

Substate Estimates from the 2002-2004 National Survey on Drug Use and Health, SAMHSA, Office of Applied Studies, South Central Region II

AREA			Marijuana Use Last Month, Aged 12+
South Central Region II:	Estimate	95% Confidence Interval	
(Cabell, Lincoln, Mason,	5.75	4.27	
& Wayne Counties)			
West Virginia	5.36	4.55-6.31	

Table 15.

Substate Estimates from the 2002-2004 National Survey on Drug Use and Health, SAMHSA, Office of Applied Studies, South Central Region II

AREA			Marijuana, Cocaine, Nonmedical Use of Pain Relievers in Past Year, Aged 12+
South Central Region II:	Estimate	95% Confidence Interval	
(Cabell, Lincoln, Mason,	9.94	7.81-12.57	
& Wayne Counties)			
West Virginia	9.68	8.59-10.88	

Table 16.

Substate Estimates from the 2002-2004 National Survey on Drug Use and Health, SAMHSA, Office of Applied Studies, South Central Region II

AREA	Alcohol Dependence/ Abuse, Any Illicit Drug Dependence/Abuse, Aged 12+	
South Central Region II:	Estimate	95% Confidence Interval
(Cabell, Lincoln, Mason,	25.68	20.80-31.26
& Wayne Counties)		
West Virginia	28.25	25.94-30.68

Table 17.

Substate Estimates from the 2002-2004 National Survey on Drug Use and Health, SAMHSA, Office of Applied Studies, South Central Region II

AREA	Needing But NOT Receiving Treatment for Alcohol/Drugs, Aged 12+	
South Central Region II:	Estimate	95% Confidence Interval
(Cabell, Lincoln, Mason,	6.48	5.06-8.26
& Wayne Counties)		
West Virginia	6.53	5.61-7.59

Table 18.

Substate Estimates from the 2002-2004 National Survey on Drug Use and Health, SAMHSA, Office of Applied Studies, South Central Region II

AREA	Serious Psychological Distress, Aged 18+	
South Central Region II:	Estimate	95% Confidence Interval
(Cabell, Lincoln, Mason,	12.57	9.56-16.36
& Wayne Counties)		
West Virginia	12.25	10.50-14.25

Current Data Collection

To determine if residents within the selected central location, Milton, West Virginia, felt that there was a need for psychological and behavioral health services, an anonymous

questionnaire was developed and selected sites were used for data collection. The data sites included a library, medical facility, grocery store, and a local fire department during bingo night.

The questionnaire asked three questions which were:

<p><u>1st Question:</u> Does your local community currently have a quality mental health services center?</p> <p>Yes No I don't know</p> <p><u>2nd Question:</u> Do you believe that a mental health center is needed in your community?</p> <p>Yes No I don't know</p> <p><u>3rd Question:</u> How far would you be willing to travel to receive quality mental health services?</p> <p>Stay in the community Travel 15 Minutes Travel 30 Minutes Travel 45+</p>

Of those who participated in the survey ($N=50$), 64% responded that their community does not have a quality mental health services center. When asked if they believed that a mental health services center was needed in their community, 96% of those who participated in the survey responded "Yes." To determine a circumference from this central location, the participants were asked how far they would be willing to travel for such services, 46% indicated that they would prefer to stay within their community, 26% indicated that they would be willing to travel 15 minutes, 24% indicated that they would be willing to travel 30 minutes, and 4% indicated that they would be willing to travel 45+ minutes in order to receive such services. Based on these results, the second survey was targeted at community leaders within the above perimeters to determine if they felt there was an unmet need existing within their community and what barriers they felt kept those within their community from seeking psychological and behavioral health services.

In order to address the two stated questions, how do community leaders perceive the need for psychological services, and what the community leaders believed were the perceived barriers to psychological and behavioral health services within the catchment area, a Chi-Square analysis was run to determine if there was a significant difference between the counties in which data was collected. The Chi-Square analysis was conducted using the crosstabs method in SPSS 17.0 and the data was collapsed across counties due to varying sample sizes.

The Chi-Square revealed that there was not a significant difference among the counties and how the participants responded to the questions contained in the survey, all p=ns. This indicates that despite the county the community leader resided in during data collection, all the respondents were in agreement regarding the need for psychological services within their community and the barriers preventing those from receiving psychological services. The composition of community leaders surveyed within Cabell, Putnam, and Lincoln Counties is represented in Table 19.

Table 19.

Sample Characteristics of Survey to Community Leaders According to County, (N=141)

ROLE IN COMMUNITY	Cabell	Putnam	Lincoln	Total
Teacher	45	17	33	95
Doctor	1	0	0	1
Organization Member	2	2	0	4
Principal	3	0	2	5
Volunteer	4	0	0	4
Elected Official	5	1	5	11
School Counselor	1	0	0	1
Business Owner/ Manager	9	1	0	10
None Selected	4	0	0	4
Multiple Roles	4	1	1	6

A frequency analysis was also conducted to determine how the participants perceived the need for psychological services within their community and what barriers they felt were most prominent in their community. Within this catchment area, 85.1% felt that there were people within their community who had untreated mental health issues. Additionally, 83.7% of those surveyed believe that a psychological and behavioral health care center is needed within their community. When the participants were asked if they had ever wanted to refer someone to a quality psychological and behavioral health care center, 58.2% selected “yes,” with the majority

(53.7%) selecting that they had wanted to refer 1-5 persons to such a center, but were unable to do so because one was not available or accessible. These results indicate that community leaders within Cabell, Lincoln, and Putnam counties believe that there is need for psychological services within the catchment area.

The research participants were also asked what barriers they felt kept people from seeking quality psychological and behavioral health services within their community. To determine these results, a frequency analysis was conducted and each of the barrier variables was compared to determine which ones were more commonly selected by the research participants. This sample of community leaders indicated that cost of services (70.9%), stigma or embarrassment about seeking services (59.6%), lack of insurance to cover mental health treatment (56%), and lack of knowledge about mental health issues (55.3%) were the most common barriers that they felt prevent those within their community from seeking psychological and behavioral health services. From the data collected, it appears that within this catchment area, the following were not seen as the most common barriers facing those in need of psychological services no services available (27%), existing services are too far (22.7%), lack of transportation (19.9%), and poor quality of existing services (12.8%). These results are congruent with the current literature review, specifically with regards to accessibility when encompassing cost and insurance issues; however, some unique differences were also found with regards to transportation and poor quality of existing services.

Qualitative Analysis

In addition to the barriers listed on the survey, 15 participants choose to write comments regarding additional barriers within their communities. These qualitative responses can be grouped into the following categories: lack of knowledge regarding personal mental health issues; unawareness of community resources/ how to refer; parental denial of child's problem; perceived lack of control of how to improve the situation; inefficient methods of problem identification, and systemic issues. Three qualitative responses didn't fit into the listed categories as a barrier to mental health issues. (One was a question regarding a community provider, one was a

suggestion, and one was an incomplete statement). The majority of those who wrote comments identified their role in the community as a teacher. Additionally, each of the three targeted counties (Cabell, Lincoln, and Putnam) was represented. The other respondent identified themselves as playing multiple roles within the community and was collected at a city hall meeting in Milton, West Virginia.

Beginning with lack of knowledge about personal mental health issues, a teacher from Milton Middle School wrote, "Family histories of depression and mental illness, people not seeing their own problems." Similarly, a teacher from Cabell Midland High commented that "Some people do not recognize the fact they need help," a statement which was also echoed by two teachers at Lincoln County High School, "Refusal to believe that they have a problem," and "Convincing someone that they need services." Unawareness of community resources/ how to refer were also mentioned by several teachers. One from Milton Middle wrote, "Lack of awareness of available sources." Two from Cabell Midland also commented, "I'm new to the area and I don't know what services are available or where to find the information," and "Don't know how to refer or the legal ramification of referring someone. Quality of care and costs are also an issue." Two teachers from Milton Middle responses alluded to parents as a barrier, stating "Parents denial of the child's condition...too much red tape," and simply "Parental refusal." Two other participants, one from Milton Middle School and one from a city hall meeting responses seem to fall within the "perceived lack of control of how to improve the situation" category. They stated, "We often see students with mental health issues-but nothing seems to get done about it" and "Apathy." One respondent from CMHS's comments reflect inefficient methods of problem identification. The teacher stated, "More screening needs to be done in grade school and middle school before they arrive at high school with a major problem." Finally, one participant from Hurricane High acknowledged the role managed care plays by commenting, "Insurance usually only covers 20 visits per year. A patient gets started and is making progress, then must quit because of lack of coverage...very frustrating."

Discussion

According to the above results, it appears that there is an unmet need for psychological and behavioral health services within the identified catchment area. This statement is supported by the archival data showing that persons living within this geographic region are perhaps predisposed to psychosocial risk factors which make them more susceptible to mental health issues. When looking at the results from the current quantitative analysis, it seems that those within the catchment area also feel that there is an unmet need in their area for psychological and behavioral health services. Before barriers could be determined it was essential to determine if a need existed; this goal was achieved in both surveys and indicated a need for psychological and behavioral health services centers.

Interestingly, when examining the four most common barriers identified by the community leaders across the three counties where data was collected, the results specify that these barriers relate to cost, stigma, insurance coverage, and lack of knowledge regarding mental health issues. Surprisingly, lack of transportation and poor quality of existing services were the barriers least identified. This finding is in contrast with the existing literature and may be unique to this geographic region. It is also plausible to presume that the barriers selected by the community leaders may be slightly skewed towards those within their same socioeconomic range and that if community residents were given this survey, they may have identified other barriers. Despite these limitations, it is believed that these results provide an in-depth investigation of the unmet needs for psychological services and barriers to person living within this catchment area, and seems to beg the question, "What role can psychologists play in overcoming these barriers and meeting the needs of the people within this region?"

Jameson and Blank (2007), offer many possible ways psychologists can improve the mental health environment. To begin, efforts need to be made to increase psychological and behavioral health services to persons living within rural areas in general. Increasing psychological presence in these areas is a multidimensional issue in itself and seems to start with the lack of psychologists and the risks of being overworked, coping with provider isolation

(Stamm, et al., 2007) and receiving limited compensation for services rendered (Merwin, Hinton, Dembling, & Stern, 2003). In order to overcome this barrier, the article makes two suggestions. First, graduate training needs to be tailored to teaching its students to be rural practitioners. And second, rural internship sites need to be developed in order to encourage quality students to remain in these areas. Rural internships sites, although rare, may offer enticing benefits such as loan repayment programs (Jameson & Blank, 2007).

Harowski, LeVine, Turner, Schank, and Leichter (2006), also support the development of graduate psychology training programs focusing on rural areas by stating that the current training models are out of synch with the demands of being a rural psychologist. They also propose ways in which academia can better train and prepare future clinicians for practicing in rural areas. One of their suggestions is to educate graduate psychology students on diversity and heritage associated with their region.

For psychologists working in rural areas, cultural competency and sensitivity to the area's customs are an important component to being accepted and effective in their community. This is achieved by researching the history of the area and the belief systems of the community (Harowski, et al., 2006). Training should focus on the generality of being a psychologist, but also on interdisciplinary roles, consultation, community assessment, program development, individual and family systems pathology and perhaps most importantly, crisis intervention, as core areas for skill development (Harowski, et al., 2006).

The role of psychologists in rural areas also needs to be more broad based, in that they are not only clinicians offering therapeutic services, but are also advocating for services in their community. In fact, Jameson and Blank (2007) suggest that to be effective in rural areas, psychologists must combine their roles. For example, they may blend their role as a mental health provider with active community member to promote contacts with organizations and community leaders. They may also assist in the design of community outreach projects.

Psychologists in rural areas may also be advocating for mental health parity and other reimbursement issues (Aitken & Curtis, 2004). Advocacy can also include the need for continuing

education workshops and training focusing on rural mental health issues, in regions that are feasible and accessible to mental health clinicians (Harowski, et al., 2006). Grant writing for mental health services and program development may also fall into the hands of psychologists (Aitken & Curtis, 2004).

Considering the complexities of working as a psychologist in rural settings, a paradigm shift in training and practice may also be needed, especially if working within an integrated health care model. For example, the psychologist may need to conceptualize their patients from a behavioral medicine model, which looks at the psychological disorder as a function of lifestyle (Davis, Bougler, Hovland, & Hoven, 2007). Other adjustments such as partnering with primary medical care centers, using brief assessment tools, and specific, and efficacious interventions will also be necessary (Davis, et al., 2007). On a professional level the psychologist also needs to be comfortable working within a medical setting, be able to function in quick periods of time, provide recommendations in a speedy manner, function primarily as a consultant, and have knowledge about the effects and possible benefits of psychotropic medications and medical co-morbidities which may be contributing to the patient's current psychological state (Davis, et al., 2007).

These suggestions regarding training psychology doctoral students to practice in rural areas can also help overcome some of the identified barriers found within the scope of this research. For example, clinical practicums could be developed in rural, underserved areas. These practicum experiences could fulfill two roles. First, they would provide psychology doctoral students with first-hand experiences in working with rural populations. Second, the services rendered could be at a reduced rate, decreasing the influence of cost as it relates to psychological and behavioral health services.

It is also important to acknowledge that these solutions may only be specific to unique situations in which doctoral psychology programs target rural populations as their training goal and have access to such populations. In an effort to assist those who work currently work in rural, underserved areas expanding social support networks, utilizing today's technology use of telehealth, and moving towards more integrated settings may serve to decrease some of the

barriers unique to their rural setting. Expanding social support networks, utilizing telehealth, and integrated settings are somewhat new models within the field of rural/community psychology; however, they do have a growing body of evidence pointing to their effectiveness within rural regions and are worth noting as possible solutions to the broader rural mental health crisis.

Possible Solutions to the Broader Rural Mental Health Care Crisis

One of the possible solutions to the mental health crisis is to work with the existing infrastructure within the rural community to establish social support systems, which may help to facilitate better community awareness about mental health issues, existing resources, provide residents with the knowledge of how to act should someone be in need of psychological help. Social support can be conceptualized as a “multidimensional construct” that encompasses the provider, quality and quantity of support, availability and level of satisfaction with the support being rendered (Letvak, 2002). According to Bushy (as cited in Letvak, 2002), social support can also be characteristic of following a three-tier system in which the first tier consists of support from family and friends, tier-two includes local emergency professionals and community/religious organizations, and tier-three consists of more formal services. Bushy also notes that rural residents are more likely to rely on tier one and two for social support, due to lack of resources and stigma (Bushy, 2000; as cited in Letvak, 2002). Community outreach and educational seminars could be one way to educate the members on tiers one and two, as a further means of helping the individual towards more formalized care.

Psychologists can also assume an active role in promoting the benefits of social support. For example, social support has been found throughout the research to be critical across the developmental span. In children and adolescents, lack of social support has been associated with increased rates of depression, and decreases in academic performance, as well as contributing to overall feelings of self esteem and worth. Social support for the elderly has also been found to be critical in maintaining their level of cognitive functioning and quality of life (Letvak, 2002).

When developing social support systems in rural areas, several key points should be considered. First, working within an interdisciplinary team framework is often critical and there is

often little need for duplication of services being addressed within this model. Therefore it is important to distinguish between what the community has and what the community needs. Second, social support can be encouraged by utilizing local community leaders as volunteers for promoting outreach projects, such as parenting education. They can also be allies in the fight to break down some of the stigma surrounding mental health services (Letvak, 2002). By being active in developing and connecting community organizations and resources, psychologists can create a more therapeutic environment through taking part in interdisciplinary teams and educating local leaders on the value of psychological services and their potential benefit to the community as a whole. The psychologist's presence in the community may also help to destigmatize the mental health profession; however, it is also important for the psychologist to be aware of potential ethical dilemmas.

Over the past several decades technology has changed the way in which we view the world and the way we communicate with each other. Telehealth, in particular, has begun to help bridge some of the gaps facing rural practitioners. Telehealth employs the use of telecommunications and technology "to provide access to health screenings, assessment, diagnosis, intervention, consultation, supervision, and education" across geographic barriers (Farrell & McKinnon, 2003).

Telehealth relies on the use of computers (through email and Internet sources), videophones/video conferencing, and telephones (Schopp, Demiris, & Glueckauf, 2006). One of the ways technology, specifically computers, has been used psychologically is in the assessment of depression and alcohol habits (Farrell & McKinnon, 2003). Psychoeducation, through the internet and telephone contacts has also been found helpful to patients suffering from social anxiety disorders, depression, as well as for caregivers of dementia patients (Farrell & McKinnon, 2003).

By using technology, psychologists and patients can cut down on travel time and the costs involved in commuting to and from rural areas (Schopp, et al., 2006). Telehealth equipment has also been widely accepted by the medical community for treatment of diabetes,

cardiovascular conditions, lung transplant recipients, and other chronic health conditions (Schopp, et al., 2006). The use of telehealth technologies seems promising to psychologists interested in working in/with rural populations; however, before telehealth becomes widely accepted, it too must overcome some challenges such as accessibility to technology, overall effectiveness of this delivery method when used exclusively and/or long-term, reimbursement for services, confidentiality, and other ethical issues (Farrell & McKinnon, 2003). Nevertheless, telehealth technologies have been shown to be cost-effective, assistive in consultative services and may decrease some of the barriers to receiving mental health care (Davis, et al., 2007).

Primary care providers are often the only source rural residents have for treatment of their mental health needs. Given this fact and the role that psychology can play in both treatment of mental health disorders and behavioral maintenance of chronic health conditions (Stamm, et al, 2007), a movement towards integrated practices seems to be one of the best options in addressing the mental health needs of rural communities. Integrated care models combine both medical and psychological services to provide the patient with a more holistic approach to their overall wellness (Kenkel, DeLeon, Mantell, & Steep, 2005). Collaboration between the physician and mental health provider is the key in this model, which promotes both professionals working as team to treat patients (Kenkel, et al., 2005). This model is also most effective when the services are co-located within the same office space (Aiken & Curtis, 2004, & Kenkel, et al., 2005).

Working in integrated practices differs greatly from more traditional facilities, such as mental health centers. Sessions are usually shorter in duration and treatment is usually a more focused, brief intervention (Kenkel, et al., 2005). The scope of a psychologist's competency may also be expanded thorough learning about how psychologists can play a role in treating patients with chronic medical conditions such as cardiovascular disease, diabetes, respiratory difficulties and chronic pain conditions (Stamm, et al., 2007). Integrated practices can also provide the patient with better coordination of care (Kenkel, et al., 2005). Psychologists may also be able to assist the physician with patients who have a history of somatization (Kenkel, et al., 2005).

There are also many benefits to this model of practice. For the patient, they are often closer to their primary care provider, so there is no longer an issue of geographic accessibility or stigmatization due to the combination of the two disciplines (Kenkel, et al., 2005). Researchers have also found that integrated models have decreased depression, increased quality of life, and have increased adherence to medical regimens due to behavioral interventions (Aiken & Curtis, 2004; Stamm, et al., 2005). Patients have also reported high satisfaction rates with this delivery model and providers are pleased with the cost effectiveness (Aiken & Curtis, 2004). As can be seen, the integrated model of practice offers many benefits to the patient, primary care provider, the psychologist, and rural community.

As can be inferred, the above only represents a few of the possible solutions to the rural mental health care crisis and it is critical to note that each rural community is unique and a service models effectiveness may only be judged by the success within the individual community (Mulder, Linkey, & Hager, 2003). Acknowledging this as a fact makes it difficult to replicate or generalize results. Other options include prescription rights for psychologists (Jameson & Blank, 2007) and the use of mobile health care units, which have been effectively employed in rural North Carolina to provide rural residents with check-ups, to fill prescriptions, conduct dental exams and provide mid wives (Stamm, et al., 2005). A comprehensive report, *Rural Healthy People 2010: A Companion Document to Healthy People 2010*, also provides interested parties with a wealth of information regarding rural health care needs and models for practice that can be applied to their geographic region (Gamm, L., Hutchinson, L., Dabney, B., & Dorsey, A., eds., 2003). Given the vastness of this situation, it is likely that a combination of these proposals is necessary in order to meet the needs of rural residents.

As a more long-term solution, graduate psychology students need to be adequately trained for the challenges and obstacles of practicing in rural areas, including the various roles they may play in the community, besides clinician. Training as a generalist and specialty training in crisis intervention, community networking and program development are also key in becoming an effective rural psychologist. Looking forward, the roles of technology and integrated delivery

systems will likely overcome many of the addressed barriers such as accessibility, quality of care, and social stigma. Psychologists also have the potential to play a major role in enhancing the overall health care system by employing their strengths and knowledge to bettering the lives of rural residents thorough providing them mental health services, aiding in the preventative health care practices, and medical adherence through behavioral interventions.

Conclusion

The information illustrated here shows that there is a great need for psychological services within this area of Appalachia. The areas targeted perhaps predispose many of their residents to psychosocial stressors which could lead to psychological distress. It seems apparent that residents and community leaders residing in these areas are aware of their needs and the barriers that prevent them from receiving services; however, they are without means to overcome these barriers, such as accessibility (cost and insurance coverage), and the cultural factor of stigma. As psychologists being trained in rural psychology, we can take an active role in providing low cost, quality services to persons within these communities and to helping breakdown the stigma associated with mental health by promoting social support systems, and through educational awareness presentations.

Appendix

Anonymous Survey Consent

You are invited to participate in a research project entitled “*Needs Assessment*” designed to analyze the need for quality mental health services in your community. The study is being conducted by Dr. Keith Beard and Research Assistant, Sarah Jarvis, M.A., from Marshall University. This research is being conducted as part of the “Needs Assessment” for Sarah Jarvis.

This survey is comprised of multiple choice questions, which should take approximately 5-8 minutes to complete. Your replies will be anonymous, so do not put your name anywhere on the form. There are no known risks involved with this study. Participation is completely voluntary and there will be no penalty or loss of benefits if you choose to not participate in this research study or to withdraw. If you choose not to participate you may either return the blank survey or you may discard it. You may choose to not answer any question by simply leaving it blank. Returning the survey by placing it in the collection box indicates your consent for use of the answers you supply. If you have any questions about the study you may contact Dr. Keith Beard at 304-696-2781, Sarah Jarvis at 304-696-2774.

If you have any questions concerning your rights as a research participant you may contact the Marshall University Office of Research Integrity at (304) 696-4303.

By completing this survey and returning it you are also confirming that you are **18** years of age or older.

Please keep this page for your records.

Community Code: _____

Survey

Role in Community: Please circle which option accurately reflects the primary role you play in your community.

- | | | | | |
|----------------------|---------------|-------------------------|---------------------|-------------|
| Teacher | Doctor | Minister | Organization Member | |
| Principal | Volunteer | Police Officer | Elected Official | Firefighter |
| School Counselor | Social Worker | Business Owner/ Manager | | |
| School Administrator | | | | |

Please Note, "mental health issues" include depression, anxiety ("bad nerves"), substance abuse issues, attentional difficulties, family relational problems, child conduct problems, etc...

1. Do you see people within your community who appear to have untreated mental health issues?

- | | | |
|-----|----|--------------|
| Yes | No | I don't know |
|-----|----|--------------|

2. Do you believe that your community needs a psychological and behavioral health care center to assist those with mental health issues?

- | | | |
|-----|----|--------------|
| Yes | No | I don't know |
|-----|----|--------------|

3. Have you ever wanted to refer someone to a quality psychological and behavioral center but could not do so because such a center was either not available or not accessible?

- | | | |
|-----|----|--------------|
| Yes | No | I don't know |
|-----|----|--------------|

4. About how many times per month have you wanted to refer someone to a quality psychological and behavioral center but could not do so because such a center was either not available or not accessible?

- | | | | | |
|-----|------|-------|-----|--------------|
| 1-5 | 6-10 | 11-15 | 16+ | I don't know |
|-----|------|-------|-----|--------------|

5. We are interested in knowing about the barriers which prevent people from obtaining quality psychological and behavioral services. From the list below, please indicate which of the 3 of these common barriers you think most prevent people from seeking help with mental health problems by marking an "X" on the line next to your top 3 choices.

- _____ Cost of services
- _____ No services available
- _____ Existing services are too far away
- _____ Poor quality of existing services
- _____ Lack of insurance to cover mental health treatment
- _____ Lack of knowledge about mental health issues
- _____ Stigma or embarrassment about seeking services
- _____ Lack of transportation

If you have encountered other barriers that are not listed here, please help us add them to our list by including them here:

Thank you for taking the time to respond to this survey. We appreciate your help!

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Sarah Jarvis

Work Address: West Virginia University- Charleston Division
Department of Behavioral Medicine and Psychiatry
3200 MacCorkle Avenue, SE, Charleston, WV 25304

Home Address: 171 Iroquois Trail
Ona, WV 25545

Telephone: (304) 416-2315 or 304-388-1065

E-mail: wilson148@marshall.edu

EDUCATION:

Psy.D. Marshall University, Psy.D. Program, Huntington, West Virginia, 2010

M.A. Marshall University Graduate College, South Charleston, West Virginia, 2007

B.A. Marshall University, Huntington, West Virginia, 2003

Major: Psychology

Minors: Sociology and Criminal Justice

CLINICAL EXPERIENCE: Predoctoral Internship

*West Virginia University, Department of Behavioral Medicine & Psychiatry,
Charleston, West Virginia, July 2009-July 2010*

Required Rotation Experiences:

Adult Psychiatry Inpatient Rotation- Worked as a member of a multidisciplinary team to assist in the overall treatment of patients with a variety of psychiatric and co-occurring medical disorders, conducted initial interviews with patients and presented the findings and case conceptualizations to the patient's treatment team, assisted in diagnosis, treatment and discharge planning, participated in daily rounds, administered psychological assessments, provided patients with individual therapy. Co-lead group therapy sessions using CBT, Psychodynamic and DBT models, received training in Emergency Psychiatry by being the first-line on-call contact to a Level One Emergency Department, and received training in appropriate patient selection for ECT. *Patient Population:* Psychiatric inpatient adults, both male and female experiencing depression, anxiety, OCD, bipolar disorder, substance abuse, schizophrenia, TBI, and personality disorders. *Supervisor: Laura Wilhelm, Ph.D.*

Adult Psychiatry Outpatient Rotation- Provided individual therapy and treatment planning to patients with psychological disorders and patients with co-morbid medical conditions including HIV, cancer, diabetes, cardiovascular disease, and traumatic brain injury, conducted and wrote psychological intakes on patients newly referred for services, wrote progress notes in SOAP format, developed evidence based treatment plans, used CBT, DBT, and motivational interviewing techniques, and reported case conceptualizations to my supervisor. *Patient Population:* Adults, both male and female experiencing co morbid medical diagnosis and psychological condition such as depression, anxiety, bipolar disorder, substance abuse, and personality disorders. *Supervisor: John C. Linton, Ph.D.*

Consultation Liaison Service- Provided psychological consultations including assessments, evaluation, and recommendations to patients admitted on the medical floors of a 1000 bed hospital system, presented case conceptualizations to members of the consult team including the attending psychiatrists, medical residents and medical students, assisted in the differential diagnosis process, rounded with the consult team, followed-up on patient's progress while admitted, assisted in the referral process, and conducted emergency consultations. *Patient Population:* Adults, both male and female experiencing co morbid medical diagnosis and a possible psychological or cognitive disorder. *Supervisor: John C. Linton, Ph.D., Tiffany Sparks, M.D. & Glen Wright, M.D.*

Psychological Assessment- Researched issues related to the referral, gained experience in interviewing, making appropriate test selections, administering neuropsychological and personality assessments, scored assessments, wrote evaluations, provided patients with feedback regarding test findings, gained experience in brief assessments and screening evaluations. *Patient Population:* Adults, both male and female who were referred for either a neuropsychological, attention, and dementia evaluations, personality assessments, patients also had a medical condition that either exacerbated or contributed to their cognitive condition. *Supervisor: Kim DiPino, Ph.D.*

Internship Didactics- Attended weekly intern seminar series which focused on a variety of issues pertinent to the practice of clinical psychology. Participated in weekly grand rounds presentations, scientific journal club discussion, outpatient case conference, and conceptualizations sessions. I also participated in a special eight week series of medical lectures. I also presented twice during ground rounds. Attended monthly Balint group sessions and presented once.

Optional Experiences:

Medical Rehabilitation- Gained experience in interviewing, treating, and evaluating patients with spinal cord injuries or impairments, traumatic brain injuries, strokes, amputees, and patients who are medically compromised due to cancer, MS, or other trauma, worked on a interdisciplinary team with physicians, physical, occupational, speech and recreational therapists, wrote consultative reports, behavior modification plans, treatment recommendation plans, relapse prevention plans, progress notes, and neurocognitive evaluations, reported patient's progress and assessment findings at weekly case conferences.

Provided patients with individual therapy focusing on adjustment, alcohol and substances cessation, life style modifications, depression and anxiety management, met with patient's families and provided them with information regarding patient's condition, worked with physical and occupational therapists during therapy activities to assist patient's who experienced psychological distress while in therapies. *Patient Population:* Adults, both male and female who experienced a spinal cord injury or impairment, traumatic brain injury, stroke, amputation, or other medical trauma resulting in a loss or impairment in functioning such as cancer, gun shot wounds, and MS. *Supervisor: John C. Linton*

Cardiac Rehabilitation- Conducted psychological evaluations of cardiac rehabilitation patients, Provided patients with individual psychotherapy to assist them in adjusting to life styles changes, as well as treatment for depression and anxiety, conducted psychoeducational groups focusing on stress management, relaxation techniques, adjustment issues, and how to healthily manage conflict. *Patient Population:* Adults, both male and female who had experienced a severe cardiac event such as myocardial infarction, cardiac stenting/ angioplasty, and/or coronary artery bypass surgery. *Supervisor: Melisa Chelf Sirbu, Ph.D.*

DBT Emotional Skills Training Group- Co-lead a group focusing on the DBT principle of Distress Tolerance, prepared activities for the group, and wrote progress notes. *Patient Population:* Adults, both male and female who meet criteria to participated in the group, which included current participation in individual therapy and diagnostic condition. *Supervisor: Lola Weir, Ph.D.*

Research- Drafted three original research proposals following the requirements of the WVU School of Medicine and CAMC (each of these research proposals have focused on vascular conditions such as peripheral artery, carotid artery and coronary artery stenosis, as well as psychological factors such as neurocognitive functioning, quality of life, and pre-existing psychological disorders), participated in research team meetings, reviewed proposals drafted by other authors, worked with medical professionals on research projects. *Supervisor: Patrick Kerr, Ph.D.*

CLINICAL EXPERIENCE: Doctoral

Lincoln Primary Care and McDowell County Outreach, Fall 2008- Spring 2009

Lincoln Primary Care, Hamlin, West Virginia- Provided brief interventions for patients with psychosomatic complaints, developed behavioral management plans targeted at life style change and medication adherence, assisting medical staff in diagnosis, worked on a multidisciplinary team with clinical social workers, nurses, physicians, dietitians, and other health care providers, provided individual, family and couples therapy to patients and conducted psychological assessments. Conducted group psychoeducation and therapy sessions for substance abuse offenders. *Patient Population:* Children and adults with medical conditions and psychological difficulties, as well as Suboxone and substance abuse patients. *Supervisors: Joseph Wyatt, Ph.D. and onsite preceptor, Mary Alfred-Crouch, LCSW & CAC; Vertical Team Group Supervisor- Keith Beard, Psy.D.*

McDowell County Outreach, Welch, West Virginia:

McDowell County Outreach/Mount View High School Clinic- Worked with school officials and teachers to develop a bully prevention program, provided individual therapy for students with health conditions (such as obesity, asthma, and diabetes) and psychological issues related to depression, anxiety, and relational difficulties, utilization of Telehealth technology to conduct outreach planning sessions, worked with community leaders to further develop a mental health infrastructure within a rural, underserved community, and participated in a broadcasted Radio Show focusing on mental health issues. *Patient Population:* Adolescents suffering from medical conditions and psychological difficulties. *Supervisors:* Marianna Linz, Ph.D. & onsite preceptor, Ken Devlin, M.A., Licensed Psychologist

River Park Hospital, Spring 2008-Summer of 2008

River Park Hospital, Geriatric Unit- Differential diagnosis of geriatric patients including various types of dementia, delirium, Alzheimer's Diseases (early and late onset with behavioral disturbances), depression, anxiety, mild cognitive impairments, and Huntington's Disease, administered, scored, and interpreted cognitive and personality assessments, wrote integrated psychological evaluations, worked as part of a multidisciplinary treatment team with psychiatrists, nurses, social workers/ case managers, recreational therapists, and mental health technicians, developed behavior management plans, provided supervised psychological consultation and discharge planning, conducted both individual and family therapy sessions, wrote individualized treatment plans. *Patient Population-* Adult, male and female geriatric patients suffering from cognitive disorders including dementia, Alzheimer's, delirium, Korsakoff's Syndrome, Huntington's Disease, and patient's experiencing psychological distress. *Supervisors:* Donna Midkiff, Psy.D. and Vertical Team Supervisor- Marty Amerikaner

River Park Hospital, Adult substance Abuse Unit- Conducted group therapy sessions focusing on skills teaching and psychoeducation, provided the patients with worksheets/ handouts that coincided with the therapy topic, progress notes were written using the SOAP format. *Patient Population-* Adult, males and females between the ages of 19- 60 who were diagnosed with substance abuse disorders. *Supervisors:* Donna Midkiff, Psy.D. and Vertical Team Supervisor- Marty Amerikaner

Marshall University Psychology Clinic, Psy.D., Fall of 2007

University Clinic: Conducted clinical interviews including psychosocial information and mental status examination, managed a case load of 5 therapy patients and 2 assessment patients, conducted psychological evaluations, administered personality, intelligence and academic tests on both children and adults, conducted weekly individual therapy sessions using primarily Behavior Therapy and Cognitive Behavior Therapy techniques. Maintained patient files, developed behavior modification plans and presented case conceptualizations during both individual and group supervision sessions. *Patient Population:* College students and children experiencing anxiety disorders, depression, bipolar disorder, personality disorders, and attention deficits. *Supervisors:* Keith Beard, Psy.D., Marty Amerikaner, Ph.D., & Joseph Wyatt, Ph.D.

St. Mary's Medical Center, Inpatient Psychiatric Unit, Summer of 2007

Behavioral Health Inpatient Unit: Conducted clinical interviews/intakes, psychological assessment including cognitive, personality, and intelligence, wrote psychological evaluations, attended and presented case conceptualizations at case conferences, worked on a multidisciplinary team with psychiatrists, the clinical director, nursing, recreational therapists, social workers/case managers, and counselors, conducted group therapy sessions in three patient populations including affective disorders, substance

abuse, and chronic patients, conducted individual therapy and carried a caseload of 5-8 patients, prepared for mental hygiene evaluations, and case management/documentation. *Patient Population:* Psychiatric inpatient adults, both male and female experiencing depression, anxiety, OCD, bipolar disorder, substance abuse, schizophrenia, TBI, and personality disorders. *Supervisors:* Steve O'Keefe, Ph.D. & on site preceptor Melissa Manning, M.A., Licensed Psychologist

Marshall University Community Clinical Services Center, Dunbar, West Virginia, 2006- 2007

Community Mental Health Clinic: Conducted clinical interviews including psychosocial information and mental status examination, reviewed files in preparation for conducting staff meetings, wrote integrated psychological evaluations, performed personality, intelligence, academic and affective assessments on children and adults, conducted individual therapy with children and adults (primarily from a Cognitive Behavioral model), developed treatment plans and behavior modification plans, and conducted group therapy sessions with adolescent offenders. *Patient Population:* Children, adolescents, and adults experiencing attachment disorders, attention deficits, oppositional and conduct disorders, depression, anxiety, bipolar disorder, and adjustment disorders. *Supervisor:* Tony Goudy, Ph.D.

CLINICAL EXPERIENCE:

Family Service Coordinator, Pressley Ridge, Grant Gardens, Ona, West Virginia, September 2005- October 2006. Duties: Clinical treatment planning and evaluations of progress for 10 youth, development and completion of psychosocial assessments, conducted family visits throughout many rural areas across the state of West Virginia, facilitated STEP Parenting Classes (Systematic Training for Effective Parenting), provided youth's with advocacy during judicial reviews, multi-disciplinary meetings (MDTs) and court hearings, documentation of contacts, facilitated the referrals for IEPs, school enrollment process, coordination of treatment team meetings with the youth, their family, Social Worker and Juvenile Probation Officer, and lawyer present, and monitored progress while attending the on-grounds school, including the youth's academic and behavioral progress. *Patient Population-* Adolescents between the ages of 13-17 who were court ordered to the facility, the youths experienced depression, anxiety disorder, attachment disorders, oppositional and conduct disorders, bipolar disorder, and substance abuse.

Sexual Assault Education/Prevention Specialist, CONTACT Rape Crisis Center, Huntington, West Virginia, October 2003-August 2004. Duties: Teaching presentations on healthy relationships, dating violence, sexual assault and sexual harassment to students in middle and high school in Cabell, Mason, Wayne and Lincoln Counties, immediate crisis intervention for those who were victims of sexual abuse/assault at local hospitals, supportive counseling for individuals who were victims of sexual abuse/assault through the hotline, founder and facilitator of a TEEN Board, in which selected youth's served as mentors for their school, documentation of all contacts and advocacy for victims, planning community awareness events and grant writing. *Patient Population-* Primarily females, who were victims of sexual assault, all ages.

RESEARCH:

Dissertation-

Mulder, P., Jackson, R. & **Jarvis, S.** (2010). **Services in Rural Areas.** In Levin, B. & Becker, M. (Ed.), *A Public Health Perspective of Women's Mental Health* (pp. 313-334). New York: Springer.

Publication-

Levin, B. & Becker, M. (In Publishing). *Women's Mental Health Services.* Springer Publishing, New York: New York.

Chapter Title: "Services in Rural Areas."

Chapter Authors: Mulder, P., Jackson, R. & **Jarvis, S.**

Research in Progress-

"Caregivers' Acceptability of Parent-Child Interaction Therapy: Are Cultural Modifications Needed in Appalachia."

Fields, S., Tiano, J., Chavez, V., Grayson, J., & **Jarvis, S.**

Research in Review-

"Measuring Neurocognitive Decline in Carotid Artery Endarterectomy patients: Use of Brain Diffusion MRI and Neuropsychological Assessments."

AbuRhama, A., **Jarvis, S.**, Kerr, P., Sirbu, C., Bhanot, V., Jain, N., DiPino, R., Sirbu, M., Kommor, M.

"Neuropsychological Database of West Virginia University Vascular Patients."

AbuRhama, A., **Jarvis, S.**, Kerr, P., Sirbu, C., Bhanot, V., DiPino, R., Sirbu, M., & Kommor, M.

"Factors Influencing Quality of Life Post Coronary Artery Bypass Surgery."

Jarvis, S., Kerr, P., Sirbu, C., Bhanot, V., DiPino, R., & Sirbu, M.

"Development of Acute Stress Disorder and Post Traumatic Stress Disorder after Mechanical Ventilation in the Intensive Care Unit."

Kowalski, T., Bellapralu, S., Griffith, J., Sirbu, C., Nazha, H., Kerr, P. & **Jarvis, S.**

TEACHING EXPERIENCE:

Practicum Instructor, Marshall University Psy.D. Program

Semester: Spring 2009

Course Taught: Child Assessment Practicum

Supervisor: Marianna Linz, Ph.D.

Teaching Assistant, Marshall University, Psychology Department

Semester: Spring 2009

Course Taught: Abnormal Psychology (408-Level Course)

Supervisor: Steve Mewaldt, Ph.D.

Practicum Instructor, Marshall University Graduate College, Clinical Psychology

Semester: Fall 2008

Course Taught: Child Assessment Practicum

Supervisor: Thomas Linz, Ph.D.

Teaching Assistant, Marshall University, Psychology Department

Semesters: Fall 2007 and Spring 2008.

Courses Taught: Introduction to Psychology

Supervisor: Christopher Legrow, Ph.D.

CAMPUS LEADERSHIP:

Marshall University Psy.D. Internship Development Committee:

Student Representative, Fall 2007- Spring of 2009

Marshall University Psy.D. Interview and Orientation Committee:

Student Representative and Elected Student Mentor for Advanced Standing Students,
Spring 2008-Spring of 2009

Marshall University Psy.D. Student Organized Advisory Panel:

Advanced Standing Student Representative, Fall 2007- Spring 2008

Marshall University Graduate College Community Clinical Services Center:

Case Conference Manager: I conducted staffing under the supervision of Dr. Tony Goudy for the counseling and psychology students. The responsibilities of this position included a thorough review of all intakes, checking for diagnostic accuracy, conceptualization of presenting problem, appropriate documentation and presentation of new therapeutic cases on weekly bases for assignment.

PROFESSIONAL ORGANIZATIONS:

Psi Chi, National Honor Society in Psychology

West Virginia Psychological Association, Student Representative since 2006

Elected to the Association's Membership Committee, Summer 2008-Present

Elected to the Association's Colleges and Schools Committee, Summer 2009-Present

APA, American Psychological Association, Student Affiliate since 2006

