

HEALTH IT AND HEALTH DISPARITIES

University of Arizona & St. Elizabeth's Health Center Telepsychiatry Depression Treatment Program – using telepsychiatry for the treatment of depression in underserved Hispanics



at the UNIVERSITY of CHICAGO

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Case Study Report: University of Arizona and St. Elizabeth’s Health Center Telepsychiatry Depression Treatment Program – using telepsychiatry for the treatment of depression in underserved Hispanics

“The major lesson learned from this - telepsychiatry not a cure-all because the population of St. Elizabeth’s is very unique. Choosing them meant either shooting ourselves in the foot or having a wonderful experience. Ultimately, it was both, if that makes sense. St. Elizabeth’s is like a gem for the underinsured and uninsured populations.” – University of Arizona Principal Investigator

Report Summary	
Intervention and Setting	The University of Arizona College of Medicine, Department of Psychiatry (University of Arizona), in partnership with St. Elizabeth’s Health Center (St. Elizabeth’s), a health center look-alike in Tucson, AZ, conducted a project to examine the acceptability and accessibility of telepsychiatry depression treatment for low-income Hispanic adults through internet videoconferencing to patients at their primary care medical home.
Target Population	Hispanic adult patients with major depressive disorder
Technology Description	Commercial webcams & computers; Adobe Macromedia Breeze software
Funding	\$275,000 from the Robert Wood Johnson Foundation (RWJF)
Data and Analysis	<p>Content analysis using NVivo for a series of in-person discussions with University of Arizona and St. Elizabeth’s staff including:</p> <ul style="list-style-type: none"> • Two University of Arizona Principal Investigators (including one provider) • A University of Arizona psychiatrist who helped to evaluate the intervention • Program Recruiter at St. Elizabeth’s • Director of Behavioral Health Services at St. Elizabeth’s • Medical Director of St. Elizabeth’s • Three St. Elizabeth’s providers
Key Take-Aways	<ul style="list-style-type: none"> • Culturally and linguistically congruent liaisons can facilitate acceptance of health information technology (health IT). • Telepsychiatry can be embraced and accepted by patients who are limited-technology users. • Telepsychiatry improves access to mental health services and can improve quality of care. • Integrating IT into a broader system of clinic and provider function provides essential support for buy-in and sustainability.

Introduction

St. Elizabeth's Health Center (St. Elizabeth's), a faith-based Federally Qualified Health Center (FQHC) look-alike located in Tucson, Arizona, offers an array of medical, dental, counseling, and social services to its patient population. St. Elizabeth's serves a highly underinsured and uninsured primarily Spanish-speaking population. One respondent indicated at least 60% of the patient population identifies as Hispanic and approximately 97% of patients are uninsured or underinsured. The clinic also treats some undocumented immigrants who seek care.

Hispanics, the single largest and fastest growing minority group in the United States,ⁱ face significant disparities in health and health care access. Research shows inadequate care for major depression among Hispanics.ⁱⁱ According to a case study respondent, Hispanics experience depression at a rate similar to other ethnic groups - an estimated seven to twelve percent. Despite the similar estimated prevalence, disparities groups, including both Blacks and Hispanics, receive significantly less treatment for depression compared to Whites and non-Hispanic Whites, respectively.ⁱⁱⁱ Some research suggests similarities in prevalence are a result of underreporting of mental illness by disparities groups, including Hispanics.^{iv} The inadequacy of mental health care for Hispanics and other disparities groups may be attributed to both patient and health system factors including: socioeconomic position, education level, language proficiency, citizenship status, presentation of somatic symptoms, and issues related to the delivery of culturally appropriate care (sufficient Hispanic mental health providers).

In April 2008, the University of Arizona College of Medicine, Department of Psychiatry (University of Arizona), in partnership with St. Elizabeth's Health Center (St. Elizabeth's), received funding from the Robert Wood Johnson Foundation (RWJF) to conduct a project examining the acceptability and effectiveness of telepsychiatry depression treatment for low-income Hispanic adults provided by a psychiatrist through internet videoconferencing using a webcam. Prior to RWJF funding, the University of Arizona partnered with St. Elizabeth's (November 2007) to conduct a telepsychiatry pilot project to determine the feasibility of using commercially available webcams to provide mental health services to patients in their primary care medical home.

As part of the RWJF project, which replicated the pilot on a larger scale, University of Arizona and St. Elizabeth's staff screened approximately 160 patients into a study based on a diagnosis of major depressive disorder and other criteria.¹ Researchers randomly assigned patients to one of two groups: an experimental group receiving the psychiatric webcam intervention, and the control group receiving "treatment as usual" care from their primary care provider and additional behavioral health services from a counselor if determined necessary. Researchers measured several depression outcome variables from physician and patient-rated perspectives, including quality of life, mental and physical functional abilities, and satisfaction with treatment, and assessed how acceptability and clinical response are impacted by levels of acculturation, severity of illness, age, and gender. The program recruiter introduced experimental group patients to the webcam technology, available in a private room at St. Elizabeth's, where patients had monthly web-based appointments with the psychiatrist over a period of six months.

¹ Major depression screening criteria included a score of 10 or greater on the Patient Health Questionnaire (PHQ-9). The PHQ-9 consists of nine questions pertinent to symptoms related to depression. The Mini International Neuropsychiatric Interview (MINI) was used to exclude patients with other comorbid psychiatric conditions.

Potential benefits of Telepsychiatry. The provision of psychiatric services through interactive video conferencing – or telepsychiatry – can be an innovative and cost-effective way to increase access to mental health care. Telepsychiatric interventions can significantly impact delivery of mental health services, particularly to populations experiencing geographic, socioeconomic, and sociocultural health disparities. Research found comparable effectiveness between telepsychiatry services and those delivered in person.^v Telepsychiatry improves patient access and results in high patient satisfaction.^{vi,vii} Other benefits include improved patient convenience, reduction of stigma associated with mental health issues, and improved patient compliance with therapy and treatment. Additionally, telepsychiatry implemented at a primary care medical home may improve overall care coordination.

Key functionality and uses. Previous to the RWJF study, the University of Arizona purchased an Adobe license which provided access to Macromedia Breeze, a web conferencing and user desktop sharing software. The University of Arizona research team utilized this software to host the telepsychiatry sessions via secure (HIPAA-compliant) virtual conference. As part of the Adobe license, the research team ensured all information transmitted via web conference be retained within the University’s secure servers and networks.

Commercially available webcams and computers using residentially available internet connections via cable or DSL internet were available in each of the two psychiatrists’ offices who provided psychiatry services as part of the intervention, as well as in a separate room at St. Elizabeth’s. To ensure confidentiality of mental health services information, researchers placed a separate fax at St. Elizabeth’s dedicated to receiving psychiatry treatment plans and prescriptions from the psychiatrists at the University of Arizona. Project staff entered information related to the psychiatry treatment plan, including prescribed medications, into St. Elizabeth’s GE Centricity electronic health record (EHR) to ensure continuity of care between primary care physicians and the psychiatrists.

Sources of Funding

- \$275,000 from RWJF in April 2008

Encouraging Adoption & Implementation

We begin by outlining findings related to the design, implementation, and adoption of the telepsychiatry project at St. Elizabeth’s.

Use of linguistically and culturally sensitive liaisons can help overcome barriers to acceptance. Case study respondents identified use of a recruiter and psychiatrists who are linguistically and culturally similar to the target population as critical to patient acceptance of psychiatry treatment via webcam. The St. Elizabeth’s recruiter responsible for enrolling patients in the project introduced the webcam to patients in a culturally sensitive way. Project staff described this introduction of the webcam technology as a “warm hand-off,” which St. Elizabeth’s providers say helped dissipate the reluctance to discuss mental illness often found in Hispanic communities. Two providers recalled, *“The recruiter fit into that concept [of a warm hand off] given her prior experience in behavioral health... she was the connection because she would talk to people about depression; lots of people thought she was a counselor because she*

listened to them... She was very comfortable with the people, very inviting, bilingual and bicultural. These were key pieces in getting people to participate.”

“We had a warm hand-off where we identified a patient who had depression and took that patient and put them in the hands of a counselor [recruiter]... who was the gate keeper for the patient to see the psychiatrist and was with the patient at the time of the visit so patients weren’t just flung in the room. I think there were a lot of things that helped to augment that specific technology.” *St. Elizabeth’s Provider*

Respondents also identified shared culture and language between experimental group patients and psychiatrists providing care via the webcams as an important facilitator of patients’ acceptance of the technology. One St. Elizabeth’s staff member described this observation stating, *“The [psychiatrists] had the language and cultural skills and those would have been the things that would have made it or broken it.”* Overall, respondents felt patients would not have been as open to receiving psychiatric services via computer technology had there not been culturally and linguistically appropriate liaisons in place. Reflecting on this, a St. Elizabeth’s provider described previous experiences with

psychiatrists who *“would come in to volunteer but didn’t have the language skills... 80% of our population functions better in Spanish. Thus, it was a negative experience. Even within our own clinic, which is supposed to improve attendance rates, we’d have – at least – a 50% no show rate... The warm hand-off changed that.”*

Integrating IT into a broader, trusted system of care can facilitate patient acceptance of new methods of care.

Implementing the telepsychiatry project within a trusted system of care contributed to patient acceptance of the technology and treatment. As one provider explained, *“I think because we housed [the project] at St. Elizabeth’s the [mental health] stigma was reduced. [Patients] go to [St. Elizabeth’s] for primary care - it’s a place they trust.”* Reflecting on the project’s potential success

“I think having an understanding that to make a program work it cannot be individual-dependent; it has to be well integrated into a system of how things are processed.” *University of Arizona Staff*

outside of a clinical setting, such as in a patient’s home, one provider expressed the belief that the intervention would not be as successful due to the difficulties of establishing rapport and ensuring patient privacy outside of the clinical setting.

Effective adoption requires planning around provider buy-in.

St. Elizabeth’s providers supplied University of Arizona researchers with crucial input during the project design phase to help improve the intervention, paving the way to broader provider acceptance during roll-out. In addition, University of Arizona staff presented providers with information about other successful telepsychiatry projects prior to implementation. Providers noted this introduction helped resolve their concerns around the project and gain their buy-in. Ultimately, researchers designed the intervention to align with providers’ needs and existing workflow. For example, University of Arizona provided St. Elizabeth’s clinicians with health information about patients participating in the study (e.g., prescribed medications and treatment plans) via their existing GE Centricity EHR. Additionally, project staff tested multiple processes for prescribing medication, including St. Elizabeth’s providers writing prescriptions according to the consent for medication treatment, St. Elizabeth’s staff calling in prescriptions based on the consent for medication treatment, and the final decided-upon approach, psychiatrists faxing the prescription to St. Elizabeth’s, until they could establish an agreed upon approach.

Impact and Consequences

Having explored strategies used by University of Arizona and St. Elizabeth’s to implement the telepsychiatry intervention, we next describe how stakeholders characterized the impact of the project.

“I always had the idea that interacting with a patient through a camera is a challenge, but overall, I found that patients were comfortable with the technology... I expected [patients] to be more shut down, less likely to participate or not as able to express their emotions, but they were able to express their emotions and it was clear that many patients felt emotionally connected.” *University of Arizona Provider*

Demonstrated acceptance of computer technology among limited IT users.

Respondents unanimously agreed that despite their limited use of IT, patients willingly embraced the telepsychiatry technology. With regard to their limited use of technology, one researcher estimated *“less than 10 of the 80 patients [in the experimental group] had a computer in their home”* and indicated the estimate represented the intervention’s full target population. While some patients expressed initial hesitation, researchers noted

only one individual dropped out because they felt they could not “talk to the computer.” One of the Principal Investigators summarized this acceptance: *“We were able to demonstrate that Hispanic patients who are primarily Spanish-speaking and that culturally may not be involved in the use of technology in their private lives were fairly accepting of the technology.”* Further, acceptability of the technology extended beyond the intervention; project staff noted several patients went on to explore the use of their own webcam technology to communicate with their families abroad after using it in the intervention.

Telepsychiatry can improve access to and acceptability of mental health services.

St. Elizabeth’s staff indicated telepsychiatry increased access to mental health services for their patient population, noting the majority of patients do not attend referral appointments for mental health services housed outside of the clinic. One provider explained, *“Our alternative [before the project] was to work with people here and as we got a sense that people were really mentally ill, refer to the mental health community center... but the center’s show rates were abysmal.”* By providing mental health services to patients at their primary care medical home, patients were far more likely to receive the care they needed.

“I learned [telepsychiatry] opens a new opportunity for this population. It expands services beyond localized care. It expands the scope of care that can be delivered... This population, especially those by the border, previously received few, if any, psychiatry services. Also, it opened the awareness that there are mental health services and other people are getting help without having to do too much work.” *University of Arizona Provider*

Further, project respondents felt the presence of the telepsychiatry project increased patient awareness and acceptability of mental health services, despite the stigma surrounding mental health issues present in their patient population. According to one St. Elizabeth’s provider, *“Many in this population didn’t understand why they were feeling the way that they did. There was a huge impact when they entered the study because they felt like there was someone who could help them. This was something new for the majority of the population.”*

Stakeholders report improvement in health outcomes and quality of care. Stakeholders reported improved outcomes for patients who received telepsychiatry, as well as improvements in the quality of care. Specifically, the Principal Investigators mentioned that while depression - measured by the PHQ-9 - improved for both the experimental and control groups, the experimental group improved faster and sustained improvements longer than the group which received treatment as usual through their primary care provider. Over the six-month intervention period, there were significant improvements in functional ability and quality of life, and the majority of patients indicated satisfaction with treatment. Providers at St. Elizabeth’s also reported improvements in medication and visit compliance for those in the experimental group. In summary, one provider noted, *“What was evident was that the addition of this [telepsychiatry] service led to better outcomes over the long while.”*

Both University of Arizona and St. Elizabeth’s providers noted their participation in the telepsychiatry project led to improvements in the quality of care they provide. For example, one St. Elizabeth’s provider described the project’s impact on providers, explaining, *“We use the screening tool much more often for depression than we used to. It was a real learning opportunity for the providers. Not only can you objectify, but you can also follow what [the psychiatrists] are doing.”* St. Elizabeth’s integrated routine screening for depression into primary care enabling better identification of patients with depression. Other providers echoed this sentiment and added that access to a psychiatrist enabled their focus on primary care since the intervention relieved them of the responsibility of providing behavioral health care. Similarly, one of the intervention psychiatrists felt that the ability to watch himself provide care via the technology – both during and after a patient encounter – helped them monitor their mannerisms and gave them an effective tool for teaching.

Barriers to Use of Technology

While this case study presents several positive findings relative to the use of telemedicine technology in the provision of psychiatric health services, we identified potential barriers to applying this technology in similar settings.

Time and resource constraints can limit participation, especially among men. Stakeholders identified basic needs and financial limitations as a challenge for participation in clinic-based telemedicine initiatives, particularly for men. Respondents noted fewer males participated in the telepsychiatry intervention than females; women comprised approximately 75-80% of participants. One

“They’re great when they’re in treatment. The problem arises when trying to get them into treatment.”

University of Arizona Provider

Principal Investigator identified the demand to financially support families as a barrier to male participation and explained, *“Because this is a very poor population... we have problems engaging the men because they are busy working... It’s not the kind of work where they get one hour off... they get maybe 30 minutes off. It’s going to take them 15 minutes to get to the clinic... [They are] not going to have more than five minutes with the doctor. [Mental health service visits] are not going to happen.”* St. Elizabeth’s providers explained that in limited-resource settings, many individuals struggle to meet basic needs and do not have time to seek out mental health services; consequently, increasing access to these services via telehealth remained a challenge for their male population.

Migratory nature of the target population limits access to care and health IT. The intermittent and often unpredictable migration of patients across the Mexican-American border hinders patients’ use of health IT and access to health care services in general. While St. Elizabeth’s proximity to the border eases patients’ travel, the migration of the patient population makes it difficult for the clinic to track and maintain communication with patients. One respondent observed, *“They don’t have a lot of loyalty towards telephone numbers, which is really frustrating for follow-up.”* Although, in theory, the intervention provides access to patients at any location with a computer, internet connection and webcam, the majority of patients involved to date have no or limited access to computers and lack the technical knowledge necessary to connect to providers from home.

Policy and Organizational Factors for Replicability

Finally, we present key findings related to organizational and policy factors which played an important role in the implementation of the telepsychiatry intervention, particularly as they relate to the replicability of the project in other communities.

Partnerships can provide functional support. St. Elizabeth’s experience with partnerships demonstrates the importance of mutually beneficial community collaborations in enabling project success. Partnership with the University of Arizona for both the pilot project and RWJF intervention facilitated access to software licensing and technical infrastructure necessary to support the intervention. This enabled an easier coordination of the project’s technical logistics (i.e. webcam/audio settings, secure internet connection, compliance with HIPAA regulations, etc.) As part of the partnership, University of Arizona psychiatrists served as resources to St. Elizabeth primary care providers for clinical information about pharmacotherapy options for depression treatment. When asked what factors made the project successful, one University of Arizona staff member said, *“It was a true collaboration. They welcomed the services we could provide and bought into contributing to the research aspects of the study.”* In addition, the partnership’s top-down bottom-up approach to introducing the technology effectively addressed the concerns of providers to foster their buy-in. Furthermore, cost reduction to St. Elizabeth’s as a result of the partnership made the intervention more applicable to the safety-net setting. St. Elizabeth’s administrators acknowledged the appeal of not bearing responsibility for the cost of the technology and estimated that the intervention *“might have been a tenth of the cost of a traditional telemedicine infrastructure.”*

The reimbursement environment in a state drives sustainability. Although St. Elizabeth’s received sufficient grants to introduce the telepsychiatry intervention, major financial barriers limit sustainability and further program development. Similar to other telehealth initiatives, project staff identified payment structure as a determinant of sustainability. While appreciative of the intervention *“because of the important and much-needed service it provides”* to their limited-resource patient population, lack of payment for services provided to patients not eligible for entitlement funding limits the center’s ability to offer the service. When asked how the program could be sustained, one

When [behavioral health programs] don’t have funding... care becomes intermittent... If the provider or clinician needs to be transferred or take on administrative duties, there is discontinuity in therapy... Continuity with people who are responding well really does make a difference.

St. Elizabeth’s Provider

St. Elizabeth’s provider said, “*It’s a million dollar answer... You’ve got to be able to pay a psychiatrist. That’s the barrier for us right now. What has closed our door is the budget crunch.*” As the economic downturn restricts the availability of public and private sector funding, St. Elizabeth’s leadership team noted that the center’s ability to sustain innovative quality care initiatives diminishes.

Integration of IT into a broader system of clinic function necessary for sustainability. Intervention

[Through this project] my belief in the importance of an integrated behavior health approach was reinforced... I realized telepsychiatry really can be a modality for providing services under [the approach.]
 St. Elizabeth’s Provider

staff stressed the need to incorporate health IT programs into the broader system of clinic function for sustainability. One University of Arizona researcher explained, “*If [the health IT tool] is something that is well-integrated into the function of the clinic, has buy-in from the people who are doing the work that is pedigree... and formalized by contract, then you have the continuity that would be required for [sustainability].*” Both University of Arizona and St. Elizabeth’s providers

emphasized that telepsychiatry be incorporated as part of an integrated behavioral health approach to best support the target population’s needs.

Summary of Findings

This case study illustrates how providers and patients with limited experience with technology can embrace and accept the use of telepsychiatry in a primary care setting, leading to improved access to

Project Background and Data Sources
 The Office of the National Coordinator for Health Information Technology (ONC) and the Health Resources and Services Administration (HRSA) awarded NORC at the University of Chicago a project to conduct case studies examining lessons learned from community organizations using health IT to serve the needs of underserved groups or to address health disparities. The final report from this project will inform the Secretary of the Department of Health and Human Services’ (HHS) work under these topics per Section 3001 of the Health Information Technology for Economic and Clinical Health (HITECH) Act passed as part of the American Recovery and Reinvestment Act of 2009 (ARRA). Findings are based on analysis of notes taken during a series of discussions with project researchers, administrators, providers, and the program recruiter.

mental health care, and reported improvements in quality of care and health outcomes. Study respondents emphasized use of culturally and linguistically similar individuals for outreach and introduction of the technology proved critical to patient acceptance of psychiatry treatment via the webcam. The case study also demonstrates barriers posed by financial limitations and the migratory nature of this underserved population. Finally, in addition to desired changes in reimbursement structure, the case demonstrates the importance of considering integration of health IT into a broader system of care and leveraging infrastructure support for achieving sustainability.

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