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Use of Technology to Increase Access to Mental Health Services in a Rural Texas Community

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The Leon County Health Resource Commission sought to increase access to mental health services for their rural community. The commission formed a network of partners who collaborated to increase free transportation to mental health services outside the community and developed a telehealth-based counseling program through a counseling psychology training program. Learning opportunities emerged during the development and implementation of these activities for both the students and the community in how to successfully utilize and sustain this service. This article describes the telehealth counseling model, presents lessons learned in the process, and presents recommendations for others interested in utilizing similar strategies. **Key words:** *mental health, rural health, sustainability, telehealth*

RURAL communities face unique challenges in meeting residents' health needs. Rural areas have limited health care resources and services, experience a persistent shortage of health care professionals, and often have inadequate public health.[1] Existing research indicates that rural setting contributes to substantial health disadvantages.[1–4] Eberhardt and colleagues[2] document several dimensions along which rural residents not only have poor health and higher health risks but also have limited access and poor health outcomes in general as compared with their urban counterparts. Galambos[5] argued that rural health disparities have long been a "neglected frontier."

As public health professionals have adopted a strong focus on addressing health disparities, rural populations are recognized as experiencing significant disparities in access and a variety of critical health outcomes.[1] Rural areas often lack adequate access to mental health services, which is alarming on the basis of evidence that roughly 25% of individuals living in rural areas suffer from mental illness or substance abuse problems.[6] Despite the need in rural areas, mental health services largely remain concentrated in more populous areas where need and resources are also concentrated. Even when mental health services are available in rural areas, other social factors such as low educational attainment, lack of

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health insurance, and cultural characteristics present significant barriers to accessing those services.[7]

The lack of access to health care resources in rural areas has led to the growing adoption of telehealth technology as a modality for treatment. *Telehealth*, defined as "the use of telecommunications and information technology to provide access to health assessment, diagnosis, intervention, consultation, supervision, education and information across distance," enables rural populations to receive health care services across any distance, regardless of the providers' location.[8(p527)] By tradition, receiving health care services requires direct face-to-face contact between the clinician or provider and the patient. Telehealth applications simply allow face-to-face contact via telecommunication devices.

Some are skeptical of telehealth and worry that residents will not want to use it. However, in a study done by Grubaugh and colleagues,[9] rural and urban patients' attitudes toward medical and mental health care delivered using telehealth applications were examined. Results showed that attitudes and perceptions of both urban and rural patients were receptive to receiving medical and mental health care services via telehealth.

Additional studies have examined the attitudes toward receiving mental health care via telehealth services. Researchers examining the comparative effectiveness of telehealth-delivered services relative to traditional services found that psychiatric interviews conducted via telehealth are reliable, and patients using these services reported relatively high levels of satisfaction.[10,11] Blackman et al[12] found that in a sample of 55 participants, 98% reported that they were very satisfied with the services they received and at least as satisfied had they used face-to-face services. Montano and colleagues[13] also found that both clinicians and patients found video teleconferencing services used with hospitalized elderly people to be acceptable.[13] Thus, telehealth-based mental health services have proven to be a viable strategy for extending care to those who are geographically or socially isolated, with results comparable to traditional face-to-face services.

This article describes how one rural community, Leon County, Texas, developed a telehealth-based strategy for increasing access to mental health services for its residents through a partnership with a university. This initiative has provided access to services for many who would otherwise go without care; in addition, it has generated substantial interest from other rural communities with similar unmet needs. We will describe the development process, the way the service delivery works, as well as some lessons learned and recommendations that may be useful for those wishing to replicate this model.

BACKGROUND

Leon County is a rural county in east Texas, covering 1072 square miles, and is home to an estimated 16 344 residents. There are 7 incorporated cities in Leon County—the largest of which houses approximately 1800 people, but the majority of the population resides in unincorporated areas. Similar to other rural communities across the country, Leon County residents face health disparities resulting from geographic isolation, limited availability of services, lack of transportation, poor socioeconomic status, low educational achievement, lack of insurance, and a host of other contributing factors.

In 2005, Leon County appointed a "health resource commission" to oversee health planning and resource development. Because Leon County is on the farthest edge of the service region, and the population is relatively dispersed throughout the county, many providers whose mission is to serve the region do not maintain an office or staff in the county. For most Leon County residents, travel to those services is at least an hour's drive one way, which can be both time- and cost-prohibitive. Thus, many residents simply do not get the services they need.

To increase access to services, the health resource commission established the Leon Health Resource Center, a facility located

centrally that houses a full-time community health clinic and provides space for other service providers to see local clients without incurring additional overhead. The county contributes the cost of utilities and an office manager to coordinate operations. The county also runs a free, volunteer-based transportation system for residents to get health-related services, which is dispatched by the office manager.

Results from a 2006 survey indicate that 62% of adult residents who said they needed mental health services were unable to get the services they needed.[14] After considering the results of the assessment, the health resource commission decided on 4 key priorities: expansion of the volunteer-based transportation system, increasing access to mental health services, addressing substance abuse, and increasing access to specialty care.

Mental health has become a focus area in telehealth services. Rural areas are more likely to have a disproportionate number of residents who are chronically ill, poor, and dependent.[15] As a result, these residents are at greater risk for mental health disorders. Because receiving access to mental health care services for rural populations can be costly and require substantial travel, telehealth can aid in providing care to residents living in remote areas of the country from a distance.

In response to a grant opportunity through the Office of Rural Health Policy in the Health Resources and Services Administration, the Leon County Health Resource Commission held meetings with partners including local health care providers, the local United Way, researchers from Texas A&M University, the local mental health/mental retardation authority, law enforcement officials, and school counselors and developed 3 strategies for increasing access. First, because it was immediately implementable, they decided to identify available mental health services and expand their volunteer-based transportation system to get people to those services.

Their second strategy was to recruit mental health care professionals to serve clients through the Leon Health Resource Center by offering low overhead and substantial support services. The final strategy capitalized on the community's proximity to a local university and faculty in their accredited doctoral program in counseling psychology. The Counseling Psychology Program participates in the Counseling and Assessment Clinic, which is a mental health service operated by the Texas A&M Department of Educational Psychology in Bryan, Texas. The Commission planned to establish a telehealth connection with the Counseling and Assessment Clinic so that advanced doctoral students, under the supervision of the faculty, could provide counseling to Leon County residents at no cost. With technical assistance, the county secured seed funding for establishing the infrastructure necessary to implement their plan.

INTERVENTION

In implementing its 3 strategies, Leon County was able to expand its transportation system to improve access to existing services outside the community. While this addressed the issue of limited transportation for some residents, it did not alleviate barriers such as the time required to travel. The second strategy failed. Given the absolute dearth of mental health care providers in the region, there were no providers willing to travel to Leon County to see patients. This made the success of the third strategy—using telehealth technology to deliver mental health counseling—absolutely critical.

Identified resources

In developing their implementation plan for the telehealth-based mental health services, the Leon County Health Resource Commission identified several key resources that made this strategy feasible. First, the support of the local community was a critical resource for attempting a technology-based intervention. Local support was based on the strength of leadership in Leon County, as well as their experience working with local partners who had relevant experience with

telehealth in other contexts. In addition, the availability of infrastructure at the Leon Health Resource Center provided the location, security, and personnel necessary to implement such a program. Finally, Leon County leaders recognized the expertise of their partners as important to their success in bringing an innovative solution for unmet mental health needs to their community.

Infrastructure

Establishing telehealth-based mental health services required a relatively simple infrastructure including a referral and intake process; a secure, Health Insurance Portability and Accountability Act–compliant network connection between the Leon Health Resource Center and the Counseling and Assessment Clinic; a place to locate both the counselor and the patient; a person familiar with the equipment on both sides of the interaction; and a mechanism for securely transmitting records between the 2 locations.

While this infrastructure was simple in theory, having it operational was not. Because of issues with different service providers, backlog of installation orders due to Hurricane Ike in the Texas Gulf Coast area, and unanticipated bandwidth needs to accommodate encryption to ensure Health Insurance Portability and Accountability Act compliance, having the network connections installed and able to connect the Leon Health Resource Center and the Counseling and Assessment Clinic took more than 18 months. Ultimately, the Office of Information Technology for the Texas A&M Health Science Center was able to resolve the connection issues and get the system operational. The telehealth-based counseling services finally began in February 2009. Almost immediately, providers were informed of the service and began referring patients with mental health needs.

Telehealth-based counseling

The operation of telehealth-based mental health services consists of a relatively straightforward protocol. Individuals interested in receiving counseling services or those being referred by another service provider contact the office manager at the Leon Health Resource Center, who then places the person on the schedule of a doctoral student in Counseling Psychology. The initial intake session can take up to 2 hours and begins with 20 to 30 minutes of paperwork, including background information and consent forms, which are faxed to the counselor at the Counseling and Assessment Clinic in Bryan. A brief psychological assessment is conducted with an instrument recommended for mental health screening in rural primary care settings (the PRIME-MD).[16] After the paperwork is reviewed, the service coordinator in Leon County dials the Counseling and Assessment Clinic, using the telehealth equipment, and client and counselor meet face-to-face for the first time. While the client and counselor are in session, the service coordinator is available in a nearby office in case there are issues that require her presence (ie, technology problems).

The balance of the initial session is spent assessing the needs of the client and gathering information necessary to guide future counseling sessions. Individuals typically come to counseling once per week for about 50 minutes, although this can vary on the basis of need and availability. For example, some Leon County clients for whom the drive is too burdensome or costly to make every week were scheduled every other week to ensure that they could receive necessary services without overwhelming them with travel costs. The content of the counseling sessions varies greatly depending on the presenting concerns of the individual, the theoretical orientation of the counselor, and the personalities of the client and the counselor.

Sustainability

On the basis of their previous experience with losing services when grants ended, the Leon County Health Resource Commission explicitly planned for sustainability from the conceptualization of its strategy. Grant

funds were strategically invested in quality infrastructure—the network connection, the telehealth equipment, the development of good protocols and procedures, and establishing referral linkages. Utilizing the Counseling Psychology Program's training venue as a source of services ensured an ongoing source of providers; as one set of students completes their training, other students are able to take on their clients. The only ongoing costs to sustain the program that exceed resources already in place are the costs for the network connections, which are being paid by Leon County for the Leon Health Resource Center and by the Center for Community Health Development for the Counseling and Assessment Clinic.

IMPACT

As a result of the newly available telehealth-based mental health counseling services, 43 clients have been seen for a total of 278 sessions (as of July 2010). The number of sessions ranged from 1 to 23 with a mean number of sessions of 6.45 (SD = 5.9). The clientele have been predominantly female at 70% (males 30%). Seventy-seven percent of clients were white, 9% African American, and 7% each were Hispanic and biracial individuals. Clients ranged in age from 9 to 73 years with a mean age of 39.1 (SD = 14.2). Clients have been referred by medical staff at the Leon Health Resource Center, friends and family, physicians, the local mental health/mental retardation authority, and probation officers.

The most common client-reported presenting concerns were depression (47%), relationship problems (28%), and anxiety (26%). Other presenting concerns include anger problems, bereavement, substance abuse, sexual abuse, and previously diagnosed serious mental illnesses such as bipolar disorder (9%) and schizophrenia (1 of 43). The most common diagnoses given were major depressive disorder (37%), panic disorder (16%), posttraumatic stress disorder (5%), and generalized anxiety disorder (5%). Other diagnoses include substance abuse, substance dependence, paranoid personality disorder, and schizotypal personality disorder. In the first 18 months of providing counseling services, the variety of issues presented offer valuable training experiences for the doctoral students providing treatment, and using a modality that will continue to gain prominence as a strategy for addressing unmet needs.

Challenges

As with any intervention program, several challenges emerged that affected service delivery. Despite efforts to minimize the effect of travel disparities, the traveling required for some clients became a reason for termination. However, some clients were able to continue to receive services by utilizing the free transportation, only coming biweekly, or receiving counseling services by phone.

Technical difficulties also served as challenges to optimal service delivery. On occasion, the connection between the sites was impeded by bad weather and other unknown causes resulting in a slow connection, choppy video quality, or no connection and a postponement of the session until the following week. These circumstances were rare but interrupted the continuity of mental health services for the client.

Although it is often unknown why some clients stop participating in counseling, it is reasonable to think that some clients were not comfortable with the technology. Counselors took great care to check in on the client's comfort level with the technology at both the start and conclusion of the intake session. Some clients admitted to their uneasiness with the technology at the beginning of intake session, but most reported feeling comfortable by the end of session.

Similarly, one may think that the counselor not being present with the client in the room might be a challenge to the effectiveness of the services provided. The impact of distance on building rapport is a reasonable concern, although researchers are beginning to conclude that this impact is insignificant. In a study conducted by Day,[17] no

significant difference in therapeutic alliance was found between face-to-face, videoconference, and 2-way audio methods of service delivery for cognitive-behavioral–based counseling. No significant differences in client ease of communication, degree of relaxation, and global satisfaction were found in a study by Schopp et al.[18]

Alternatively, it is quite possible that clients who continued for some time in counseling were comfortable with the telehealth format. Rural residents often feel uncomfortable with mental health services because of the decreased anonymity in rural areas, and with the stigma these residents often associate with mental health services.[19–21] From this perspective, then, clients who participated in counseling may have appreciated the decreased likelihood of seeing the counselor in their community and thus have a reduced sense of stigma. This may be a unique and positive feature of telehealth counseling in rural areas.[22]

CONCLUSION

With the growing availability of technology, even for rural communities, strategies for meeting local health needs are increasingly utilizing different technologies for increased efficiency and sustainability. The creation of health resource centers that provide low overhead options for regional providers to have a local presence is one innovation that has proven to be effective in the Brazos Valley. In addition to Leon County, 4 other rural communities have adopted this model. Integrating technology into the health resource center capitalizes on the infrastructure already in place and allows access to a broader range of providers. Telehealth removes the need for providers to be in any reasonable proximity to the patients, as long as adequate support is available for the transmission of information and necessary paperwork.

Telehealth-based mental health counseling is an innovative approach to addressing unmet needs in rural communities. With the right partners, rural leaders may discover the capacity necessary to provide new services. In conclusion, several recommendations may prove useful for researchers or rural communities that are interested in replicating this model.

- Do not underestimate the complexity of the technical infrastructure needed to provide health services via telehealth. Know that developing this infrastructure can take a considerable amount of time, particularly in rural areas where this level of connectivity is not widespread.
- Utilizing the services of students in training is efficient, effective, and sustainable, but services must be coordinated carefully to accommodate their course schedule, and those schedules change every semester. This requires careful communication with clients.
- It is critical to engage community stakeholders, such as churches, schools, law enforcement, and the judicial system, to reach those families who likely need services.

The challenges faced during the implementation of this strategy in Leon County provide valuable information for other communities desiring to replicate this program. Overall, the program has proven to be sustainable and is making progress in meeting a critical need.

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