MENTAL HEALTH CHATS TO IMPROVE MENTAL HEALTH IN RURAL AREAS

by

Nathan C. Taylor

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Nathan Cole Taylor, Ph. D.

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Advisors: Richard J. Bischoff & Paul R. Springer

Poor mental health is global concern that affects individuals, families, and communities, with large areas locally and globally lacking services. Rural areas are particularly at risk for experiencing the burden of mental health problems, with the traditional solution of increasing the number of providers remaining insufficient. As a result, novel solutions are needed to improve mental health care in rural communities. The purpose of this pilot study is to establish initial evidence for a low-intensity mental health intervention delivered by nurses in a rural primary care setting. Utilizing the Health Belief Model as a framework, mental health chats targeted barriers to utilization of mental health care services, and provided a cue to discuss mental health concerns. Desired outcomes included increased mental health care utilization behaviors, decreased barriers to care, and improved patient satisfaction.

The study sample consisted of 94 rural residents visiting their primary care provider. Participants were randomized by cluster into a control or intervention condition. The intervention condition included a psychoeducation brochure and mental health chat encouraging the patient to discuss psychosocial symptoms with the primary care provider. The control condition only included a psychoeducation brochure. Logistic regression, analysis of covariance, and mediated path analysis were used to explore four research questions.

While not every hypothesis was supported, participants in the intervention group were 3.95 times more likely to discuss mental health related problems with their nurse and/or provider. These findings demonstrate support for the effectiveness of low-intensity mental health interventions delivered by nurses, which represents a form of task shifting. Findings did not support the effectiveness of the intervention in reducing barriers to care, increasing provider satisfaction, or the mediating effect of barriers to care on mental health discussions with nurses and providers. Barriers to care may be complex enough that a one-time conversation was insufficient to alter change. Systemic approaches to reduce stigma are potentially needed to facilitate an environment conducive to change. The findings from this study provide impetus for additional research to further explore the effectiveness of mental health interventions that build on existing community resources and infrastructure.

DEDICATION

I would like to dedicate this dissertation to my amazing family who has supported me throughout this journey. No one is more deserving of this than my beautiful wife Kourtney, whose selfless sacrifices made furthering my formal education more than just a dream. To Boston, Cooper, and Addison, who provide purpose and meaning for me to be a better father and husband. To my parents, Corey and Shelley, whose example of family dedication and commitment contributed to my desire to help strengthen families. Finally, to all my fictive kin. I have been blessed with many friends that have become family. These family relationships are evidence enough of the benefits of family. I love you all.

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Chapter 1: Introduction

Mental health problems are broadly defined as mental, behavioral, or emotional challenges, such as abnormal thoughts, emotions, or relationships, which vary in impact, ranging from limited to more severe levels of impairment (National Institute of Mental Health, 2019; World Health Organization, 2001). Poor mental health is a global concern, with many individuals and families facing significant barriers preventing the utilization of needed services. Nearly one in five people live with a mental illness (Steel et al., 2014), which is the leading cause of disability worldwide (Whiteford et al., 2013). Unfortunately, current statistics are underestimations of the actual problem. The true burden of mental health problems is often masked by a) the comorbidity of problems with other illnesses such as cardiovascular disease, diabetes, cancer, and obesity (Prince et al., 2007; Scott et al., 2016), and b) the separation of suicide and mental illness in estimations of the burden (Hoertel et al., 2015; Li, Page, Martin, & Taylor, 2011; Nepon, Belik, Bolton, & Sareen, 2010; Vigo et al., 2016).

The United Sates is not exempt from the global problems related to mental illness. In general, the United States has a wealth of mental health and health care resources, but research has demonstrated evaluating large geographical data can create an illusion of equity of resources available to all (Dwyer-Lindgren et al., 2017). In other words, country level data is often utilized to illustrate the abundance of resources available to all citizens, when access to the resources is limited based on a variety of discriminating factors. For example, the United States has an estimated 12.4 psychiatrists per 100,000 people (World Health Organization, 2015), an abundance of resources compared to the low- and middle-income countries ratio of less than one psychiatrist per 100,000 people

(World Health Organization, 2014). Unfortunately, within the United States there are many still lacking adequate resources, with more than 108 million people living in Mental Health Professional Shortage Areas (Department of Health & Human Services, 2017). While the United Sates data suggests more than sufficient resources, residents of rural communities experience an increased risk of living in Mental Health Professional Shortage Areas (Holly et al., 2018).

Barriers to Mental Health Care in Rural Communities

Lack of services in rural areas is problematic because rural residents are at an increased risk for a variety of health-related challenges, including mental health problems. Compared to their urban counterparts, rural residents are more likely to experience depression, substance abuse, suicide, child abuse, and domestic violence (Holly et al., 2018; Ivey-Stephenson, Crosby, Jack, Haileyesus, & Kresnow-Sedacca, 2017; Smalley et al., 2010). Increased risks warrant the need of resources that address challenges related to accessibility and acceptability of mental health services.

Accessibility

Accessibility of services includes factors such as provider availability, wait-lists for treatment, cost of services, and distance to providers (Belanger & Stone, 2008; Robinson et al., 2012). Perhaps the most obvious challenge rural residents' face in accessing services is lack of a mental health professional workforce. The Department of Health and Human Services designates populations lacking mental health providers as Mental Health Professional Shortage Areas. Nationally, nearly two-thirds of mental health professional shortage areas are in rural communities (Department of Health & Human Services, 2017). With a lack of providers nearby, those needing services in rural areas are often required

to travel great distances to gain access to mental health providers (Pullmann, Vanhooser, Hoffman, & Heflinger, 2010). Even in instances where mental health services are within close proximity, they are often overbooked and are only available certain days. As a result, patients seeking services, even those in crisis stages, are often assigned to waitlists (Belanger & Stone, 2008).

An additional barrier to accessibility for mental health services in rural communities is the cost of treatment. Rural residents are already at an increased risk of poverty, with approximately 1 in 4 adults in rural areas living below the poverty line (Caldwell, Ford, Wallace, Wang, & Takahashi, 2016; Singh & Siahpush, 2014). To complicate fiscal security for those with mental health challenges in rural communities, family members are often required to provide care for those experiencing psychological distress, which limits household income potential (Lai, 2012). Decreased income potential and increased risk of poverty for rural families affected by psychological problems result in financial constraints that limit the accessibility of services even if they are available. This includes not being able to pay for services, lack of insurance, inability to pay for travel costs, or difficulty taking time away from employment (Caldwell et al., 2016; Robinson et al., 2012).

Acceptability

Research has demonstrated that only removing barriers of accessibility, such as insurance and reducing costs, does not always increase service utilization (Golberstein & Gonzales, 2015). In addition to accessibility, acceptability of services must also be addressed to improve positive mental health outcomes in rural areas (Mojtabai et al., 2011). Acceptability refers to whether potential consumers perceive services as usable.

Stigma is a key contributor to whether mental health services are acceptable. Stigma is a label that creates negative differences that places people into outgroups, resulting in status loss and discrimination (Link & Phelan, 2001). One of the strengths of rural communities is a feeling of close social proximity (Pullmann et al., 2010). A consequence of close community connection is day-to-day activities, such as visiting a therapist, has increased potential to be common community knowledge, increasing stigma and reducing acceptability of treatment (Bischoff, Hollist, Smith, & Flack, 2004). Stigma also influences the acceptability of services for families, who often feel stigma when a relative has a mental health challenge (Pullmann et al., 2010). Family stigma may contribute to implicit or explicit family pressures that prevent or delay the usage of services (Franz et al., 2010). This is problematic because delayed services increase the risk of negative health outcomes and suicide, exacerbating already existing problems (Boonstra et al., 2012; Drancourt et al., 2013; Ghio et al., 2015). Another key factor in the acceptability of mental health services is education. Rural residents are less likely to receive a college education (Caldwell et al., 2016), with education positively associated with accurate information about mental health problems (Blumenfield, Suojanen, & Weiss, 2012). Services are therefore more likely to be unacceptable because of an inaccurate understanding of mental health diagnosis and treatment.

Health Belief Model

The Health Belief Model is a valuable framework for understanding how to increase utilization of mental health resources in rural areas. Rosenstack (1974) developed the Health Belief Model to explain why people were not accessing needed services, and today includes six constructs: perceived susceptibility, perceived severity,

perceived benefits, perceived barriers, cues to action, and self-efficacy (Gipson & King, 2012). Henshaw and Freedman-Doan (2009) conceptualized mental health care utilization using the Health Belief Model (see Figure 1), where socio-demographic factors influence one's mental health threats (perceived susceptibility and severity) and expectations (perceived benefits, barriers, and self-efficacy). Mental health service behaviors are predicted by the perceived threats and expectations, in addition to cues to action, which are prompts to the need for care or readiness to change (Gipson & King, 2012). While the original model by Henshaw and Freedman only included the direct effect of cues to action on mental health care utilization, perhaps cues from others can also alter perceived threats and expectations and therefore indirectly change mental health service utilization.

In the case of rural mental health, *sociodemographic* factors include living in a rural community, increased poverty, and lack of education. *Threats* include rural residents' lack of recognition of the risk and severity of mental health problems, challenges related to acceptability of being diagnosed with a mental health condition, and low perceived need or knowledge that symptoms are related to mental health problems. *Expectation* factors are barriers of accessibility and acceptability described previously, in addition to a lack of knowledge that primary care providers are capable of addressing mental health problems, particularly in rural areas. Both the decreased threat of susceptibility and severity of mental health problems and barriers to expectations in rural communities inhibit the utilization of services.

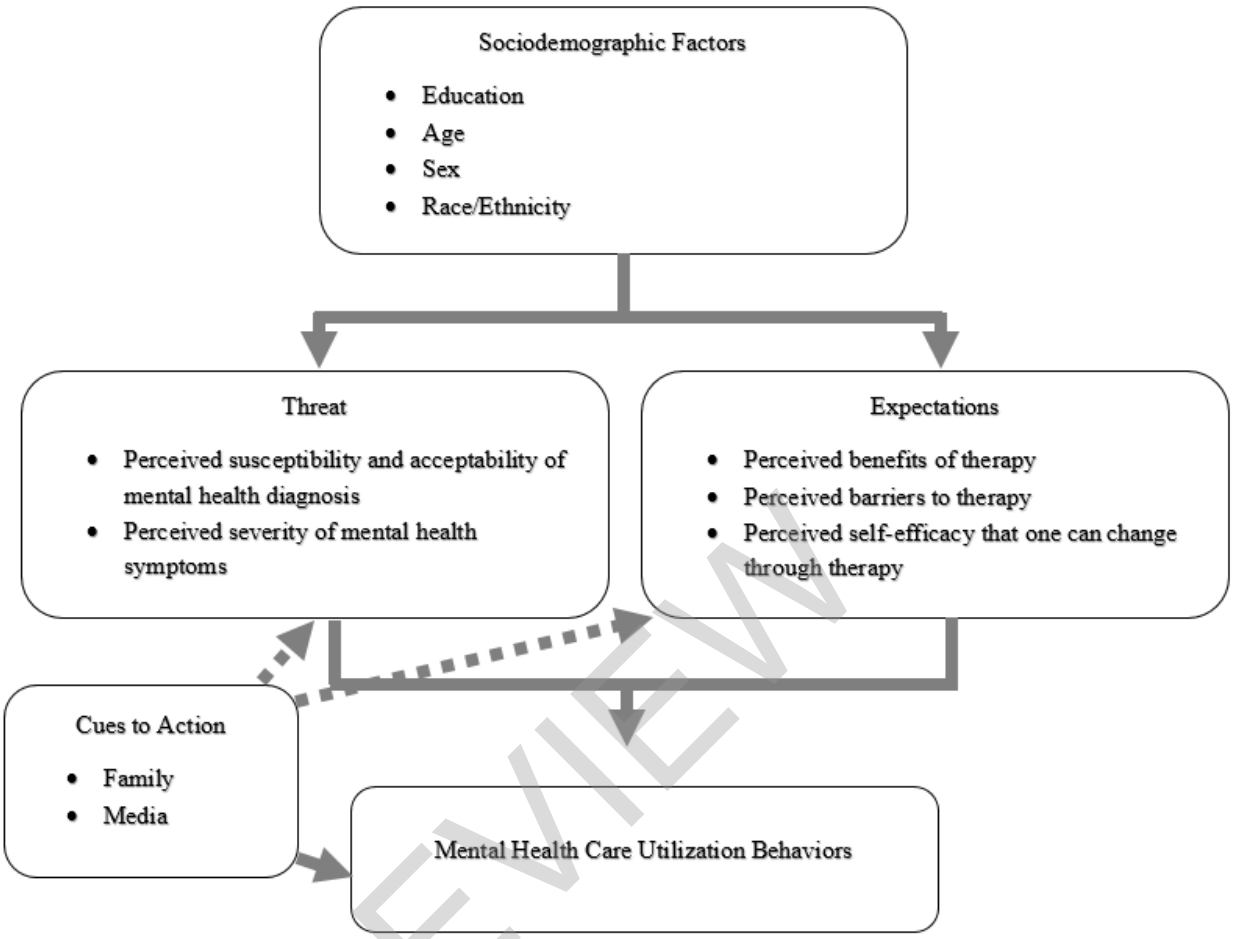

Figure 1: Gipson & King's (2013) conceptualization of mental health utilization using the Health Belief Model. The dashed arrows were not included in the conceptualization, and represent the indirect effect cues to action can have on mental health care utilization through changing the perceived threats and expectations.

Interventions to Address Disparities

The solution frequently given to reduce mental health professional shortage areas is to increase the number of providers (Holly et al., 2018). This solution has little impact on improving mental health in rural communities, as it would require professionals to establish or relocate clinics to small communities and cover large geographical areas. Even with incentive-laden programs to deliver services to rural communities, such as loan repayment options, providers frequently fail to remain long term (Sempowski,

2004). Because of the failed approaches to increase the availability of providers in rural communities, novel approaches are needed to expand the traditional view of mental health care and service delivery.

Low-Intensity Interventions

While there is a dearth of literature on mental health interventions, the majority require professionals with specialty skills and training and are time intensive (Grande, Faber, Durand, Thompson, & Elwyn, 2014). These challenges create problems for underserved, rural communities because of the lack of basic mental health professionals and resources as described previously. Therefore, while interventions are continually developed and tested, they often are not scalable to rural areas because of the scarcity of professionals. As a result, low-intensity interventions are needed so the reach of services extend to areas with limited resources. Low-intensity interventions refer to the low usage of highly trained professionals in cost-effective ways (Bower & Gilbody, 2005). Low-intensity interventions, such as minimizing in-person contact or adapting to computer-based interventions, are effective for improving mental health related outcomes (Freeman et al., 2014; Richards et al., 2015). The benefit of low-intensity interventions is they are easily transferrable, and result in increased patient choice, service flexibility, cost-effectiveness, and service capacity (Bennett-Levy, Richards, Farrand, & Christensen, 2010).

With lack of resources, rural professionals can often become overburdened because they take on additional roles, such as the doctor being the de facto mental health provider (Bischoff et al., 2014). This means that time-intensive interventions may not be suitable in already resource strained settings. While complex behavioral interventions

have an important place in mental health care, if drastic changes are going to take place to improve services, interventions are needed that are timely and require minimal use of highly trained professionals. This can happen in rural communities through the integration of interventions into primary care and the strategic use of human resources through task shifting.

Primary Care

A strategy to address the burden of mental health in rural areas is the implementation of resources into primary care. One needs to look no further than collaborative care as evidence of the potential impact primary care can have on mental health. Collaborative care is when "two sectors or two levels of the same sector work together to support specific clients" (Jenkins, Kessler, Riba, Gunn, & Kauye, 2012, p. 97). Ideally, in the mental health field, this represents the integration of addressing psychosocial problems in the primary care setting with medical and behavioral providers working collaboratively towards the same goals (Doherty, McDaniel, & Baird, 1996). The collaborative partnership between mental and medical professionals in primary care is cost effective (Ivbijaro, 2012), results in improved client outcomes for a variety of mental health related disorders (Coventry et al., 2015; World Health Organization & World Organization of Family Doctors, 2008), and has been identified as a key strategy to reducing mental health disparities (Kakuma et al., 2011).

While collaborative care provides impetus for the integration of mental health into primary care, there are six reasons that primary care is well suited for mental health intervention. First, primary care provides access to large populations. Utilizing nationally representative longitudinal data, Soni (2010) reported that 65.5% of United States adults

make an appointment with their primary care provider for a routine health care visit on a yearly basis. Second, while not typically identified as the presenting concern, the majority of those visiting primary care have a mental health disorder (Borowsky et al., 2000; Vermani, Marcus, & Katzman, 2011). Third, patients visiting a primary care facility experience less mental health-related stigma compared to mental health clinics (Robinson et al., 2012). With stigma being the greatest barrier to utilization of services, the integration of behavioral health in primary care would be a vital step to improve mental health outcomes.

Fourth, patients trust their primary care providers and utilize them to gather health related information (Blendon, Benson, & Hero, 2014; Gutierrez, Kindratt, Pagels, Foster, & Gimpel, 2014). Accurate information and resources dispersed through trusted primary care providers have a greater likelihood of being accepted by those needing services (Blumenfield et al., 2012). It is through this relationship that physicians can act as a cue to action to help patients become aware of symptoms, need for mental health care, diagnosis, and benefits of treatment (Henshaw & Freedman-Doan, 2009). Fifth, integration of mental health services in primary care is cost effective because infrastructure already exists (Lee, Aos, & Pennucci, 2015). Finally, especially in underserved areas like rural communities, primary care providers are already the primary source of mental health treatment (Olfson, Kroenke, Wang, & Blanco, 2014).

Patient Focused Interventions

Extensive literature exists on interventions in primary care because of the benefits described previously. The most common approach is to educate primary care providers to identify and treat mental health problems (Thielke, Vannoy, & Unutzer, 2007). An

example is the implementation of mental health assessments, where primary care providers are trained to use a behavioral assessment and then the assessment is implemented into practice to help identify mental health symptomology (Yano et al., 2012). Unfortunately, even after training, providers are often concerned about opening the "Pandora's box" of mental health (Bitar, Springer, Gee, Graff, & Schydlower, 2009), which includes factors related to stigma, complexity of treatment, and provider time-constraints (Thielke et al., 2007).

Another part of the system that should warrant attention for mental health interventions is the patient. Patients experience challenges in having their mental health concerns addressed in primary care for a number of reasons. First, patients often lack awareness that their symptoms are mental health related, which creates challenges for intervention because perceived need of mental health problems is identified as the greatest predictor of receiving treatment (Verhaak et al., 2009). Second, patients are often unaware that primary care providers can treat mental health issues, and as a result will only focus on physical health concerns (Thielke et al., 2007). Finally, many patients lack the knowledge or language necessary to communicate mental health symptoms.

A basic patient activation skill is asking questions (Cortes, Mulvaney-Day, Fortuna, Reinfeld, & Alegría, 2009), which many patients are unaware they can do or simply do not ask (Eliacin, Rollins, Burgess, Salyers, & Matthias, 2016). In the Shepherd et al. (2011) study, intervention participants presenting with depressive symptoms were assigned to ask three questions following an appointment with their provider: 1) What are my options?; 2) What are the possible benefits and harms of those options?; and 3) How likely are the benefits and harms of each option to occur?. Compared to a control

condition, asking the three questions resulted in increased information sharing and provider consideration of patient preference in treatment, which increase the likelihood of treatment recommendations. Encouraging and providing the information necessary for patients to be active participants in the health care process is linked to important health outcomes such as better health outcomes, lower health costs, and increased levels of satisfaction (Hibbard & Greene, 2013). As satisfaction increases provider trust and adherence to treatment also increases, improving overall patient care (Dang, Webstrook, Black, Rodriguez-Barradas, & Giordoano, 2013; Wroth & Pathman, 2006). Initiatives encouraging patients to be more active participants in treatment should be included in primary care to increase the likelihood of improved mental health outcomes.

Task Shifting and the Strategic Use of Human Resources

Researchers have found great success improving health care through task shifting, or the redistribution of tasks traditionally performed by highly trained professionals to those with less training (Kazdin & Rabbit, 2013). The World Health Organization (2008) identified task shifting as the most realistic way of addressing the worldwide workforce crisis. Traditionally, task shifting for mental health consists of training community health workers in partnership with a primary care setting to provide basic counseling in underserved areas (Hoeft, Fortney, Patel, & Unützer, 2017; Matsuzaka et al., 2017). Task shifting has been a global solution to addressing the health care workforce crisis for over a decade, although there has been less application in the United States. One plausible reason for the lack of use in the United States are professional licensures and laws that restrict who can provide treatment and treatment-related services. As a result, lay-

providers with limited training could not legally provide brief interventions. With these limitations in mind, task shifting appears slightly different in the United States.

A popular example of how task shifting is adapted in the United States is training barbershop and salon workers to educate patients on health-related behaviors. Researchers have found this strategy effective in reducing the risk of diabetes (Madigan, Smith-Wheelock, & Krein, 2007), increasing regular mammogram screenings (Sadler et al., 2011), and promoting prostate screenings (Holt, Wynn, Litaker, & Schoenberger, 2010). Utilizing barbershop and salon workers also represents low-intensity interventions because they are cost effective, require minimal usage of highly trained professionals, and do not require time intensive trainings or programs.

Utilizing nurses can represent a form of task shifting of mental health responsibilities in primary care. Nurse-led interventions have shown to be effective for addressing mental health in primary care (Lamers et al., 2010). While nurses are highly trained, they can be a valuable resource for treating mental health problems because there are more nurses than primary care providers and they are cost effective compared to primary care providers (Dinç & Gastmans, 2013; Olshansky, 2011; Westbrook, Duffield, Li, & Creswick, 2011). This would mean that interventions delivered by nurses would have increased reach into areas with limited professionals. Nurses also are trusted, represent a primary source of health information, and often spend more time with patients than the primary care providers, resulting in increased opportunities for intervention (Westbrook et al., 2011). Similar to other professionals, nurses are often responsible for many tasks, so time constraints should be considered in determining involvement in additional responsibilities.