

Assessing the Effect of Distance Learning Vocational Rehabilitation on Employment Outcomes of Veterans with Psychiatric Illness and Histories of Legal Convictions

ClinicalTrials.gov ID NCT03331354

Date: October 5, 2022

1.1 Distance Learning and Education. Distance learning and education (DLE) is the teaching, training, and transmittal of knowledge and skills when the student is not physically present with an instructor. DLE can incorporate the full range of technologies from video and online materials^{1,2} to video-conferencing^{3,4} to simple telephone contacts.^{5,6} The types of DLE are divided into two primary categories, **synchronous**, where the instructor and student are interacting or engaged in the teaching/learning process at the same time (e.g. web-conferencing), and **asynchronous**, where the student is learning at their own pace and at a time of their choosing without interacting directly with an instructor (e.g. video lessons of coursework).

1.1.1 Integration. DLE is currently well integrated into many educational classrooms and settings. According to the Department of Education over 5.5 million undergraduate students, 27%, were participating in distance education courses in 2013.⁷ DLE is not restricted to private or for-profit institutions as 25% of students at public institutions are participating in at least one distance education course.

Beyond purely educational settings, there is a growing use of distance learning within patient care domains. This growth has led to the development of automated education in areas such as melanoma,² sexually transmitted diseases,⁸ and hepatitis.⁹ More importantly, distance learning, and more specifically, distance treatment, has increasingly been incorporated successfully in interventions including grief counseling,¹⁰ smoking,¹¹ insomnia,¹² diabetes,¹³ and other high-risk behaviors.¹⁴⁻¹⁷

1.1.2 Benefits. DLE interventions are attractive because of their relatively low cost, high transportability, and appeal to certain recipient groups.¹⁸ As discussed by Cunningham,¹⁹ these technologies have several potential advantages over face-to-face programs including 1) increased access; 2) reduced reliance on face-to-face contact; 3) automatic data collection and follow-up; and 4) dissemination with little loss of fidelity. In addition, evidence suggests that information gathered from computer-based assessments can be as valid as, or more valid than information gathered from face-to-face interviews.²⁰ VA services such as tele-health and My Health e-Vet have shown promise in delivering information and services to less traditional patients.¹³

1.1.3. Best Practices. To be successful distance learning should incorporate a number of different best practices. Distance learning should be engaging, avoiding long periods of reading. It should focus on small 'chunks' of information to improve learning and retention. Questions, short quizzes, and problem based activities with immediate feedback should be used to keep participants both engaged and assess progress.²¹ Used effectively, distance learning can bring a number of positive aspects to the learning environment, including the ability to review information and lessons, interact remotely with an instructor, more time to reflect on answers, and less pressure to respond in a group.²²⁻²⁵

An important aspect to effectively implement distance learning is to provide blended learning, i.e. a hybrid between asynchronous learning and synchronous learning.²⁶ These hybrid classes have a number of benefits including improved engagement, better outcomes, and greater flexibility.^{27,28} Additionally they allow for role-playing and active practice/discussion.^{21,29}

1.2 Employment and Incarcerated Veterans:

An area for which distance learning and instruction could be of benefit is vocational rehabilitation for Veterans with felony histories and mental illness.³⁰⁻³³ There are approximately 131,000 Veterans currently incarcerated in U.S. prisons³⁴ and another 50,000, in U.S. jails.³⁵ The Department of Justice³⁶ found 79% of Veterans in prison have symptoms of a mental illness and/or a substance use disorder (SUD).

1.2.1 Impact of Felony on Employment. Overall rates of employment of those with felony histories are between 10 to 23 percentage points lower than those without felony convictions.^{31,37-39} This translates to between 10-20% of the total national unemployment, based on a conservative 12% lower level of overall employment.⁴⁰ Extrapolating Urban Institute data that found only 45% of individuals released from prison are working 8 months after release,⁴¹ almost 30,000 unique Veterans with mental illness or SUD released from prison each year will need employment services

1.2.2 Advantages to Employment. Beyond the obvious financial improvements, employment creates a number of positive psychosocial outcomes. Meta-analyses⁴² and naturalistic studies⁴³ show a significant positive association between employment, mental health, and housing,^{44,45} as well as abstinence from addictive substances.⁴⁶ Employment is also associated with reduced likelihood of future non-violent and violent offences,⁴⁷ and a higher likelihood of successfully completing parole.⁴⁸

1.2.3 Barriers. Several factors impede the employment of individuals with felony histories: 1) Personal factors such as poor self-efficacy,⁴⁹ external locus of control,^{50,51} and lack of confidence;⁵² 2) labor market and employer-imposed limitations on those with felony histories due to stigma⁵³ and legal statutes;⁵³ 3) natural consequences of incarceration including poor social and employment networks, few personal references, and

eroded or outdated job skills;³⁹ and 4) not knowing how to overcome the biases of employers about the applicant's assumed lack of trustworthiness, team skills, or adaptability.^{32,41,49,54} Even when barriers are overcome, those with prison histories often rely on unskilled, unstable, low-pay jobs.^{32,49,55}

1.2.4 Vocational Rehabilitation Needs. In light of the significant negative impact of incarceration on employment, as well as the positive impact of employment on quality of life, there is a clear need for vocational rehabilitation for this vulnerable population. Though the VA provides many vocational programs that do not exclude Veterans with felonies, developing and improving programs that are specifically tailored to this population is a necessity.

1.3 Factors Limiting Access and Use of Traditional Vocational Rehabilitation with Ex-offenders:

Though formal vocational programs are available to Veterans at the VA, several factors limited access.

1.3.1 Individual Factors. Individual factors can serve as barriers to individuals with mental illness seeking services. These include poor therapeutic alliances with providers,⁵⁶ substance abuse history,⁵⁷ stigma around the services sought,⁵⁸ and ignorance of available services.⁵⁹

1.3.2 Geographical Factors. The economic infeasibility for VAs to provide consistent VR services for relatively small pockets of rural Veterans contributes results in the majority of VA vocational services being delivered at large VA centers. This limits access for those at great distances from services^{51,58} or with limited transportation⁵⁰ and concentrates services around VA centers. For example, in a VA funded vocational project, 25% of those seeking vocational services lived in the eight zip codes closest to the medical center, compared to only 6% of the full population (see Appendix 1).

1.3.3 Service Availability. Typical office hours can also be a barrier to obtaining VR. As many as 55% of ex-offenders who find employment work for less than \$10 per hour, and 31% work for less than \$8 per hour with no paid leave provided.⁵² As such, these "underemployed" Veterans may not be able to miss work to participate in traditional vocational services.

1.3.4 Housing Instability. Homelessness, a high-risk condition for ex-offenders with mental illness^{44,45,60} is also a barrier. The unstable living arrangements, the need to secure nightly housing, and higher rates of inpatient services⁶¹ may interfere with regular attendance at VR appointments and employment.

1.4 Distance Learning & Employment. DLE has the potential to significantly improve the ability of Veterans with legal histories and mental illness to reintegrate into the workforce by addressing many of the barriers mentioned above. Beyond the obvious use of DLE to reach **rural** patients,^{62,63} distance learning and tele-health projects reduce the impact of **stigma** on individuals seeking services.^{64,65} Tele-health programs are effective in providing services during **non-traditional hours**⁶⁶ and for those with **transportation limitations**.^{50,67} Technology also shows great promise reaching those in unstable environments including **homelessness**.^{68,69}

Another population that would benefit from DLE is OEF/OIF/OND Veterans as they may be more likely to use these technologies as younger medical patients⁷⁰ and providers⁷¹ have been shown to be more comfortable with telemedicine and internet use. As Department of Labor data has shown unemployment rates for young returning OEF/OIF Veterans as high as 21.4%, compared to 14.3% for non-Veterans,⁷² young Veterans could benefit especially from advances in DLE.

Overall, DLE should be the key to bringing services to the Veterans rather than bringing the Veterans to the services. The opportunities provided by the use of technology have the potential to fit well into VR programs for those with legal convictions, as well as dramatically expand access to services among other marginalized Veterans including homebound, rural, homeless, and those with physical limitations.

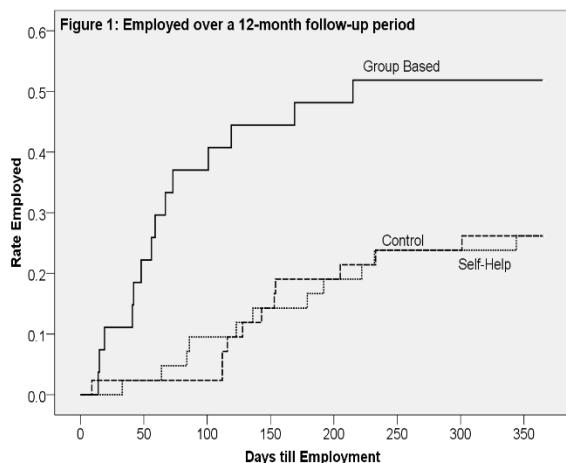
2. Previous Work Accomplished

2.1 Paper and Pencil Manualized Employment Program Development: LePage, et al.⁷³ interviewed 200 Veterans with significant barriers (e.g. homeless, formerly incarcerated, physically disabled, mentally ill, etc.) to obtain their opinions about VR needs. This information was combined with lessons learned from Dr. LePage's six years of conducting vocational classes and research with this population to develop with a VISION 16 MIRECC Education Grant the About Face Vocational Manual (referred to here as the Manual; Appendix 2). The Manual has a Flesch-Kincaid reading level of 6.8th grade and takes 6 to 8 hours to read and complete all sections. Focus groups of Veterans with employment barriers reviewed the Manual and provided suggestions about the Manual's progress. Veterans rated the final version of the Manual for understandability and ease of use. On a five point rating of difficulty (1 = 'very difficult' to 5 = 'very easy'), the average rating was 3.7 or above on all questions.

The Manual incorporates the latest approaches to interviewing and presenting skills, allowing Veterans to tailor answers to their specific situation. Sections include describing skills, understanding the barriers of legal

convictions, resume building, answering questions about felonies, and non-traditional job search methods. The manual provides scripts and procedures for these activities.

2.2 Impact of In-person Manualized Vocational Services on Employment:



LePage, ⁷³⁻⁷⁵ assessed the efficacy of the Manual on 111 Veterans with felony histories and mental illness randomly assigned to one of three delivery methods: 1) self-help using the Manual – similar to the basic resources condition of this application; 2) a group format led by the vocational staff using the Manual; and 3) a control group with no access to the Manual or staff assistance.

Over a 12-month period, those assigned to the staff-led Manual showed a significantly higher rate of employment, compared to the other conditions (Figure 1). 54.2% of those receiving the staff-led Manual found employment, compared to 26.8% and 21.4% in the control and self-help conditions, respectively.⁷⁴ relative to the comparisons planned in this project 6 month employment rates were 40.7% for the staff-led condition and 11.9% for the self-help condition. ⁷⁵

2.3 In-person Manualized Vocational Training and

Improved Interviewing: Parish, et al.⁷⁶ assessed the effect of the Manual format (i.e. self-help or group formats) on interviewing skills of those with felony histories. After one week, Veterans in the Manual group format showed significantly more improvement than the self-help condition in overall interview abilities and scores.

2.4 Experience in Web Based Work: The team includes researchers and software designers with extensive prior experience with online intervention design and analysis. Dr. Walters has received funding from the NIAAA, NIDA, NCI, and the U.S. Department of Justice to study tele-health interventions delivered via web, email, and automated phone systems. Past projects have included developing and/or testing an online motivational feedback intervention for heavy drinking college students, an online cognitive behavioral intervention for adult drug users, phone interventions for adults in a hospital trauma unit, and in-person vs. web-based interventions to improve probation compliance. The team of LePage, Walters, and Cipher were also funded for the pilot study discussed in section 2.6 below.

2.5 Access to Internet and

Preferences: Twenty homeless Veterans were surveyed about their ability to access the internet and preferences for an online interface. Table 1 indicates the results. In this targeted population, 70% of Veterans said they accessed the internet at least once per week. Most importantly for this study, **70% stated they would prefer an online version to a paper format.** Also, in a survey of 15 Veterans with felonies, 10 (66%) reported they had access to the internet at least 12 hours over a 2-week period – the time required to complete the Manual.

Table 1: Veteran Preferences for Internet Interface

Do you have access to the internet somewhere other than the VA?	60% Yes
Would you prefer to have the About Face Manual 1) online where you could print your work or 2) in the paper copies?	70% Online (10% both, 20% paper)
If you could only access the About Face Manual online at the VA would you come to the VA to access it?	95% Yes
If our About Face Manual was online where you could log-in and see and modify your answers, how likely would you be to use it?	55% Very Likely 40% Somewhat Likely 5% Somewhat Unlikely 0% Very Unlikely
If our About Face Manual was online and had videos from the class instructors about how to complete the sections, how likely would you be to use it?	65% Very Likely 30% Somewhat Likely 5% Somewhat Unlikely 0% Very Unlikely
How often do you use the internet?	
Several times/day	15%
Once/day	20%
3-6 times/week	20%
1 or 2 times/week	30%
Less than once/ week	10%
Less than once/ month	0%
Never	5%

2.6 Preliminary Project - About Face Online System (AFOS)

2.6.1 Development. As part of RR&D pilot Award I01RX007080 “Development of Web-Based Vocational Services for Veterans with Felonies,” the investigators created and assessed Veteran acceptability of using online technology for vocational services using the About Face Online System (AFOS).

The AFOS was designed as primarily an asynchronous online system where Veterans worked through self-paced modules that mimicked the About Face Vocational Manual (section 2.1). Veterans entered responses to prompts for skills, examples of skills, responses to difficult questions they may encounter on interviews, and how to address issues of their background. Staff could make comments about a Veteran’s work directly into the pages of the AFOS through pull-down menus to provide encouragement, recommend changes, or approve responses. The only synchronous interactions were through a life-chat function where a Veteran could type a question and the vocational staff could respond. As such, no personal interactions (face-to-face or by phone) occurred between the Veteran and the vocational staff.

2.6.2 About Face Online System Development Data. Phase 1: The AFOS was developed using a 17-member Veteran consumer advisory council who met with investigators and the web-designers. The Veterans were selected to include groups that would likely use the system or would be a target for the system (i.e. 38% with a felony, 83% were homeless, 56% had lived in a rural area, 67% with substance use history, and 67% had a non-substance use mental illness). Veterans reviewed the system development, interacted with the system, and provided feedback on important areas.

The advisory council rated the system on a number of domains. These domains were the same as were used in the development of the paper-pencil version

described in section 2.1. As can be seen, the online version received similar or slightly better feedback compared to the hard-copy version (Table 2).

Veteran end-users saw a unified user interface. The Veteran was able to access the program through any computer that had internet access. Each Veteran had an individual username and password, which allowed him/her to access information and previous work. The overall website had links within the site to the major vocational sections: goals, skills, interviewing, answering questions, non-traditional job search, applications, and resumes. Each page had fillable fields where users entered responses, skills, questions, goals, network contacts, and other issues relative to the employment search. These responses were available when the Veteran returned to the system. When Veterans entered a section, a combined written-spoken-word narrative of the section is begun. Veterans could opt for a longer written version of the section allowing Veterans with hearing difficulties or who are at computers without speakers to access the information.

Vocational Rehabilitation Staff (Vocational Rehabilitation Counselors – VRC) saw a "back end" page that reported which Veterans have been on the system, what milestones had been completed, etc. Through this, VRCs could review progress and how well Veterans were adapting the concepts.

Veteran and Vocational Staff Interactions Through the AFOS. When a Veteran made additions, changes, or updates to their profile, vocational staff were alerted. Staff then read and reviewed the additions through the back end described above. Comments, suggestions, corrections, and advice were posted to the Veteran's personal profile. Veterans and staff could also communicate via a live chat feature. Appendices 3 and 4 present screen shots of the AFOS.

Phase 2: 38 Veterans were recruited; 19 Veterans were given access to the AFOS for 2 weeks and 19 Veterans were given access to the hardcopy manual. Veterans enrolled were not specifically in 'job search' but were interested in helping develop the technology. The Veterans given access to the AFOS were not given dedicated computers but were asked only to work on the online version as much as they wished. 75% of the Veterans completed at least one section of the AFOS and 62% completed at least one of the sections requiring a typed response. 68% in the hardcopy condition completed at least one section requiring a written response. Amounts completed between the conditions were similar $p > .25$ demonstrating a similar level of engagement.

Phase 2 Pilot Employment Outcome Data for Online System: A small, underpowered, pilot study was conducted to determine 1) if a larger fully powered study was justified, 2) potential sample sizes for the larger randomized controlled trial proposed here, and 3) obtain feedback from Veterans about the system and barriers to using it. Three-month employment rates were collected on the 38 Veterans through self-report and chart reviews; employment was not verified independently with employers. 1 of 19 (5.26%) Veterans in the hardcopy condition obtained employment during the 3 month follow-up compared to 4 of 19 (21.1%) of those in the online condition. These numbers were very similar to previous 3-month follow-up comparing a paper-pencil self-help modality (3.0% employed) to a fully implemented in-person group based program (23.8%).⁷³ Percent difference between conditions in this pilot analysis was 15.8%, Fisher's Exact Test $p = .34$, OR = 4.8. These similarities are incorporated into the power analyses presented in section 3.4. The pilot data was encouraging and suggested a larger study was justified.

Veteran Feedback: The study obtained qualitative and quantitative feedback from Veterans engaging the system. Veterans identified several limitations of the AFOS. In order of prevalence they were 1) no assistance in interviewing; 2) not enough videos/too much reading; 3) not enough time available on computers; 4) needing

Table 2: Perceptions of online system vs hard copy	Hard Copy	Online format	Felony history Online subset
How easy was the website to follow (1 very difficult to 5 very easy)	3.7	4.1	4.0
How useful do you feel the website would be? (Very, Somewhat, Not)	100% very	82.4% very	100% very
How much do you believe others would benefit from this type of website? (Very, Somewhat, Not)	77% very	88.2% very	85.7% very
How prepared do you think the website would make you for searching for a job? (Very, Somewhat, Not)	70% very	88.2% very	100% very

to discuss problems understanding the concepts with an actual person; and 5) more targeted information about handling felony convictions.

A sample of 15 Veterans were additionally asked to rate how important certain potential changes to the online system would be on a five-point scale ("1 – not important at all" to "5 – very important") as can be seen in Table 3. Veterans felt very strongly about having a person to contact about problems, receiving feedback about practice interviews, and having someone to check-in on their progress.

2.7 COMPASS. In response to feedback about improvements needed, the Compass system, named so because it guides Veterans to employment, was developed to incorporate both best practices principles of DLE and the lessons learned from the AFOS pilot. Compass continues to provide validated, standardized vocational rehabilitation to Veterans who are unable to access traditional vocational services. However, Building on the AFOS platform and leveraging the VA's telehealth system, Compass meets Veterans preferences and responds to Veteran feedback by combining synchronous and asynchronous learning while testing knowledge and using more varied modalities of learning.

Asynchronous Learning: Veterans may access the asynchronous learning components of the program at their discretion. There are two variations of the asynchronous learning used. The first is **asynchronous non-interactive**. Veterans learn about the vocational process through video courses linked through an online interface. The videos present the classroom coursework on the concepts of successful job search used in the study presented in 2.2 above. The videos also present vignettes and examples of interview dos and don'ts. Veterans are able to fully utilize the benefits of asynchronous learning by re-watching lessons at their own pace. Additionally, the videos are subdivided so Veterans can hone in on the specific area needed within a larger lesson. Veterans interact with Compass by entering personal information needed for job search into Compass through fillable fields, similar to the AFOS, including skills, examples, past barriers, work history, and answers to difficult interview questions. Learning is reinforced with quizzes and automated feedback about quiz responses. Quizzes are multiple choice questions about vocational activities, such as interview questions that incorporate the Veterans individual responses into the answer options. Through this, Veterans have their knowledge tested and are exposed to correctly formatted answers.

The second is **asynchronous interactive**. Using the technology tested in the AFOS described above, vocational staff can review the information inputted into Compass and then make comments directly to the system for the Veteran to review. Comments may be suggestions for better phrasing, asking to provide more detail, or questions to clarify Veterans' responses.

Compass utilizes asynchronous learning to assist Veterans in addressing their legal histories. There are two sections, similar to the Manual, devoted to legal issues. These are 1) helping the Veteran understand how legal convictions are a barrier, what the common barriers are, and orienting the Veteran to the need to search for work in a different way; and 2) how to answer questions about legal convictions in an honest way that does not negatively impact chances of employment. Additionally, there is a section that helps the Veteran identify their difficulties in staying employed, including emotional and personal issues, and provides broad advice on how to address these issues.

Synchronous Learning: The most innovative component of Compass is the utilization of three forms of synchronous learning. The first is the chat features developed and tested in the AFOS system. The live chat feature allows Veterans to ask questions directly to a vocational specialist who is monitoring the system; as stated above the chat feature may also be used asynchronously if the VRC is offline, the request is after business hours, or the VRC is assisting another Veteran.

The second is through telephone coaching. Veterans may 1) telephone the VRC Hot-Line during office hours to review difficult concepts, discuss progress, and problem solve barriers; 2) schedule a phone call to review concepts or discuss job search related concerns; 3) and be contacted on a scheduled basis by VRC for coaching sessions. The telephone coaching will incorporate concepts of motivational interviewing to assist the Veteran overcome barriers. These will involve traditional motivational interviewing concepts including evoking

Table 3: Importance of Improvements	Mean Score	"Important" or "Very Important"
Have remote practice interviews?	4.00	75%
Receive feedback about practice interviews?	4.50	94%
Access to vocational counselor if problems with job search occur?	4.31	94%
Be contacted by VRC to check in?	4.37	94%
Call a VRC to assist with About Face Manual or Online System?	4.43	94%
Have a vocational coach to encourage and answer questions?	4.43	94%
Scale: 1-Very unimportant; 2 - Unimportant; 3 - Neither unimportant or important; 4 - important; 5 - Very important.		

change talk, reflective listening, normalizing, and the 'Columbo approach,' and affirmations.^{77,78} Motivational interviewing through telephone contact has been effectively used with substance use,⁷⁹⁻⁸² chronic medical diseases,⁸³ and medication compliance.⁸⁴ Additionally, motivational interviewing has been shown effective with mentally ill and substance dependent populations.^{80-82,85-87} It must be acknowledged that MI is not universally effective for all populations, but it is one of the most evaluated methods of engaging individuals with personal barriers to change. Drs. Walters and Emmett, co-Is on this project, are experts in motivational interviewing. Dr. Walters has studied in MI in various populations, including individuals in correctional environments and on probation, and substance use populations.^{17,81,82,88} Dr. Emmett is a VA certified trainer in MI.

The third is through practice interviews via telehealth services. Veterans interact with the VRC coach over the tele-health system at local clinics. These interactions are used to perform practice interviews with the VRC critiquing responses, providing feedback, and discussing areas of needed improvement.

One additional benefit of the synchronous learning is it allows the VRC to directly work with the Veteran to target difficulties that come from their legal history or mental health symptoms, e.g. discussions about and practice of answering questions about legal history, encouraging Veterans to contact mental health providers, advising Veterans on employment barriers, identifying support resources, coaching Veterans on focusing the interview on skills rather than criminal background, etc. Additionally, the VRC will be able to assist the Veteran with solutions to difficulties related to personal and emotional problems, as well as recognize negative work behaviors and interpersonal reactions related to time in prison or symptoms of mental illness, which may impact both interview and overall employment success.

Figure 2 presents a summary of the synchronous and asynchronous components. For detailed information about how Compass will be used in this study, see section 3.7.2. Screen shots of the online portion of Compass are presented in Appendix 5.

3. Research plan

Based on the critical need for employment services for Veterans with histories of legal convictions and mental illness, improving the access of Veterans to these services must be a priority. The initial version of an online system was found to be acceptable by Veterans. Veterans' comments and preferences in online service delivery were incorporated into the current DLE system. The literature demonstrates that DLE can be instrumental in overcoming many logistical barriers to care. Combining DLE principles with proven existing interventions is the next logical step in improving the psychosocial reintegration of this vulnerable population.

3.1 Aims, Hypotheses, and Milestones

Aims

Aim 1: Evaluate the effect of distance learning and education (Compass) on rates of employment.

Aim 2: Evaluate the effect of distance learning and education (Compass) on interviewing skills.

Hypotheses

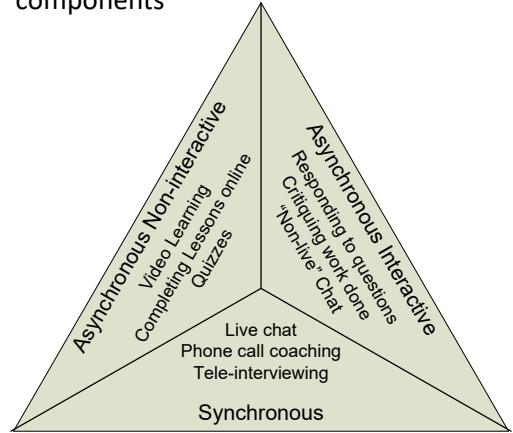
1) Veterans utilizing DLE vocational rehabilitation will demonstrate differences in employment rates compared to basic available services.

2) Veterans utilizing DLE vocational rehabilitation will demonstrate differences in interviewing skills compared to Veterans receiving basic vocational services.

Milestones: Major milestones (Figure 3):

- Months 1 to 8: incorporate minor website modifications, hire and train vocational staff, validate staff's ability to use the website, develop data collection procedures, and databases;
- Month 9: commence recruitment;
- Months 9 to 36: recruitment (actual months dependent on recruitment rate). Previous studies of this population by this research group have demonstrated an ability to recruit at least 1.5 to 3.3 Veterans with felony histories and mental illness/SUD per week at a single site. Predicting a 33% increase in weekly enrollment due to recruitment at multiple sites and the inclusion of any non-traffic related conviction, we can reasonably expect 2.0 – 4.4 Veterans recruited each week. Using a conservative 2 as an average weekly recruitment goal, it is projected recruiting can be done within 100 weeks. One hundred and twenty weeks are allocated to the recruiting phase to adjust for unforeseen complications.
- Months 6 to 42: follow-up period depending on recruitment rate;

Figure 2: Synchronous and asynchronous components



- Months 43 to 48: analyses and writing;
- Months 46: vocational and dissemination workshop.

3.2 Overview of the Methods: This is a four-year, randomized project evaluating the effect of blended distance learning and education principles on vocational success for Veterans with legal convictions and mental illness and/or substance use disorders. The independent variable will be the type of vocational services received with two conditions: 1) basic resources, or 2) the Compass system. Basic resources, specifically the provision of a widely available vocational manual, was determined to be the appropriate comparator to the Compass system, versus a group-based in-person system, as both basic services and the Compass system can be provided to Veterans who cannot receive traditional VR. Participants will be followed for six months.

Two primary dependent variables will be used. The first is the number achieving employment. The second is interview skills.

3.3 Participants: Two hundred (200) Veterans will be recruited. With a 25% dropout rate, the 150 completers will provide adequate power (see section 3.4). Once consented, if the Veteran does not meet the enrollment criteria, they will be withdrawn and not counted towards the recruitment goals.

3.3.1 Inclusion Criteria. Inclusion criteria are 1) at least one legal conviction (felony or non-traffic related misdemeanor); 2) underemployed (i.e. inadequate income to live independently) or unemployed; 3) have a mental health or substance use disorder diagnosis; and 4) considering entering the workforce. Care will be taken to enroll Veterans who are OEF/OIF Veterans, homeless, and women.

Mental illness is defined as an active confirmed DSM (4 or 5) diagnosis in the VA's Medical Record, CPRS, from the Schizophrenia spectrum and other psychotic disorders, Bipolar and related disorders, depressive disorders, obsessive-compulsive and related disorders, anxiety disorders and trauma related disorders, eating disorders, and somatic disorders. Other disorders, though debilitating, will be excluded. SUD are abuse or dependence diagnoses of all illegal drugs, alcohol, and/or pain medication.

All Veterans must be able to demonstrate basic computer skills regardless of assigned condition. This will be evidenced by being able to navigate to the VANTHCS's internet website and then perform a search for the Research home page, a level of skill that is adequate to navigate the online system.

3.3.2 Exclusion Criteria. Exclusion criteria are 1) diagnosis of dementia or evidence of severe cognitive impairment precluding meaningful study engagement, or 2) actively suicidal or homicidal. Potentially cognitively impaired individuals and those with impaired reality testing will be assessed at the time of enrollment by a Ph.D. psychologist using the Repeatable Battery for the Assessment of Neuropsychological Status (RBANS).

3.4 Statistical Power, Data Management, and Missing Data: Power analysis using G*Power 3.1.19 was conducted to address the primary research question using a Pearson χ^2 , with employment as the primary outcome variable. A number of scenarios were evaluated. For Aim 1, employment rates, power based on a previously published 6-month comparative study of a fully implemented group-based program, 41% employment, versus self-help (named basic services in this application), 12% employment.⁷⁵ Power analyses indicated that a total of 88 subjects would be required to address our primary research objective using a

Pearson chi-square to test of our primary study outcome, employment. This sample size estimate was based on a moderate anticipated effect size ($W = .30$), two-tailed alpha of .05, and a beta of .20. Secondly, Figure 4 graphically represents the sample size estimates required for power of 80% (eighty) across several potential variations in success rates between conditions. As can be seen using a target of 150 resulted in adequate power (80%) except for the smallest differences. To assure detection across the likely predicted differences 200 total participants will be targeted, resulting, with 25% dropout rate, in 75 completers in each condition.

For aim 2, change in interview skills, changes are expected to have large effect sizes. Earlier assessments

Figure 3: Timeline

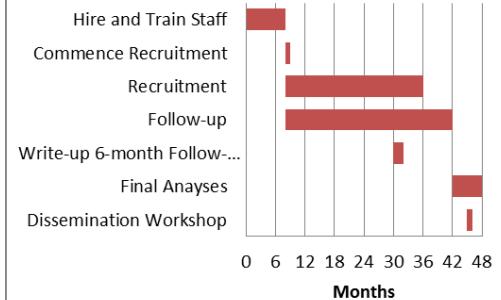
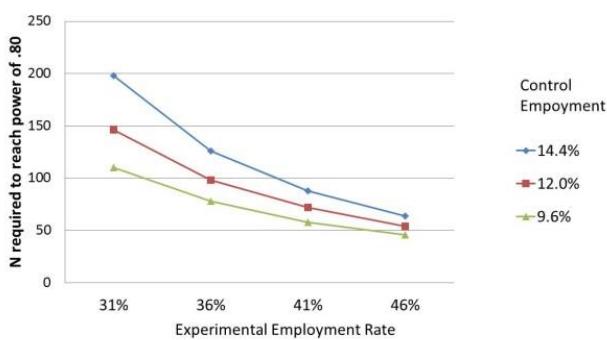


Figure 4: Total Sample Size Required at Various Employment Rates to Obtain Power of .80



of interviewing skills as assessed by the Veteran Interview Scale (VIS) found those receiving group had superior interview scores after training compared to those receiving basic services (23.2 +/- 3.3 vs 20.9 +/- 2.7 respectively).⁷⁶ Power analyses performed using G*Power 3.1.9 indicated that a total of 57 subjects would be required to address this research objective, based on a large effect of $f = .38$, beta = .20, and alpha = .05.

As described below, analyses will be conducted on demographic data and psychosocial variables with potential effects on results (e.g. time since release, years served, employment history, job-search self-efficacy etc.). Additionally, the total number of non-study related vocational services (Workforce Commission, Supported Employment, Urban League, GI forum, etc.) will be evaluated for association with employment. Variables accounting for significant variability will be used as covariates. The addition of covariates that are significant predictors will increase our statistical power. As is noted in the statistical literature, large power gains can be achieved by including correlated stationary covariates in ANCOVA, OLS regression, and Cox proportional-hazards regression.^{89,90} The inclusion of these targeted variables will allow us to surpass our anticipated statistical power of 80%. Any missing data that are random in nature, such as those due to random mistakes in data collection and/or entry, and are not related to research staff or patient noncompliance, will be submitted to maximum likelihood estimation procedures to estimate those missing values. Maximum likelihood estimation for random missing data is a common and accepted procedure for missing data estimation.^{91,92} For study outcomes, multiple imputation (using maximum likelihood estimations referred to above) will be applied. Multiple imputation refers to a procedure that replaces each missing value with a set of plausible values that represent the uncertainty about the right value to impute. These multiple imputed data sets are then analyzed by using standard procedures for complete data and combining the results from these analyses. No matter which complete-data analysis is used, the process of combining results from different imputed data sets is essentially the same. This results in valid statistical inferences that properly reflect the uncertainty due to missing values. Subsequently, sensitivity analyses will be conducted with SAS 9.4 “Proc MI” for data that are not missing at random using a pattern-mixture approach.⁹³

3.5 Recruitment: All subjects enrolled will be Veterans receiving services in the VANTHCS catchment area. This area covers 40 counties. A breakdown of facilities serving this area and anticipated frequency of recruitment visits is presented in Table 4. This schedule will likely change based on successes and failures.

Table 4: Clinic Veterans, distance to rural zip codes, and recruitment contacts				
Facility	Number of Uniques	Percentage of total seen at this facility	Rural or Urban	Distance to nearest rural zipcode
Dallas (hospital)	98,886	83.0%	U	>10 Miles
FW (OPC)	39,546	33.2%	U	>10 Miles
Bonham (OPC)	19,661	16.5%	R	0 miles
Tyler (OPC)	5,656	4.7%	U	2 miles
Bridgeport CBOC	4,482	3.7%	R	0 miles
Granbury CBOC	1,483	1.2%	R	0 miles
Greenville CBOC	1,889	1.6%	R	0 miles
Denton CBOC	7,313	6.1%	U	5 miles
Sherman CBOC	3,804	3.2%	U	2 miles

3.5.1 Availability of Rural Veterans: Table 4 shows the number of unique Veterans seen at each facility in the North Texas catchment area. Of the 119,000 unique Veterans seen in 2014, 34% live in a zip code classified by the VA as rural. As expected, fewer Veterans are seen at facilities serving rural Veterans; however, rural facilities will see approximately 23% of all Veterans. Of the rural locations, the Bonham Clinic serves a majority of rural Veterans and will be the focus of the most rural recruitment.

3.5.2 Availability of Homeless Veterans: VA North Texas homeless programs served over 1500 homeless Veterans in FY 2015. The co-occurrence rate between homelessness and histories of incarceration is high, up to 70%,⁹⁴ creating a significant pool of eligible Veterans. Additionally, previous studies have been very successful at recruiting homeless Veterans; during two previous VA funded studies focused on vocational rehabilitation for Veterans with felony convictions, a total of 199 Veterans enrolled, 84 (42%) were homeless at enrollment or had been homeless within the past year.

3.5.3 Availability and History of Recruiting Veterans with Legal Convictions: The study staff has demonstrated the ability to recruit Veterans that meet the current proposal's inclusion criteria. For example, RR&D D6192-R, focused on evaluating vocational groups and materials, recruited 144 Veterans with felony histories and mental illness/SUD between 6/19/89 and 5/18/2010, three per week. RR&D study 1I01RX000484-01A1 focused on supported employment recruited 175 Veterans with felonies and mental illness/SUD between 9/20/2011 and 11/12/13, 1.56 per week. For the pilot data for this study, I01RX007080, recruitment was 3.34 per week, albeit for a smaller sample. These studies focused only on those with felony convictions and recruited only at the Dallas VA hospital, not the full range of locations targeted by this proposal (see Table 4).

Additionally, this study will include those with misdemeanor (non-traffic) convictions. This has the potential to greatly increase the available participant pool in certain populations. As an example of the impact of the inclusion of misdemeanor convictions, in the homeless programs, which serve over 1500 unique Veterans each year, one study estimates 28% from the proposed catchment area have felony convictions⁹⁵, and of the remaining 72%, as many as 60% have been convicted of at least one misdemeanor (non-traffic related).⁹⁶ This would suggest over 600 additional Veterans may be eligible for the study just from the homeless programs. Overall, based on the community recruitment, high numbers of Veterans meeting the inclusion criteria, and history of successful recruitment, we are confident we can obtain our recruitment goals.

3.5.4 Recruitment Procedures: Recruitment will use three specific methods to oversample rural and underserved Veterans. The first to have staff directly recruit at patient meetings and groups from the homeless programs including the homeless Domiciliary in Dallas, the substance domiciliary at the Bonham facility, and the Grant & Per Diem programs in Dallas and Fort Worth. The second is through posted study flyers at the various VA facilities, including rural clinics, in waiting areas and mental health clinics. The third is through referrals from the mental health and substance treatment providers throughout North Texas programs.

Additionally, study staff will engage the local parole departments to increase awareness.

A staff member dedicated to community enrollment will be responsible for the enrollment of all Veterans not seen at the Dallas campus; Dallas will be covered by the study coordinator. If a Veteran contacts the staff member in person the Veteran can go through the consenting processes at that time. If the study is contacted by a Veteran from the community who is interested in participation in the study, the staff member dedicated to community enrollment will contact the Veteran by phone and describe the study and eligibility. The staff member will arrange to meet the Veteran at their preferred VA facility where the consenting and enrollment processes will occur. Each facility has rooms for research interviews. To minimize recruitment of individuals motivated purely by incentives, the enrollment survey's and videotaped practice interviews will not occur on the day of consenting or first contact, but at a set, mutually agreed upon time, typically within one to three days.

3.5.5 Potential Barriers to Recruitment: Service connection could be a small issue affecting recruitment. However, based on a sample of 1087 Veterans released from prison between 2006 – 2012 inclusive, only 86 (7.9%) had a service connection rating at 80% or above, equivalent to twice the poverty line for a one person family. Therefore, service connection is expected to make little impact on the pool of Veterans with a history of convictions.

3.6 Common Methods:

3.6.1 Eligibility Confirmation: Once a Veteran is enrolled in the study, the Veteran's medical record will be accessed to confirm mental health diagnosis eligibility. Staff will then review the subject's conviction history and employment status. Additionally, Veterans will need to affirm they have access to an internet connection or Wi-Fi and describe the location. The location can be where they live or in the community (library, Wi-Fi at a McDonalds or Starbucks, etc.). This requirement is regardless of the condition assigned.

3.6.2 Randomization: If the subject is confirmed to meet enrollment criteria, the Veteran will be randomly assigned to a condition. The consenter will contact the VRC who will have the randomization key to obtain the assigned condition. Separate randomization will occur within those with felony convictions and those with non-traffic related misdemeanors. To assure equality of group sizes, randomization within the two types will be balanced within blocks with no more than half being assigned to either condition within blocks. The size of the block will vary between 8, 10, or 12 to reduce the chance of condition assignment being predicted. The size of the block will be randomly determined through a random number generator. These three processes should assure conditions have equal number of Veterans with felony convictions and numbers of misdemeanor-only convictions, as well as avoid "condition guessing."

3.6.3 Baseline evaluations: Veterans will receive an extensive demographic (e.g. age, race, marital status, etc.), employment history (e.g. last work, type of work, longest employment, reasons for firings, etc.), and legal (e.g. time incarcerated, time since release, number of incarcerations, crimes, etc.), assessment. Ethnicity, race, and gender conform to the NINDS Common Data Elements.⁹⁷ The enrollment form is presented in Appendix 6. Employment self-efficacy skills will also be assessed including baseline job-search self-efficacy, using the Employment Confidence Questionnaire⁷⁶ and the Job Search Self-Efficacy Scale (Appendix 12),⁹⁸ and work performance related self-efficacy using the Work-related Subjective Experiences Scale (WSE-38).⁹⁹

3.6.4 Video Recording: After signing a separate consent to be video recorded, Veterans will perform a standardized "assessment interview" at enrollment, at one-month post enrollment, and then at three and six months post enrollment. Veterans will not receive feedback from these interviews. The assessment interviews will be conducted by study staff, blinded to condition, in a private office. The interview is brief and covers only

the major domains typically involved in an interview (e.g. “tell me about yourself,” strengths and weaknesses, skills related to the job, legal difficulties, etc.). The interview will subsequently be rated by a different blinded staff member using a standardized rating form, the Veteran Interview Scale (VIS; see Appendix 7), discussed in section 2.3. The rating form evaluates the responses to typical questions, codes non-verbal behavior, and rates overall demeanor. All raters will be trained by the PI in using the scale until .85 agreement is obtained.

The “assessment interviews” differ from “practice interviews” described later. Assessment interviews are recorded and rated without feedback and used for outcome measures for the study. Practice interviews are conducted with a VRC coach as part of the Compass system with feedback provided.

3.6.5 Tablet Assignment: Staff will assist Veteran in purchasing a tablet if needed..

3.6.6 Monthly Follow-up: Veterans will be followed for six months. Related to data collection, staff will maintain contact through subject visits to VA facilities, staff community visits, or phone calls. Employment updates, changes in housing status, contacts with the legal system, and progress in using study resources (described in more detail below) will be collected monthly using the self-report form (Appendix 8). Data will be entered into the database using the procedures described in section 3.6.10. Additionally, chart notes will be reviewed for additional data related to employment, housing, or legal contacts. Also, a monthly review of county incarceration records will occur. All methods of assessment will be delineated in the consent form. Data collection will be shared by the community VRS, data clerk, and study coordinator, Ms. Crawford.

3.6.7 Quarterly Follow-up: At the 1, 3, and 6-month follow-ups staff will meet face-to-face with the Veteran. Besides the monthly assessments, these follow-ups will assess employment self-efficacy using the Employment Confidence Questionnaire and the Job-Seeking Self-Efficacy scale (described in more detail in section 4.2). Data collection will be shared between the community VRS and the study coordinator Ms. Crawford (see 3.6.10). Follow-up assessment interviews are described above (section 3.6.4). The quarterly follow-ups will need to be at a VA facility or a location where the interview can be completed.

3.6.8 Compensation of Patients. To improve the rate of Veterans completing the requested activities and follow-up procedures, Veterans will be compensated, through a cash card, for their time in three ways. First, all Veterans who enroll in the study and complete the initial forms and assessments will receive \$10 compensation for their time. This will be combined with the \$100 towards the purchase of a tablet (see section 3.6.5). The cash card will be delivered by the community staff member when the tablet is purchased. Second, all Veterans who complete the monthly follow-ups (complete surveys, provide pay stubs, etc.) will be enrolled in a raffle drawing for that month. To encourage in-person contacts the prize will be \$100 if the contact was in person and \$50 if the contact was by phone. Raffles were approved for use by VA Regional Council (Appendices 9 and 10) and have been approved by the local IRB on 2 earlier studies (RR&D # D6192-R and D7635-R). Third, all Veterans who complete the one-month and quarterly follow-ups will receive \$25.

3.6.9 Use of Other Vocational Services. There will be no restrictions on the types of services Veterans can receive while in the program. Additional services will be evaluated for use as a covariate in data analysis of outcomes as appropriate. Participation in CWT or Transitional Work Experience will not be counted as employment for this study.

3.6.10 Data Collection, Control, and Validation. Data from the monthly assessments and quarterly assessment interviews can be collected in three ways. The first, and preferred way, is for a Veteran to come to a VA clinic/hospital where they can be interviewed and data can be collected. Secondarily, a Veteran can meet with the community staff member at a location of the Veteran’s preference. Finally, if the Veteran is unable or unwilling to meet in the field or at a VA site, staff can collect outcome data over the phone. If data is collected by phone, the staff member will record the responses on the appropriate form and then repeat the responses back to the Veteran to confirm the accuracy of the recorded information. Incentives for phone contacts are also less due to the reduced inconvenience for the Veteran (see 3.6.8).

Data from monthly and quarterly contacts, as well as amount completed in the hardcopy manual, will be collected on paper forms. All data collected from the Compass system (e.g. time logged on, last time accessed, asynchronous learning completed, etc.) is automatically recorded and reports are generated monthly. Data collected in the field will be returned to the study office where it will be double-entered by two staff members (data entry clerk, coordinator, VRS, or community VRS) into the database. Dr. Cipher, the projects statistician will run weekly discrepancy evaluations. The source material will be reviewed in the case of discrepancies.

All hardcopies of data will be kept in a locked cabinet in a locked office. All electronic data will be kept on the VA’s internal server. No identifiable electronic data will leave the VA’s protected environment.

The study will employ a Data Monitoring Board. Dr. Cipher will provide the DMB with recruitment data and aggregated outcome data. Meeting annually, the DMB will review data and report to RR&D any significant concerns. The Board members and reporting process will be determined after funding is awarded.

3.7 Condition Specific Methods

3.7.1 Additional Procedures for Condition 1: Basic Resources

100 Veterans (for 75 completers) will be randomized to this condition and followed for six months.

Veterans in the basic resource condition will be enrolled at the various locations identified above (Table 4). Research staff will give Veterans a list of resources they may access including VA resources, community resources, and the State's Workforce Commission's Veterans Office. There are 24 Commission locations within the VANTHCS catchment area. Study staff will assist the Veteran in identifying the most convenient location for their circumstances.

Veterans will complete the various enrollment assessments and an assessment interview. Veterans will receive the About Face Vocational Manual to use on their own (Appendix 2 and sections 2.1 and 2.2).

Veterans in condition one will be asked to meet with staff monthly to update their employment and housing info. The amount of the Manual Veterans complete will be assessed at the monthly follow-up sessions (see section 3.6.6). Veterans will be asked to bring their manuals to the follow-up meetings. Staff will photocopy the sections attempted as well as record the number of sections attempted and completed; if a photocopier is not available, the staff member will record sections attempted and completed on monthly paperwork (Appendix 8). Attempting a section is defined as completing at least one fillable field in a section. Completing will be defined as completing all fillable fields in a section. Though not ideal, if a Veteran cannot meet in person, s/he may report the sections they have attempted and completed by phone. The Veteran will need to read their responses to staff. Staff will record their responses by hand and then enter these into the database. A total of 20 manual sections are assessed for progress. Lost manuals will be replaced.

The manual can be completed in between 12 and 18 hours, depending on the level of detail the Veteran includes. Veterans will be given three weeks to complete the manual. Those completing more than 75% of the modules within three weeks will receive \$25; if they complete all modules within the 3 weeks, they will receive \$40. Obviously, Veterans can work on the manual past this time frame but it is important that Veterans begin work as soon as possible. Staff will track the amount completed within the first three weeks as well as additional work done after the initial three weeks. The amounts will be evaluated to determine their association with success and may be used as covariates as needed.

3.7.2 Procedures for Condition 2: Compass

100 Veterans (for 75 completers) will be randomized to this condition and followed for six months.

Veterans assigned to condition two will have access to the Compass distance learning system. As described in more detail above (section 2.7), Veterans will utilize both asynchronous and synchronous learning. After randomization and completion of enrollment activities, study staff will assist Veterans on the Veteran's tablet or a facility computer in accessing and logging onto the Compass system, familiarizing Veterans with the video content, reviewing the testing components of the system, and discussing the remote/tele interview training. The Veteran needs to be able to log in and out of Compass without assistance. Staff will provide a review of the process until the Veteran can access the system without assistance.

To develop the personal relationship with the instructor that is important to the success of distance learning²⁶ Veterans will contact the Vocational Rehabilitation Counselor located at the Dallas campus by phone or through teleservices during enrollment procedures. The VRC will introduce his/herself, welcome the Veteran to the study, describe his/her role, discuss how contact will be made, and answer any questions. Veterans will receive typed instructions on how to access the system and these instructions will be sent to the Veterans' preferred email. The Veteran also will be given the study email and phone number if they forget their password or the website address in the future.

Synchronous components of Compass will be through three different modalities: telephone, tele/video-conferencing, and live chat.

Veterans will use the telephone for contact in three different ways. The first is through scheduled phone calls from the VRC once every two weeks. During these calls, the VRC will discuss with the Veteran concerns and anxieties related to job search, progress they are making with Compass, and answer questions the Veteran may have. The VRC will follow the checklist of topics presented in Appendix 11. The second is through the vocational "hot-line" where the Veteran can call the VRC during specified times. VRC access hours will be staggered throughout the week to give Veterans with different schedules the opportunity to engage the VRC. These hours will include 5-8 pm three times a week (Mon. Wed, Thurs.). These times may be modified or expanded based on the needs of Veterans enrolled. The third is by requesting a call via the chat feature. This

would be used if the times the hot-line is open were not convenient for the Veteran. As discussed in section 2.7, the phone contacts also will be used to assist Veterans with mental illness address difficulties that come from their legal history or mental health symptoms. Phone contacts will be recorded and reviewed by the investigator team (LePage, Walters, and Emmett) to assure concept of motivational interviewing are being incorporated.

The second modality is interactions through video-conferencing for the practice interviews. Once a month the VRC at the Dallas campus will conduct a practice interview with the Veteran either through the VA EX-90 system or through Jabber (a video conferencing software package which could be used through the community staff's laptop). As stated above, these interviews are separate from "assessment interviews," which are videotaped and coded for assessment purposes described in section 3.6.4. The practice interviews will mirror a short but typical interview. The VRC will provide feedback and may repeat sections of the interview to help the Veteran improve their performance. The interviews will follow a standardized script, similar to that used for the assessment interviews but will be more intensive and will react to comments made by Veterans. For example, if a Veteran mentions substance use, the interviewer will pursue this area. This reactive model will assure the interviews mimic real employment interviews and allow the VRC to give feedback that is more detailed. Interviews will occur at the outpatient clinics with tele-health services and will be coordinated by the community staff member. If the Veteran is unable or unwilling to go to the outpatient clinics, the interview can be conducted by telephone. Phone interviews will be coded as such so the effectiveness can be evaluated during the analysis of outcomes.

The third modality is through the live chat system based off the AFOS live chat described in sections 2.6.1 and 2.7. Veterans can access a VRC through the live chat feature during hours staff are working. If the Veteran uses the chat feature when staff are not available, staff will respond within 24 hours or the next business day.

Veterans may work on the asynchronous components of Compass (i.e. online training and video lessons) at any time or at any location of their choosing. Videos are closed captioned but do not meet full 508 compliance (though this will be required if the system is found effective). To assure the Veterans are given support and feedback timely, all work done will be reviewed and commented upon by the VRC within 24 hours of entry, unless entries are done over the weekend, in which case the VRC will comment by the end of the next business day. The VRC will make comments either directly through dropdown menus or through the chat function. The Veteran can accept the feedback or not depending on their preferences.

Compass automatically tracks progress, time spent engaging learning components, scores on assessments, amount completed/attempted, and dates of completion.

Training Schedule: Compass can be completed in between 12 and 18 hours, depending on the level of detail the Veteran includes. Veterans will be given three weeks to complete the training program. Those completing more than 75% of the modules within three weeks will receive \$25; if they complete all modules within the 3 weeks, they will receive \$40. Obviously, Veterans can work on the program past this time frame but it is important that Veterans begin work as soon as possible. Staff will track the amount completed within the first three weeks as well as additional work done after the initial three weeks. The amounts will be evaluated to determine their association with success and may be used as covariates as needed.

3.8 Tracking Missing Patients: Tracking performed will follow the methods of tracking for RR&D grants I01RX000484 and D6192-R. Extensive tracking information will be gathered at baseline during enrollment to maximize subject retention. Participants will be asked to sign releases of information allowing trackers to contact individuals they name to assist with tracking, e.g. friends/family, acquaintances, parole officers, etc. Use of these sources will be covered in the informed consent document.

Veterans who do not have contact with study staff or access COMPASS for 6 weeks will be tracked through three primary methods: 1) VA databases to identify when a Veteran's next be at an appointment or clinic will be; 2) follow-up phone calls to the contact identified at enrollment (attention to confidentiality will be paramount); and 3) checking service agencies and a variety of other public domain sources.

3.9 Tracking Roles. Database tracking (arrest records, CPRS, etc.) and tracking oversight will be done by Dr. Bozeman. Phone tracking and meeting Veterans at clinics and worksites will be done by Ms. Crawford and the community staff member. Dr. Bozeman has extensive experience integrating databases and locating medical appointments for Veterans; Ms. Crawford has extensive experience obtaining data from public agencies and finding Veterans in the community. Time analyses suggest the community member should be able to perform study duties and devote 20% to tracking activities. The tracking team will meet every 2 weeks.

4. Specific Aims

4.1 Specific Aim 1: Evaluate the effect of distance learning and education (Compass) on employment.

Hypothesis: There will be significant differences between conditions in the rate obtaining competitive employment.

Overview: For the online program to be effective, Veterans using Compass should demonstrate higher rates of competitive employment than those receiving basic resources alone. The definition of 'competitive employment,' is consistent with the Department of Labor's: 1) a paid position that is open to anyone; 2) in a mainstream integrated setting; 3) paying at least minimum wage (\$7.25 per hour in Texas at the time of this submission); and 4) not sheltered or a job to be filled from consumers of a particular mental health/service agency. Additionally, employment in day labor will not be considered competitive employment as these jobs do not end the cycle of unemployment, homelessness, and economic disadvantage.

Predicted Outcomes: The rate of employment will be higher with Compass compared to the Basic Resources condition.

Novel Concepts: This will be the first test of a hybrid distance learning vocational program focused on assisting Veterans with mental illness and histories of legal convictions obtain employment.

Data Collection: Outcome data for this goal will be obtained primarily through confirmed self-report, of the first day of employment. To confirm initial employment, the community staff will visit the Veteran's place of employment, call and verify employment with the employer, or ask the Veteran to present a pay stub as proof of employment. The Veteran will choose his/her preferred method of verification. The study coordinator will be responsible for collecting data from Veterans who wish to come to the Dallas Campus; the community VRS will be responsible for collecting data from non-Dallas participants.

Analysis Plan: Rates of employment will be presented as percent employed per group with 95% Wald confidence intervals (CI) with normal approximation and will be performed; all subjects who complete the follow-up period will be included regardless of level of participation in the two systems. Rate ratios and 95% CI will be calculated using conditional maximum likelihood. Initially Pearson Chi Square will compare the basic group with the Compass group on rates of employment. Subsequently, a Cox proportional-hazards regression analyses will be conducted on time until employment with treatment group affiliation as the primary predictor. Univariate Cox regression analyses will be performed to determine those demographic variables that individually have a significant effect on time until employment; final models will include any variable with a p-value < 0.20. Level of participation in the systems will be used as a covariate. We will follow through with appropriate statistical corrections where necessary to check whether each model meets the proportional hazards assumption.¹⁰⁰ Power is described in section 3.4.

4.2 Specific Aim 2: Evaluate the effect of DLE (Compass) on interviewing skills.

Hypothesis/Predicted Outcome: It is anticipated there will be significant improvement in interview skills in Veterans using Compass compared to basic resources.

Overview: The ability to present oneself in a positive light and promote oneself in an interview is associated with positive ratings of interview performance.¹⁰¹ Compass and the work with the VRC/coach focuses on building the skills needed to improve interviewing skills. As such, it is anticipated Compass will have a positive impact on interviewing skills.

Data Collection: Follow-up standardized assessment interviews will be given and recorded by an interviewer blinded to condition, following a standardized format described above (3.6.4). These interviews will occur at enrollment, months 1, 3, and 6.

Veterans will be rated using the Veteran Interview Scale (VIS). The VIS was created to assess overall interview quality using the primary, empirically derived components of an employment interview: job related content, interviewee performance, and personal characteristics, and has been used in previous VA RR&D grants. Test-retest reliability was strong (.778). The VIS was also sensitive to training where participating in a vocational reintegration group (section 2.3) resulted in significant improvement ($d = .61$).⁷⁶

A blinded rater will be assigned to rate recorded interviews; the rater will have been trained by the PI to rate interviews until their agreement was adequate (intraclass correlation coefficients of greater than .85). To prevent rater drift the rater will meet with the research team every 25 interviews to review videos and discuss inconsistencies to realign ratings criteria.

Analysis Plan: Linear mixed models for repeated measures will be computed to determine if the basic resource and compass groups significantly differ on interview skills at follow-up (1, 3, and 6 months), after controlling for any demographic variables identified as covariates in our preliminary analyses. The amount of the program completed (either basic manual or Compass) will be used as a covariate if indicated. Power is described in section 3.4.

4.3 Potential Difficulties and Limitations: The primary limitation is in the area of missing data. We have a well-defined missing data plan for small differences in lost to follow-up rates; however, large differences in lost-to follow-up could bias results (i.e. if the basic condition are lost at a higher rate and assumed unemployed). Our data monitoring committee will review this at their annual meetings. Additionally, we have adequate sample size to assure appropriate power up to a 2:1 condition completer ratio.

A second difficulty executing the study goals will be both tracking Veterans during the entire follow-up period and receiving an accurate assessment of weeks worked. Staff will review pay stubs of Veterans enrolled in the study. Veterans' charts will be reviewed (this will be included in the consent forms) for future appointments and staff will attempt to contact Veterans at appointments either at the medical center or in the Community Based Outpatient Clinics. Additionally, Veteran's family will be contacted for specific information about updated contact information; this will also be in the consent form (see section 3.8).

5. Dissemination plan

The plan to disseminate the results will follow several paths. The first will be through standard peer reviewed publications and national conference presentations focused on the outcome measures as well as a review article on the use of online services for Veterans with felony histories. A second potential path will be to partner with the Office of Justice Programs and submit an implementation grant

The third will be through providing a regional workshop/conference. The conference will mirror one conducted by the study team related to MERIT award "Assessing Supported Employment with Veterans with Felony Convictions and MI or SA" VHA RR&D D7635-R.¹⁰² The conference will introduce providers to the online system, overview its use and outcomes, and discuss dissemination strategies. Additionally, the conference will conduct a roundtable about the implementation of COMPASS, as well as some non-vocational best practices (e.g. housing, benefits, education, etc.) to round out the event.

6. Study Organization / Responsibilities

Nine staff members will be involved in this study: **Dr. LePage** (PI-25%) has extensive experience in vocational rehabilitation with homeless and formerly incarcerated Veterans. He will be responsible for study oversight and managing the vocational rehabilitation provided. **Dr. Cipher** (CO-I; 14%), biostatistician, will oversee analyses, database management, data entry progress, data integrity, and the Data Monitoring Board. **Dr. Walters** (CO-I; 8%), is a recognized expert in the area of online interventions and will oversee online interface issues as well as use his expertise in large interventions to assure recruitment is maintained. **Dr. Bozeman** (CO-I; 8%), is an analyst in VANTHCS's analytics department and expert in database integration, will oversee tracking of Veterans. **Dr. Emmett** (2%), will assist with motivational interview training. **Dr. Adams**, the clinical director for VA North Texas Health Care System's tele-mental health program, will serve as an advisor for the grant to assist navigating the tele-mental health system, processes, and equipment options. **Ms. Crawford**, MS (100%) has coordinated two VA funded projects including the RR&D pilot project that created the AFOS. She will coordinate and conduct enrollment/recruitment at the Dallas campus and follow-up assessments, track missing patients, oversee fiscal and regulatory requirements, and assure timeline is maintained. **One Vocational Rehabilitation Counselor** (100%) and one half-time (50%) **Vocational Rehabilitation Specialist** will be hired to interact with Veterans and act as the coach providing DLE. **One Vocational Rehabilitation Specialist/community staff** (100%) will be hired to enroll and conduct follow-up assessments in the community, track missing Veterans, and perform some data entry. Beyond the eight core staff, a part time **data entry clerk, a blinded interviewer, and blinded interview rater will be hired, potentially** under an IPA from available staff from the VA's non-profit corporation. Additionally, Cross training will be done to assure adequate coverage during vacations and sick leave.



Subject Name: _____

Date: _____

Title of Study: Assessing the effect of distance learning vocational rehabilitation on employment outcomes of Veterans with psychiatric illness and histories of legal convictions (COMPASS)

Principal Investigator: Dr. James LePage

Co-Investigator(s): _____

KEY INFORMATION

A. WHAT IS THE STUDY ABOUT AND WHY ARE WE DOING IT?

We are asking you to choose whether or not to volunteer for a research study being funded by the VA's Office of Research and Development, Rehabilitation Research and Development Service.

The purpose of this research is to determine if vocational services that use distance learning (using computers and phones) is helpful in finding employment. The expected duration of your participation is 6 months.

This initial information is to give you key information to help you decide whether to participate. We have included detailed information after this information. Ask the research team questions. Taking part in this study is completely voluntary.

B. DO YOU HAVE TO TAKE PART IN THE STUDY?

If you decide to take part in the study, it should be because you really want to volunteer. You will not lose any services, benefits, or rights you would normally have if you choose not to volunteer.

C. WHAT ARE MY RISKS?

This study does not involve a medical procedure so there is no predicted risk to your physical health. However, you may experience some minor anxiety when completing the surveys as they ask about mental health, substance use, and legal difficulties. Please let the study team know if you experience this anxiety. Further, the study team will take all safety precautions to protect your data.

D. WHAT IF YOU HAVE QUESTIONS, SUGGESTIONS OR CONCERNS?

The person in charge of the study is Dr. James LePage of the VANTHCS. If you have questions, suggestions, or concerns regarding this study or you want to withdraw from the study his contact information is 214-857-0240.





Subject Name:

Date:

Title of Study:

Assessing the effect of distance learning vocational rehabilitation on employment outcomes of Veterans with psychiatric illness and histories of legal convictions (COMPASS)

Principal Investigator: Dr. James LePage

Co-Investigator(s):

DETAILED CONSENT**1. WHAT IS THE PURPOSE OF THE STUDY?**

The purpose of this research is to determine if vocational services that use distance learning (using computers and phones) is helpful in finding employment.

2. HOW LONG WILL I BE IN THE STUDY?

This research study is expected to take approximately 4 years. Your individual participation in the project will take 6 months. We will recruit approximate 200 people for this study.

3. WHAT WILL HAPPEN IF I TAKE PART IN THE STUDY?

If you enroll in this study, you will be randomly assigned (like flipping a coin) to one of two conditions. Both conditions will receive an interview about you that includes demographic information (e.g. age, race, marital status, etc.), employment, mental health, substance abuse history, and legal history. Staff will also confirm that you know how to use the internet. You will complete a few questionnaires about your confidence and emotions. You will also complete a brief videotaped mock interview.

If you are randomly assigned to condition 1, you will receive the About Face Vocational Manual and will have 1 month to complete. This manual covers important areas involved in job search including talking about your skills, where to look for work, and how to conduct an interview. When you meet with staff during the follow-up period, you will be asked to bring the manual to the meeting for the staff to review.

If you are randomly assigned to condition 2, you will not receive the About Face Vocational Manual, but you will have access to the on-line Compass vocational program which covers the same domains as the manual but also has videos of vocational classes. During visit 3 of enrollment, veterans in condition 2 will review a website action plan worksheet with a vocational rehabilitation specialist that will cover when they plan to work on website during the two-week period.





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Additionally, you will have access to a vocational rehabilitation specialist by phone and live chat through the Compass system. You will receive phone calls from the Vocational Specialist once every two weeks to discuss problems and progress.

4. WHAT IS EXPECTED IF I TAKE PART IN THIS STUDY?

You will meet with staff monthly for the next 6 months to update staff about your employment success, complete surveys and videotaped assessment interviews. Additionally, you will receive a website link bi-weekly via Qualtrics to complete assessments that address mental and physical health, employment, housing, and legal updates. The assessments will take approximately 15 min to complete. Qualtrics is an online system that allows a person to complete surveys. It can be used on computer, tablets, or smartphones. Further, when you obtain employment, you will be asked to bring proof (i.e., pay stub or an offer letter, to the meeting).

5. WHAT ARE MY RISKS?

You may experience some minor anxiety when completing the surveys as they ask about mental health, substance use, and legal difficulties. If you experience these, please let the study staff know immediately.

Risks of the usual care you receive are not risks of this study. Those risks are not included in this consent form. You should talk with your health care providers if you have any questions about the risks of usual care.

This study does not involve a medical procedure so there is no predicted risk to your physical health. It must be mentioned that if the information involved in this study were to be made public it might be embarrassing for some individuals. All identifiable information about you (e.g. name, SSN, date of birth, phone number, etc.) will be kept on the secure VA server and never leave the VA.

Although this is not a medical study, we are required to tell you the following:

Unforeseen risks: A previously unknown problem could result from your taking part in this research. It is not possible to estimate the chances of such problems or how serious the problems could be. Any new findings will be given to you that may affect your willingness to





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take part in this study. If new findings are discovered, you will be asked to sign a new (updated) informed consent form to document that new information provided in the updated Consent Form has been explained to you.

6. WHAT ARE POSSIBLE BENEFITS OF THIS STUDY?

Participants in this study will obtain information which may increase their likelihood of finding employment. The lessons learned will help improve the vocational rehabilitation programs for Veterans in the future.

7. WHAT OTHER CHOICES DO I HAVE IF I DO NOT WANT TO JOIN THIS STUDY?

You do not have to participate in this study and are free to pursue any VA vocational resources and programs. Not participating in this study in no way limits your ability to involve yourself in other vocational resources.

8. HOW WILL MY PRIVATE INFORMATION BE PROTECTED?

Identifiers might be removed from the identifiable private information or identifiable biospecimens that are collected. After that removal, the information or biospecimens could be used for future research studies or distributed to another investigator for future research studies without additional informed consent from you or your legally authorized representative.

Health Information Portability and Accountability Act (HIPAA)

There are rules to protect your private health information. Federal and state laws and the federal medical law, known as the HIPAA Privacy Rule, also protect your privacy. By signing this form, you provide your permission called your 'authorization,' for the use and disclosure of information protected by the HIPAA Privacy Rule.

The research team working on the study will collect information about you. This includes things learned from the procedures described in this consent form. They may also collect other information





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including your name, address, date of birth, phone number, email address and information from your medical records such medical history, drug, alcohol, and mental health treatment.

The research team may also need to disclose your health information and the information it collects to others as part of the study progress. Others may include the Institutional Review Board, the VA Office of Research Oversight (ORO), and the Government Accountability (GAO). Additionally, Qualtrics is an entity that you will utilize to enter your data. It will only receive coded information and not info with your name, SSN, or other direct identifiers.

Your health information disclosed pursuant to this authorization may no longer be protected by Federal laws or regulations and may be subject to re-disclosure by the recipient.

You can revoke this authorization, in writing, at any time. To revoke your authorization, you must write to the Release of Information Office at this facility or you can ask a member of the research team to give you a form to revoke the authorization. Your request will be valid when the Release of Information Office receives it. If you revoke this authorization, you will not be able to continue to participate in the study. This will not affect your rights as a VHA patient to treatment or benefit outside of the study.

If you revoke this authorization, Dr. LePage and his research team can continue to use information about you that was collected before receipt of the revocation. The research team will not collect information about you after you revoke the authorization.

Treatment, payment or enrollment/eligibility for benefits cannot be conditioned on you signing this authorization. This authorization will expire at the end of the research study unless revoked prior to that time.

9. WHAT ARE THE COSTS TO ME IF I TAKE PART IN THIS STUDY?

You will not be charged for any treatments or procedures that are part of this study. If you usually pay co-payments for VA care and medications, you will still pay these co-payments for VA care and medications that are not part of this study.





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10. WILL I BE PAID FOR PARTICIPATING?

You will be compensated for participation in the study. After completing all the enrollment procedures of visit 1-3 within two weeks, if still eligible, you will receive \$50 at visit 3 if you have a felony or non-traffic related misdemeanor conviction. The \$50 will be compensation for completing enrollment surveys and toward the cost of wi-fi tablet, if you choose to purchase. If you do not have a felony or non-traffic related conviction, you will only receive \$20.

For visit 4, if you complete all sections within two weeks of visit 3, additional surveys, questionnaires, and assessment interview, you will receive \$40. If you complete more than 75%, but less than 100%, of either the manual or Compass website, additional questionnaires, and assessment interview within two weeks of visit 3, you will receive \$20. If you complete less than 75% of the manual or website, and the questionnaires and assessment interview, you will only receive \$10. Further, the payment will decrease if visit is completed after the scheduled due date, but before the final due date, in which you will not receive payment. After completing visit 4, you will receive a Qualtrics link **bi-weekly** to complete assessments. For each bi-weekly Qualtrics completion, you will be compensated \$5, to be paid at your final visit (month 6). If you complete the monthly follow-up paperwork 2, 4, and 5, you will be entered into a raffle for that month for \$100 dollars if you meet with staff in person; \$50 monthly raffle if you complete by phone. At the 3 and 6 months follow up, you will be asked to complete additional questionnaires and another videotaped interview and will receive \$30 if you complete with staff in person, \$15 if over the phone for each follow up. Compensation for your study participation will be paid via a VA Voucher or Gift Card.

The table below should help clarify what will happen. The study coordinator will review all scheduled due dates and payments with you.

Time	Event	Payment
*Visit 1	Enrollment in study (consent)	N/A
*Visit 2	Complete demographic forms and surveys	paid at visit 3
*Visit 3	Complete mock interview and assigned group	Felony and non-traffic related misdemeanor-\$50 No felony or non-traffic related misdemeanor-\$20





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Visit 1-3	Must be completed within 2 weeks of enrollment and in person.	Total payment \$50 or \$20 Veteran will be paid for completion of visit 2 and 3 at visit 3.
Visit 4 (two weeks from visit 3)	Manual or website due, mock interview, and surveys (must complete in person within scheduled due date).	Up to \$40 \$40 if all sections completed \$20 if at least 75% or more is completed \$10 if less than 75% *must also complete surveys and mock Interview*
Months 3, 6	Complete surveys and practice interview	Up to \$30 \$ 30 - face to face \$15-via phone
Months 2, 4, 5	Update employment, housing, and legal information (via phone or in person)	Raffle-up to \$100 monthly \$100 -face to face \$50-via phone
Every other week – if in condition 2, Compass	Talk to vocational staff (via phone or in person)	N/A
Every other week-both conditions will participate	Completion of assessments via Qualtrics system	\$5-per biweekly Qualtrics completion. *Veterans will be paid total at final visit for all Qualtrics visits completed*

An Internal Revenue Service (IRS) Form 1099 may be generated, which will use your Social Security Number. This payment is considered taxable income. If you owe money to the government, this payment may be garnished to satisfy the debt.





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11. WHAT WILL HAPPEN IF I AM INJURED BECAUSE OF MY BEING IN THE STUDY?

Although injury as part of this study is unlikely, the VA has the obligation to provide medical treatment to participants injured by participation in a VA study. If you are injured as a result of being in this study, the VA will provide the necessary medical treatment in accordance with federal law.

Emergency and ongoing medical treatment will be provided as needed. If you have a medical emergency, you should immediately call 911 for assistance.

12. DO I HAVE TO TAKE PART IN THE STUDY?

Taking part in this study is voluntary and you may refuse to take part without penalty or loss of benefits to which you are otherwise entitled. You are free to withdraw your consent and stop taking part at any time. The investigator may continue to review the data already collected for the study prior to your withdrawal, but cannot collect further information, except from public records. Not taking part in the study will in no way affect the quality of care you receive now or in the future from the VA. This will also not affect your right to take part in other studies. The study investigators will answer any questions you may have about the study.

13. WHO DO I CONTACT ABOUT THIS STUDY IF I HAVE QUESTIONS?

If you have any questions about this study or have any bad effects of your treatment, you should call the study investigator, Dr. LePage at 214-857-0240 or a member of the research team at 214-857-2571. You should also contact Dr. LePage or a member of the research team to discuss problems, concerns you may presently have, or offer input about the research.

If you have any questions about whether this is a VA North Texas Healthcare System approved research study, you may contact the Research Compliance Officer at 214-857-0341.

If you have questions about your rights as a study participant, or you want to make sure this is a valid VA study, you may contact the Institutional Review Board (IRB). This is the Board that is





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responsible for overseeing the safety of human participants in this study. You may call the Dallas VAMC Patient Representative at 214-857-0482 if you have questions, complaints, or concerns about the study or if you would like to obtain information or offer input.

The DVARC answering service is available at 800-725-4436 to receive calls from patients after hours. If you have a medical emergency, you should immediately call 911 for assistance.

14. WILL I BE TOLD NEW INFORMATION ABOUT THIS STUDY?

New findings developed during the course of the research that may affect your willingness to continue participation will be provided to the participant.

15. WHO COULD PROFIT FROM THE STUDY RESULTS?

Dr. LePage, the primary investigator for this study, has no financial interests in the study. This information is provided to you so that you can decide if these relationships will affect your willingness to participate in the study. An internal review board, the Institutional Review Board (IRB), has determined that there are no relationships that affect the safety of study participants.

16. DOES THIS STUDY INVOLVE GENETIC RESEARCH? HOW WILL MY GENETIC INFORMATION BE PROTECTED?

No genetic research is involved in this study.

17. FUTURE USE OF DATA AND RE-CONTACT

There may be other studies, either being conducted now or that may be conducted in the future, which you might be eligible to participate.

Would you like to be contacted by phone and/or mail for those studies?

Yes

No

VA Form 10-1086

Research Revision dated 5-6-2019

Version Number:

1.14

Submission/Revision Date:

8/31/2020



VA North Texas Health Care System

IRB NUMBER: 17-096

IRB APPROVAL DATE: 10/05/2020



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18. DOES THIS STUDY INVOLVE TISSUE BANKING?

No tissue banking is involved in this research.

19. AGREEMENT TO PARTICIPATE IN THE RESEARCH STUDY

_____ has explained the research study to you. You have been told of the risks or discomforts and possible benefits of the study. You have been told of other choices of treatment available to you. You have been given the chance to ask questions and obtain answers.

By signing this document below, you voluntarily consent to participate in this study “and authorize the use and disclosure of your health information for this study”. You also confirm that you have read this consent, or it has been read to you. You will receive a copy of this consent after you sign.

I agree to participate in this research study as has been explained in this document.

Participant's Name _____

Participant's Signature _____

Date _____





VA North Texas Health Care System
IRB NUMBER: 17-096
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