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Leveraging Public–Private Partnerships During COVID-19: Providing Virtual Field Opportunities for Student Learners and Addressing Social Isolation in Older Adults

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Abstract

While preventive and management measures are important to mitigate the spread of COVID-19, strategies like social distancing can have devastating effects on older adults who are already at risk for social isolation and loneliness. In response, two Colleges of Health Professions (Social Work and Nursing) at a large public University leveraged a partnership with a national health and wellbeing company to address social isolation and loneliness in Houston area older adults during the COVID-19 pandemic. This intergenerational linkage initiative involved 707 older adults and 177 graduate social work and nursing students. This study describes the process of developing a virtual educational opportunity for students while also meeting the needs of vulnerable older adults in Houston, the third largest, and one of the most diverse cities in the U.S. Findings include student/learner outcomes, as well as self-reported improvements in loneliness scores, and unhealthy physical and mental health days among enrolled older adults.

Keywords

aging, COVID-19, public–private partnerships, social isolation, loneliness

Introduction

In the past year, the world has been shaken by the emergence and spread of the COVID-19 virus. The US, more than any other country in the world, has been severely affected with over 73 million cases, representing a fifth of the world's confirmed infections (Dong et al., 2020). Of these, more than 800,000 have died (Dong et al., 2020). As of 2021, approximately 75% of all US adults hospitalized for COVID-19 were ≥50 years old, (Garg et al., 2020) and 27% of COVID-19 cases among those aged 85 years and older resulted in death (CDC, 2020). While COVID-19 preventive and management measures are well-meaning and effective, strategies like social distancing can have devastating effects on older adults who are already at risk for social isolation and loneliness. Individuals who experience social isolation and loneliness are more likely to experience higher rates of depression and anxiety, and are at greater risk of developing Alzheimer's, dementia, increased blood pressure, heart disease, and obesity (Wu et al., 2021). Socially isolated individuals are also more likely to engage in harmful behaviors such as smoking, excessive eating, and increased alcohol consumption, while being less likely to engage in positive behaviors such as exercise which can lead to even more mental and physical health benefits (Leigh-Hunt et al., 2017). Moreover, the grave economic situation that has

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accompanied the spread of the disease compounded the COVID-19 crisis, and many older adults have struggled to obtain food, pay their bills, and access community resources during this time period (Adepoju et al., 2021).

In addition to the struggles that older adults have been experiencing, students in various fields of study have also been impacted by the pandemic. For example, COVID-19 disrupted several planned summer internships and field placement opportunities for social work and nursing students throughout the 2020 and 2021 academic years. While some employers were quick to transition from in-person to virtual student programs, many clinical employers had no other choice but to cancel or postpone internships and field work in a bid to limit employee exposure to the virus. Many nursing students experienced anxiety involving their learning outcomes and professional development as clinical placements were limited. Some nursing students reported that they did not belong in such rapidly changing environments and systems, which impacted their mental health negatively (Ulenaers et al., 2021). Similarly, the behavioral health of social work students was also impacted, (Lawrence et al., 2021) as many expressed tremendous frustration with COVID-19 restrictions that prohibited them from helping those in need (Morris et al., 2020).

In response to the public health threat posed by COVID-19, private and public partnerships are being forged in new and creative ways not seen before. For example, as the country grappled with testing deficiencies, the federal government welcomed assistance from non-governmental organizations. Rutgers University and companies such as Abbott, Roche, Cepheid, and others quickly developed diagnostic tests, increasing the country's capacity to accurately diagnose individuals with the disease. Similarly, the US federal government health agencies, the European Medicines Agency alongside 16 biopharmaceutical companies launched the Accelerating COVID-19 Therapeutic Interventions and Vaccines (ACTIV) partnership to optimize COVID-19 vaccine development and treatment options (National Institute of Health, 2020 (Health, 2020)). These partnerships across sectors and from multiple stakeholders, including governments, regulatory authorities, academic, and community organizations continue to play a major role in abating this global public health problem.

As this crisis continues, non-traditional partnerships that transcend laboratory and diagnostic testing in curtailing the impacts of COVID-19 are increasing. We describe one such partnership—an academic-industry partnership between a large public University and a national health and wellbeing company—and their ongoing joint efforts to mitigate the unintended consequences of COVID-19 in Houston, Texas, which is the third largest, and among the most diverse cities in the US. This partnership launched an initiative to connect older adults in the Houston area to social work and nursing students at the University. An intergenerational linkage, it offers bidirectional benefits such that older adults may provide life lessons to students and in return, students offer virtual companionship and assistance to older adults. This unique, and creative partnership project allowed students to learn and practice using technology, aligning with changes in the mode of care delivery especially in relation to virtual care, and ensuring students were most prepared to meet real-world demands.

Methods

Description of the Intergenerational Linkage Initiative

This initiative aimed to mitigate the detrimental effects of disconnectedness by pairing older adults with motivated college students. Before older adults and students were paired, background checks were conducted to ensure the safety of all parties concerned. These pre-enrollment tasks were conducted by third-party entities that provide services to help older adults and family members stay independent while living securely and happily at home. The assistance services are currently marketed to health plans, providers, employers, and directly to consumers who can afford them.

Building on this mechanism, the intergenerational linkage initiative focused on older adults in the Third Ward, East End, Alief, and Northwest Houston communities—unique low-income communities, some of which are adjoined to the University. Students were trained to virtually engage with their assigned older adult at least once a week. Training included tips for active and reflective listening, as well as guidelines for introductions, incident escalation and referral to local resources and services. Referrals could include food pantries and other food distribution sites; meal-delivery services; financial assistance; housing support; or healthcare (i.e., connecting or reconnecting with a medical home). Services were offered completely virtually, via telephone or audio-visual smart phone application, depending on the participants' preference. Students received $20 per hour of engagement with older adults, through funding provided by our industry partner. Students spent an average of 1 hour weekly with each older adult assigned to them.

Older Adult Identification

Eligible participants included Houston area older adults, 65 years of age or older, enrolled in Medicare Advantage through Humana. Eligible participants were contacted telephonically and asked to complete the 3-item UCLA Loneliness Scale (Russell, 1996). Those who screened positive for loneliness were invited to participate in the intergenerational linkage program. Of the 2202 older adults who screened positive for loneliness, 32% agreed to participate in the program.

Student Identification

Starting in April 2020, Master of Social Work (MSW) students were recruited to participate in the program under a

payment model. This approach allowed for a rapid response to the needs of the population and it also provided an opportunity for students to earn income during a time of economic strain and job loss due to the pandemic. While this initiative was not an official component of MSW students' field placements, they viewed participation as an opportunity to apply and further develop their social work practice skills while also providing assistance to those in need. Understanding of the social determinants of health and the importance of structural inequalities is an essential component of Social Work education. Students were able to provide information about appropriate resources to connect older adults within the community; these included COVID-19 testing, vaccine site information, referral to food banks, and healthcare resources.

Participating MSW students were paired with older adults based on language and shared interests. For example, Spanish-speaking students were preferentially paired with Spanish-speaking older adults. Considering COVID-19 and its potential psychological effects on older adults, we recruited MSW students who were already receiving education and training in engagement strategies, interpersonal communication and active listening techniques, and bio-psycho-social-spiritual assessment. These MSW students were also trained to connect their assigned older adult to emergency services if they were to express severe distress or potential harm or self-harm. Based on this initial effort, the model was expanded to include nursing students as a formal component of their curriculum.

Nursing students were enrolled as part of a course titled, *Management of Health Disorders Across the Lifespan in Diverse Settings*. This clinical experience allocates specific hours for Master of Science in Nursing (MSN) students to critically explore issues of older adults and employ therapeutic communication in the assessment of mental health in this population. Nursing students are a particularly good fit for this program given the discipline's holistic view of the person and focus on wellness. At a time when people are skeptical of accepting phone calls from anyone, being able to say "I am a nursing student" provides credibility and reassurance to the patient. Nurses also have skills specific to obtaining information and assessing needs of individuals in a compassionate and caring way. In addition, the initiative aligned with a key nursing competency related to effective therapeutic communication and collaborative teamwork among health professionals. Like the social work students, nursing students virtually engaged with their assigned older adult, at least once a week, focusing on companionship, reminders about medications, online silver sneaker programs, and telehealth benefits. Students using this experience as part of their field practicum hours also had access to their practicum instructor. Nursing students had a goal of 50 hours of contact, to replace the normal clinical time they would have had pre-pandemic, to interact with patients.

Data

Qualitative approaches were used to capture student outcomes, while quantitative approaches captured changes in self-reported loneliness and health related quality of life among enrolled older adults. Qualitative data came from the student program evaluation, which sought to identify student benefits that accrue when disparate sectors of the health ecosystem come together to address community needs such as social isolation and loneliness in older adults. In particular, the evaluation questions were structured to understand student experiences and how participation may have advanced their training in social work/nursing. Quantitative data, on the other hand, were based on older adults' responses, at screening and after 6 months in the program, to the UCLA 3-item loneliness questions, and responses to the Centers for Disease Control and Prevention (CDC) health related quality of life measure, Healthy Days (CDC-HRQoL-4).

As part of a mixed method approach, the quantitative and qualitative data were merged in a convergent design, with the qualitative results supporting the quantitative results (Creswell et al., 2011). This process of triangulation, wherein the qualitative findings are substantiated by comparing data from different sources (Creswell & Clark, 2017) added to the rigor of the research.

Measures

Open-ended program evaluation questions were distributed to the students at the end of the virtual placement. For example, respondents were asked to respond to the prompt "*I have been able to apply the knowledge and skill acquired through my [social work/nursing] training in my interactions with my assigned older adult".*

The 3-item UCLA Loneliness scale was used to screen older adults for loneliness. Responses to the three screening questions, "How often do you feel that you lack companionship: Hardly ever, some of the time, or often?", "How often do you feel left out: Hardly ever, some of the time, or often?" and "How often do you feel isolated from others? (Hardly ever, some of the time, or often?)" were used to group older adults in three categories: Not lonely, lonely or severely lonely. This data was collected at the beginning of enrollment and 6 months post-enrollment. Differences in pre-post responses were used to create a "change in loneliness score" and "change in loneliness status" variable.

The CDC Healthy Days measure estimates the number of recent days when a person's physical and mental health was good (or better) and is calculated by subtracting the number of unhealthy days from 30 days. These Healthy Days questions were asked at the beginning of enrollment and 6 months post-enrollment. Differences in pre-post responses were used to create "change in unhealthy physical health days" and "changes in unhealthy mental health days" variables.

Accordingly, the major outcomes of interest were changes in loneliness score, changes in unhealthy physical healthy days and changes in unhealthy mental health days. The independent variable was the frequency of virtual visits. The count of virtual visits ranged from 1-88 but due to the variable's skew, count of visits was capped at 50. A small (3.7%) of older adults reported having >50 visits.

Statistical Analyses

Qualitative data from the student evaluation forms of the program were analyzed using a thematic analysis approach. Thematic analysis is a method of identifying, analyzing, and reporting patterns within data (Braun & Clarke, 2006). Using an immerse, inductive coding approach, codes were derived directly from the data, instead of using a specific framework or previously developed codes (Chapman et al., 2015). Data were analyzed consistent with the Braun and Clarke's (2006) six-phase framework for thematic analysis that includes familiarization of data, initial code generation, theme search, theme review, theme definition, and development of the final report. Data were reviewed to ensure credibility and verify that the themes were supported.

Quantitative data from older adults' responses to the Healthy Days questions, and the 3-item UCLA loneliness score were analyzed. Descriptive analyses employing frequencies, proportions, means, and standard deviations were used to describe changes in the loneliness score, loneliness status, and changes in the number of unhealthy days. Bivariate analyses assessed differences in each measure pre-post intervention and examined the relationship between the frequency of virtual visits and changes in physical and health status. All statistical tests were 2-sided, and findings were considered statistically significant at $p < 0.05$. Sensitivity analysis was performed on count of virtual visits. All analyses were conducted using Stata 16. Written informed consent was obtained from students (for the qualitative evaluation). De-identified quantitative data was provided to the research team by the industry partner; hence, we were unable to contact the older adults directly. This study was approved by an Institutional Review Board in November 2020 (IRB ID: STUDY00002617).

Results

A total of 177 students from the Graduate College of Social Work (46) and the College of Nursing (133) at the University, along with 707 older adults, were involved with the program. Overall, students had a mean age of 31.8 years. Outreach efficiency rate, defined as a ratio of successful connections to the total number of outreaches was 19.3%. On average, students interacted with about four older adults weekly. Students were also encouraged to follow up with the same individual as much as possible, but students found they needed to make connections with multiple participants.

Two themes emerged from the qualitative responses. Each theme is presented with key quotes that best captured the findings to exemplify the experiences of the students.

Qualitative Findings: MSW and Nursing Student Learning

1. Successful connections established trust between the students and older adults, which presented practical opportunities for students to apply their social work/nursing training skills. The exchanges between the students and older adults centered on companionship. The students and older adults were able to build trust through their telephonic exchanges. Many older adults felt comfortable sharing their health concerns which allowed the students to practice their clinical listening skills and offer appropriate support.

> "I talked with Mr A for a long time. At first, he was very skeptical about who I was, but once I started to talk to him, he really began to open up. I used therapeutic communication to talk about his physical and mental health. I felt really good about the call because I had him laughing a lot and talking about his family."

> "I had a phone call with a client that was in her early 50s. She was very upbeat and talkative. We started with small talk about the weather and she told me that she was so happy the weather was good that day. We talked about her wanting to find a PCP for a yearly physical and she asked about the COVID vaccines. I made sure to tell her all the benefits of the vaccine and she decided to get vaccinated."

> "Today, we brainstormed ways in which he could take care of his social needs while still taking care of his wife. I told him that I would be able to assist him. He decided that these phone calls would be something that he would continue for now and we set up a new call appointment."

> "I helped set her up on the Silver Sneakers GO app and we spoke about the benefits of getting up and being active everyday. She had plans to use her weighted hula hoop after we got off the call."

2. Student learning was hampered by a high number of unanswered calls and older adults' limited awareness of the initiative; an opportunity to improve program communication to older adults remains. As with many telephonic outreach programs, some students reported that the older adult participant was unaware of the program, did not expect a call, or did not need the services being offered. In general, we observed a lack of communication with regards to scheduling, or older adult participants did not remember that they signed up for this program.

> "2 of the 3 calls I was able to successfully connect to told me they didn't even know about the call or the program. The last call I was able to successfully connect to knew about the program but did not have the time to do the call."

Table 1. Demographic Characteristics and Unadjusted Changes in Loneliness, Physical and Mental Health Days in Older Adults.

Demographic Characteristics (n = 707)				
Age, mean (SD)	72.33 (5.97)			
Sex, n (%)				
Female	466 (65.7%)			
Male	243 (34.3%)			
Race/Ethnicity, n (%)				
Non-Hispanic white	371 (52.4%)			
Non-Hispanic black	239 (33.7%)			
Hispanic	68 (9.6%)			
Others	31 (4.3%)			
Primary language				
English	601 (84.7%)			
Spanish	108 (15.2%)			
Changes in loneliness, physical and mental health days in older Adults[a] (n = 450)	Pre-enrollment	Post-enrollment	Absolute difference (pre minus post)	P
Loneliness score	5.35 (1.47)	4.37 (1.69)	0.98	<0.001
Loneliness status, n (%)				
Not lonely	-	214 (47.6%)	214	
Lonely	379 (84.2%)	180 (40.0%)	−199	0.002
Severely lonely	71 (15.8%)	56 (12.4%)	−15	
Unhealthy physical health days, mean (SD)	10.85 (10.65)	7.98 (10.68)	−2.87	<0.001
Unhealthy mental health days, mean (SD)	9.47 (10.00)	6.09 (9.27)	−3.38	<0.001
Count of virtual visits, mean (SD)	15.9 (15.8)			

SD, Standard deviation.
[a]Analyses includes 450 older adults that reported pre- and post-measures.

> "I've tried to schedule multiple calls through the program but have had no luck in getting a client to respond. Anytime I have called, the client either sends me to voice mail or hangs up on me. It got really discouraging to not have anyone answer and diminished my effort to make appointments. I know these hours are critical and that not every client is going to be like this, so I am going to make a better effort this upcoming month into making more appointments regardless of getting no answer."

Quantitative Results: Demographic characteristics

Overall, 707 older adults participated in the program. Older adults had a mean age of 72.3 years, and 66% were of female sex. Over half (52.4%) of the sample self-identified as white, 33.7% as black, and 9.6% as Hispanic. While most older adults indicated English as their primary language, 15.2% of these participants indicated Spanish was their primary language (Table 1).

Changes in Older Adults' Self-Reported Loneliness, Physical, and Mental Health Days

Table 1 shows the univariate statistics for participants' self-reported changes in loneliness, unhealthy physical, and mental health days before enrollment and after 6 months. T-tests show that participants' report of unhealthy physical days significantly reduced from an average of 10.85 days to 7.98 (p<0.001), and during the same time period, reports of unhealthy mental health days decreased from 9.47 days to 6.09 days (p<0.001). At the beginning of the initiative (Table 1), 87% of older adults reported loneliness, while 13% reported severe loneliness. Unadjusted post-measurement reports revealed some reductions in loneliness; the proportion of older adults who reported loneliness decreased from 84.2% to 40%, the proportion of severely lonely older adults reduced from 15.8% to 12.4%, while 48% of the sample reported no longer feeling lonely.

Figure 1 and 2 depict the varying relationships between count of virtual visits and changes in unhealthy physical and mental health days. Our findings suggest an inverse relationship such that each unit increase in virtual visits was associated with 0.07 fewer unhealthy physical health days. In other words, 15 virtual visits were associated with one less unhealthy physical day. Likewise, a unit increase in the count of virtual visits was associated with a modest reduction of 0.02 unhealthy mental health days. In other words, 45 virtual visits were associated with one less unhealthy mental health day.

Discussion

This study sought to address social isolation and wellness needs of older adult program participants while also providing an opportunity for Social Work and Nursing students

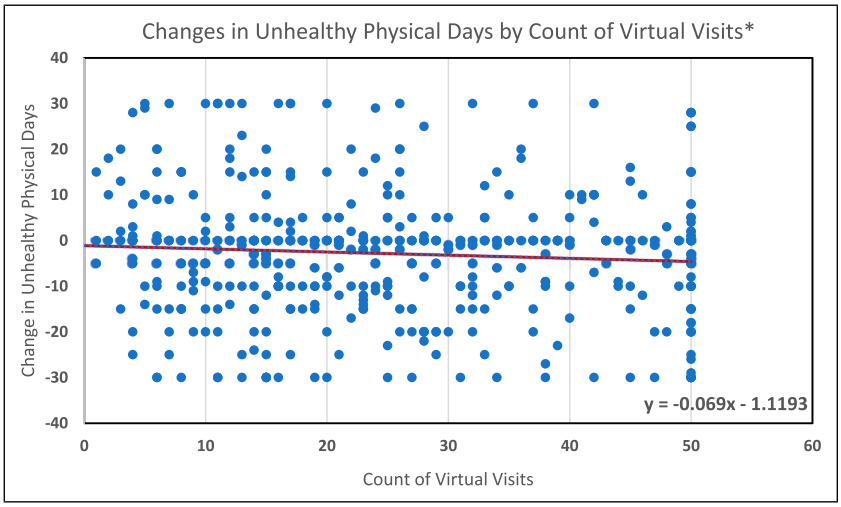

Figure 1. Changes in unhealthy physical days by count of virtual visits. *Count of virtual visits ranged from 1–88 visits but due to the variable's skew, visits were capped at 50. Only 3.7% of the population had 50+ visits.

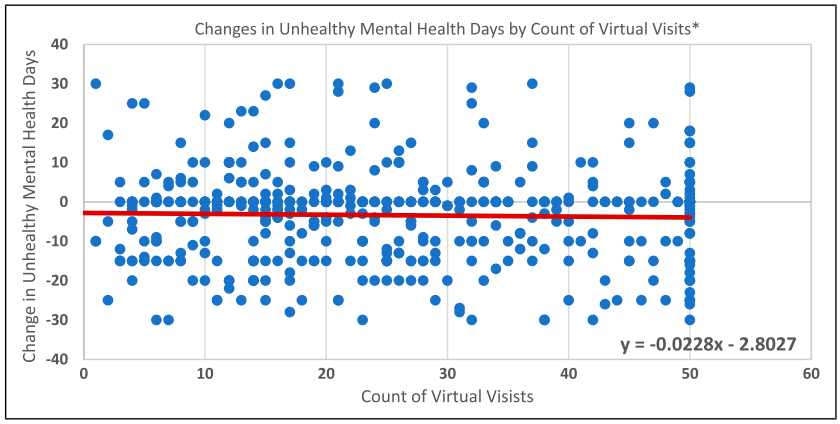

Figure 2. Changes in unhealthy mental health days by count of virtual visits. *Count of virtual visits ranged from 1–88 visits but due to the variable's skew, visits were capped at 50. Only 3.7% of the population had 50+ visits.

to practice engagement, assessment, intervention, and communication skills that are key to their future success in their fields. At a challenging time for many students and older adults, this intergenerational linkage initiative provided virtual field opportunities for student learners while mitigating social isolation among older adults. While there were challenges, including a high number of unanswered calls or limited awareness about the initiative, our findings support modest physical and mental health improvements in older adults and learner benefits for Social Work and Nursing students. For initiatives such as this, an alignment of industry and academic goals is critical to ensure older adults know what to expect, and students understand what to do when contacting an older adult who might not be expecting a call.

From an academic perspective, this intergenerational linkage initiative provided both informal and formal learning opportunities for MSW and MSN students consistent with the educational accreditation bodies of their respective disciplines, Council on Social Work Education (CSWE, 2015), and the Commission on Collegiate Nursing Education CCNE, 2013, (CCNE, 2013). Our findings illustrate some ways in which Social Work and Nursing students were able to apply and integrate practice competencies like patient engagement, therapeutic communication, and assessment via virtual modalities with a specialized, vulnerable and diverse population. In addressing some of the challenges faced, students gained valuable insight into factors that may cause barriers to engagement and communication. They also expressed a recognition for the importance of continued efforts. Given social distancing requirements due to the COVID-19 pandemic, students also gained valuable exposure to service delivery in virtual modalities. Specific to the nursing students, they were able to fulfill requirements of their mental health curriculum, including virtual field hours. Furthermore, students received remuneration for the services they provided to older adults, providing much-needed

financial support for the students. Finally, this intergenerational initiative allowed students to act upon their personal desires to help those in need.

For older adults especially, COVID-19 exacerbated the need to adjust to technology and social change. Virtual doctor visits, grocery delivery, and online banking are just some examples of the activities older adults have had to incorporate into their lives. This program provides the opportunity for young, aspiring healthcare professionals to assist this group with learning how to accomplish these tasks. Furthermore, social isolation and loneliness can be addressed while providing these older adults with skills that maybe continue to be necessary in the future. In fact, many of the participants verbalized their appreciation of the help provided by the students, and the participants were assisted with scheduling their much-needed COVID-19 vaccine during this time, exemplifying just one of the important roles this program could provide.

There are several factors that can limit the interpretation of our findings. First, the findings of this study can only be viewed as associational, and not causal as a control group was not used. Second, as with all self-reported studies, our results may be subject to recall bias as data from the 3-item UCLA loneliness tool and Healthy Days measures consist of self-reported responses. There is a need for additional research employing experimental research methods. It is possible that the older adults skewed their post-treatment responses in order to please the students who had been meeting with them. A randomized control group design would help to rule that out. Third, the results are based on data relating to Medicare Advantage beneficiaries and thus, findings may not be generalizable to other non-Medicare Advantage populations. Despite this limitation, older adults are an important segment of the population often affected by loneliness and social isolation. The fact that a payment versus volunteer model was used could also be considered a limitation. Student practicums are typically not paid; therefore, future research could look at the impact of payment versus nonpayment models. The impact on student behavior, learning and willingness to engage to could be impacted by payment and this was not evaluated in this project.

In conclusion, social isolation and loneliness are only some of the many community needs that can be addressed through multi-sector partnerships and programs. It is opportune for public and private entities to explore shared interests and work together to develop innovative, impactful program that support population health.

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Author Contributions

All authors made substantial contributions to conception and design, and/or acquisition of data, and/or analysis and interpretation of data. The final draft waas reviewed by all authors.

Declaration of Conflicting Interest

T. Cockerell, J. Dobbins and A. Rollins are employed by Humana Inc. Other authors have no conflicts of interest, financial or personal, to declare.

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IRB Approval

This study was approved by the University of Houston IRB (STUDY00002617).

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