**AWARD NUMBER:** W81XWH-14-1-0264

**TITLE:** Do You Really Expect Me to Get MST Care in a VA Where Everyone is Male? Innovative Delivery of Evidence-Based Psychotherapy to Women with Military Sexual Trauma

**PRINCIPAL INVESTIGATOR:** Ronald Acierno, PhD

**CONTRACTING ORGANIZATION:** Medical University of South Carolina
Charleston, SC 29425

**REPORT DATE:** August 2016

**TYPE OF REPORT:** ANNUAL

**PREPARED FOR:** U.S. Army Medical Research and Materiel Command
Fort Detrick, Maryland 21702-5012

# REPORT DOCUMENTATION PAGE

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| August 2016 | Annual | 1 Aug 2015 - 31 Jul 2016 |

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Do You Really Expect Me to Get MST Care in a VA Where Everyone is Male? Innovative Delivery of Evidence-Based Psychotherapy to Women with Military Sexual Trauma

**5a. CONTRACT NUMBER**

**5b. GRANT NUMBER**
W81XWH-14-1-0264

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**6. AUTHOR(S)**
Dr. Ronald Acierno

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**5d. PROJECT NUMBER**

**5e. TASK NUMBER**

**5f. WORK UNIT NUMBER**

**7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES)**
Medical University of South Carolina
179 Ashley Avenue
Charleston, SC 29425

**8. PERFORMING ORGANIZATION REPORT NUMBER**

**9. SPONSORING / MONITORING AGENCY NAME(S) AND ADDRESS(ES)**
U.S. Army Medical Research and Materiel Command
Fort Detrick, Maryland 21702-5012

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**12. DISTRIBUTION / AVAILABILITY STATEMENT**
Approved for Public Release; Distribution Unlimited

**13. SUPPLEMENTARY NOTES**

**14. ABSTRACT**

The purpose of this study is to determine whether a scientifically validated treatment for PTSD called Prolonged Exposure (PE) can be delivered effectively to Veterans with Military Sexual Trauma (MST) related PTSD using videoconferencing technology, which allows a therapist and patient, who are at great distance from one another, to communicate. We are interested in learning if this form of mental health service delivery is more acceptable than traditional face-to-face therapy at the VA, where many individuals who may resemble the perpetrator congregate. This study is being conducted at the Charleston VA Medical Center and affiliated satellite clinics (CBOCs), and will involve approximately 100 female participants.

**15. SUBJECT TERMS**
MST, PTSD, Telemedicine, Behavioral Activation, Prolonged Exposure, DOD/VHA research collaborations

| 16. SECURITY CLASSIFICATION OF: | | | 17. LIMITATION OF ABSTRACT | 18. NUMBER OF PAGES | 19a. NAME OF RESPONSIBLE PERSON |
|---|---|---|---|---|---|
| a. REPORT | b. ABSTRACT | c. THIS PAGE | | | USAMRMC |
| Unclassified | Unclassified | Unclassified | UU | 12 | 19b. TELEPHONE NUMBER *(include area code)* |

**Table of Contents**

**Page**

## 1. INTRODUCTION:

Veterans who experience military sexual trauma (MST) are at heightened risk of developing psychiatric difficulties such as post-traumatic stress disorder (PTSD). Although the Veterans Health Administration (VHA) has identified MST positive Veterans as a high priority population, this group of Veterans may under-utilize evidence-based interventions for PTSD such as Prolonged Exposure (PE). Likely reasons for this under-utilization include unique barriers to care faced by MST survivors such as avoidance of VA medical facilities due to their potential to cue distressing memories and symptoms. The current study includes a randomized controlled study design comparing treatment engagement and clinical and quality of life outcomes between two groups: Veterans receiving PE for PTSD-related MST via home-based telehealth (PE-HBT) and Veterans receiving PE for PTSD-related MST via standard service delivery (PE-SD). The intervention component of the study is complemented by a qualitative component (i.e., patient interviews) designed to better understand Veterans' reactions, preferences, difficulties, and suggestions for the intervention, as well as to solicit feedback about this patient population's service needs and preferences more broadly. All Veterans enrolled in the study (i.e. Veterans in both groups) will benefit from receiving a well supported intervention for PTSD, Prolonged Exposure (PE), to address their MST-related symptoms. As such, all Veterans have the potential to experience significant symptom reduction related to their military sexual trauma post-intervention (i.e., within 12 weeks). However, women assigned to receive PE via home-based telehealth will have the particular advantage of being able to receive services from their home, thereby circumventing some of the traditional access to care barriers faced by this clinical population. It is anticipated that this advantage will result in increased session attendance and compliance, which in turn will result in better clinical and quality of life outcomes due to increased 'dosing' of the intervention. Thus, it is predicted that Veterans in PE-HBT will evidence better treatment engagement and more significant symptom improvement relative to Veterans in PE-SD. Treatment gains include a reduction of PTSD and other psychiatric symptoms such depression, as well as more global improvements in quality of life and social/occupational functioning. If, as anticipated, women in PE-HBT evidence improved outcomes relative to women in PE-SD, the current study findings can be used to establish an innovative service delivery model that will circumvent traditional barriers to care in an underserved, yet high risk patient population. Regardless of study outcomes, the proposed project stands to fill significant gaps in the literature with regard to how to optimally engage and retain MST positive Veterans in VA mental healthcare. Additionally however, there is only one PTSD treatment outcome study focused exclusively on female Veterans and no extant studies testing home-based telehealth for sexual assault victims. Thus, the proposed project also stands to make a significant contribution to mental health service delivery models for female Veterans and sexual assault victims more broadly.

The major tasks of the SOW include: (1) **enroll** 100 female Veteran participants with MST-related PTSD and randomly **assign** to either in person (IP) or home based treatment (HBT) for PTSD; and (2) collect measures of PTSD and other psychopathology, attendance, and patient satisfaction at pre-treatment, post-treatment, and follow-up.

Between 01-AUG-2015 and 31-JUL-2016, 98 participants were screened, 32, bringing our total to date since the initiation of study procedures on 01-AUG-2014 to 57 consented. Additionally, 15 post assessments and 28 follow up assessments (i.e., 15 '3-month'; 13 '6-month') have been completed during this period.

## 2. KEYWORDS:

Telehealth, primary care, telepsychiatry, telepsychology, rural health, access to care, patient attitudes, posttraumatic stress disorder (PTSD).

**3. ACCOMPLISHMENTS:**

➢ ***What were the major goals of the project?***

- ***Objective 1***: To compare, at post-treatment and 3 & 6-month follow-ups, whether Prolonged Exposure delivered to Military Sexual Trauma Victims via home-based telehealth (PE-HBT) is superior in terms of PTSD outcomes to PE delivered via standard office based procedures (PE-SD).
- ***Objective 2***: To compare over a 6-month time-frame, whether PE-HBT is superior to PE-SD across critical process outcomes (e.g., session attendance, satisfaction, and treatment adherence) to determine if predicted superiority of PE-HBT is due to increased treatment attendance, reduced attrition, and increased treatment satisfaction.

➢ ***What was accomplished under these goals?***

- Start-up activities and regulatory approvals have been submitted and obtained
  - IRB approval was obtained on 02-JUN-2014
  - HRPO approval was obtained on 25-SEPT-2014
  - VA R&D approval was obtained on 04-SEPT-2014
- Study personnel have been trained on the PE protocol and televideo delivery protocols. Additionally, all study staff have also completed a certified program of instruction in the protection of human subjects in research (e.g., the University of Miami CITI course).
- Telemental health protocols within existing infrastructure have been finalized and approved.
- Existing procedures have been refined to accommodate MST affected women.
- Study assessment forms and data entry forms have been created. Staff have organized all case report forms (CRFs), regulatory binders, detail protocols, study procedures, and refined other study materials to prepare for the recruitment phase.
- The randomization procedures and database have been set up, in collaboration with Dr. Knapp (Co-I), to ensure high quality data entry and data security throughout the course of the study.
- Screening and recruitment potential participants began 15-OCT-2014.
- Recruitment activities that were implemented during Year 2 include:
  - Study staff and volunteers began actively recruiting directly from VA Community Based Outpatient Clinics (CBOC satellite clinics) in addition to from the core VA Medical Center (specific CBOCs include: Trident, Goose Creek, Savannah, and Hinesville) and establishing relationships directly with primary care providers there that are now referring patients to the study.
  - IRB approval was obtained to disseminate recruitment letters to female Veterans that screened positive for MST within the VA system, but did not initiate or continue services with the PTSD Clinic.
  - The study team received IRB approval to disseminate an online screening tool for potential participants.
  - Study personnel have been trained to interface with MUSC's electronic health records (EPIC). This allows for dissemination of IRB approved letters of invitation to female Veterans seen within any MUSC clinic and agree to be contacted for research participation.
  - Study personnel have reached out to community resources, including representatives from Joint Base Charleston as well as leaders of various women's group in the Charleston area with the intent on opening lines of communication for potential referrals. In addition, letters have been mailed to 100 Tricare, women's health providers.
  - Study staff screened charts of primary care-mental health integration (PCMHI) providers weekly to identify potential participants and alert the provider that the study may be beneficial for the

Veteran.
- The study team sought and received additional funds and resources from MUSC to bolster online recruitment strategies (e.g., Facebook ads) and provide materials to study participants (e.g., bags with study information printed on them).

- ***What opportunities for training and professional development has the project provided?***
  Independent evaluators were trained on qualitative assessment measures and study therapists were trained on PE treatment. Additionally, in September 2016, study staff will attend a specialized conference on participant recruitment and retention in Washington DC.

- ***How were the results disseminated to communities of interest?***
  DoD IPR #1 and (in September) #2 will receive reports of study progress. Two manuscripts using existing data from the study are in progress.

- ***What do you plan to do during the next reporting period to accomplish the goals?***
  Recruitment will continue and recruitment efforts at CBOCs will be intensified. Study staff will expand upon community resources and continue establishing relationships with primary care providers who offer Tricare as well as leaders of various women's groups around Charleston. They will also continue to build the relationships with representatives at Join Base Charleston and the Palmetto Warrior Foundation. Finally, this study will be represented at local events that are specific to Veterans, including job fairs as well as organizations for Veterans at local colleges.

  Over the next year community referrals will the primary focus as the VA and MUSC are beginning a new project to facilitate treatment for Veterans within South Carolina's rural community that are served by MUSC. Moreover, Dr. Acierno was successful in implementing an MUSC system wide change to the electronic medical record wherein the 'veteran status' of every patient is now collected along with other demographic information *and* a question regarding potential contact for research is asked. These two changes to the MUSC EMR will now allow searches and subsequent recruitment outreach of all patients who are Veterans who agree to be contacted for research. Revising the University Hospital Enterprises EMR was no small task, took almost 13 months, and is expected to yield additional participants for the study.

**4. IMPACT:**

- ***What was the impact on the development of the principal discipline(s) of the project?***
  Data blinds are not yet broken for mid study analysis, however, the telemedicine research work funded (this and past projects) by the Department of Defense in Charleston through the Medical University of South Carolina and the Charleston Research Institute has resulted in the fact that Charleston, despite its average size, is the leading VAMC in the country with respect to overall number of telemental health service.

- ***What was the impact on other disciplines?***
  Nothing to report

- ***What was the impact on technology transfer?***
  Nothing to report

- ***What was the impact on society beyond science and technology?***
  As a direct result of earlier and current DoD funding of projects conducted in partnership with the

VAMC in Charleston, this VA now offers more telemedicine and home based telemedicine for mental health services to Veterans than any other site in the country. Moreover, our procedures, refined and validated through research, have been so successful in terms of allocating effort where patients present, and in treating patients effectively so that they are able to complete mental health services, that we are now assisting other VAMC's both within and outside our VISN in meeting their two week wait service metrics.

## 5. CHANGES/PROBLEMS:

- ***Changes in approach and reasons for change***

Recruitment is slightly behind schedule. However, recent efforts described above have improved the rate of recruitment and this trajectory in continuing. As a result, we have brought on a full time recruiter and two recruitment volunteers so that we can staff CBOC clinics more consistently. Below is a chart of to-date recruitment, projected vs actual. We will continue to foster relationships with potential referral sources both within and outside of the VA system.

| Year / Quarter | Year 1 AUG 2014 - JUL 2015 | | | | Year 2 AUG 2015 - JUL 2016 | | | | Total |
|---|---|---|---|---|---|---|---|---|---|
| | Q 1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | |
| **Consent Projected** | - | 8 | 10 | 12 | 10 | 12 | 12 | 12 | 76 |
| **Consent Actual** | 1 | 11 | 5 | 8 | 4 | 8 | 11 | 9 | 57 |
| **Over/(Under)** | 1 | 3 | (5) | (4) | (6) | (4) | (1) | (3) | 19 |

** Enrollment of 10 in Q1, rather than 12 participants is predicted during the December Holiday Months; note overall enrollment is greater than predicted sample size to account for potential attrition or withdrawal immediately following consent but before any study treatments can be provided.*

In addition to system level factors that we have addressed to increase recruitment, we have also addressed patient level factors. For example, based on feedback that has been received during the qualitative interviews, we have reduced the length of the self-report packet in half, offered to split the intake appointment over two days, and increased the remuneration for completed assessments by cutting costs elsewhere. The new payment schedule is: $20 for the baseline assessment, $20 for the post treatment assessment interview, $20 for the post-treatment self-reports, $25 for the 3-month follow-up assessment interview, $25 for the 3-month assessment self-reports, $35 for the 6-month follow-up assessment interview, and $35 for the 6-month assessment self-reports for a combined possible total of $180.00.

We are also preserving carryover funds in the event that additional time may be needed for recruitment.

- ***Actual or anticipated problems or delays and actions or plans to resolve them***

No problems other than those addressed above

- ***Changes that had a significant impact on expenditures***

We will have funds to carryover into year 3, which will be used for continued recruitment efforts.

- ***Significant changes in use or care of human subjects, vertebrate animals, biohazards, and/or select agents***

No changes

- ***Significant changes in use or care of human subjects***
  No changes

- ***Significant changes in use or care of vertebrate animals***
  N/A

- ***Significant changes in use of biohazards and/or select agents***
  N/A

## 6. PRODUCTS:

- ***Publications, conference papers, and presentations***
  - DoD IPR presentations
  - Lopez, C., Muzzy, W., Grubaugh, A., Resnick, H., Radic, M., Rosenlieb, T., Zeigler, S., & Acierno, R. (2015, February). Characteristics and preferences of female veterans most likely to engage in mental health services. Poster presented at the Women's Health Research Day 2016 in Charleston, SC.

- ***Website(s) or other Internet site(s)***
  Nothing to report

- ***Technologies or techniques***
  Nothing to report

- ***Inventions, patent applications, and/or licenses***
  Nothing to report

- ***Other Products***
  Nothing to report

## 7. PARTICIPANTS & OTHER COLLABORATING ORGANIZATIONS

- ***What individuals have worked on the project?***

| | |
|---|---|
| Name: | *Ronald Acierno* |
| Project Role: | *Principal Investigator* |
| Nearest person month worked: | *4* |
| Contribution to Project: | *Responsible for all scientific, technical, and financial aspects of the project* |

| | |
|---|---|
| Name: | *Rebecca Knapp* |
| Project Role: | *Co-Investigator* |
| Nearest person month worked: | *1* |
| Contribution to Project: | *Serves as Statistician* |

| | |
|---|---|
| Name: | *Peter Tuerk* |

| | |
|---|---|
| Project Role: | *Co-Investigator* |
| Nearest person month worked: | *1* |
| Contribution to Project: | *Provides expertise in the area of conducting exposure therapy delivered via telemental health technology, exposure therapy for PTSD in Veteran's homes, treatment fidelity, and clinical supervision* |

| | |
|---|---|
| Name: | *Anouk Grubaugh* |
| Project Role: | *Co-Investigator* |
| Nearest person month worked: | *3* |
| Contribution to Project: | *Experienced in the collection, interpretation, analysis, and publication of qualitative data* |

| | |
|---|---|
| Name: | *Heidi Resnick* |
| Project Role: | *Co-Investigator* |
| Nearest person month worked: | *1* |
| Contribution to Project: | *Experienced both in the treatment of sexual assault, as well as in using technology to deliver evidence-based treatment* |

| | |
|---|---|
| Name: | *Carol Denier* |
| Project Role: | *Co-Investigator* |
| Nearest person month worked: | *1* |
| Contribution to Project: | *Facilitates referrals from patients that have screened positive for MST and PTSD* |

| | |
|---|---|
| Name: | *Anna Birks* |
| Project Role: | *Clinical Coordinator* |
| Nearest person month worked: | *2* |
| Contribution to Project: | *Provides clinical supervision, including overseeing assessment measure procedures, and assists with clinic referral flow* |

| | |
|---|---|
| Name: | *Wendy Muzzy* |
| Project Role: | *Research Scientist* |
| Nearest person month worked: | *6* |
| Contribution to Project: | *Assists in conceptual and practical resolution of scientific questions and data analytic decisions that inevitably present themselves during the course of a RCT* |

| | |
|---|---|
| Name: | *Stephanie Zeigler* |
| Project Role: | *Research Assistant II* |
| Nearest person month worked: | *12* |
| Contribution to Project: | *Coordinates the day to day aspects of this project* |

| | |
|---|---|
| Name: | *Martina Radic* |
| Project Role: | *Research Assistant II* |
| Nearest person month worked: | *12* |
| Contribution to Project: | *Conducts all interviews/assessments as detailed in the protocol* |

| | |
|---|---|
| Name: | *A. Raquel Vining* |
| Project Role: | *Research Assistant I* |
| Nearest person month worked: | *2* |
| Contribution to Project: | *Documentation coordinator* |

| | |
|---|---|
| Name: | *Stephanie Hamski* |
| Project Role: | *Research Assistant II* |
| Nearest person month worked: | *2* |
| Contribution to Project: | *Recruitment specialist* |

| | |
|---|---|
| Name: | *Cristina Lopez* |
| Project Role: | *Volunteer* |
| Nearest person month worked: | *2* |
| Contribution to Project: | *Recruitment efforts* |

| | |
|---|---|
| Name: | *Tracey Rosenlieb* |
| Project Role: | *Volunteer* |
| Nearest person month worked: | *2* |
| Contribution to Project: | *Recruitment efforts* |

| | |
|---|---|
| Name: | *Kimberly Veronee* |
| Project Role: | *Volunteer* |
| Nearest person month worked: | *2* |
| Contribution to Project: | *Recruitment efforts* |

| | |
|---|---|
| Name: | *Nina Schneider* |
| Project Role: | *Volunteer* |
| Nearest person month worked: | *2* |

| | |
|---|---|
| Contribution to Project: | *Recruitment efforts* |

| | |
|---|---|
| Name: | *Glenna Worsham* |
| Project Role: | *Volunteer* |
| Nearest person month worked: | *2* |
| Contribution to Project: | *Recruitment efforts* |

- ***Has there been a change in the active other support of the PD/PI(s) or senior/key personnel since the last reporting period?***
  No changes to report

- ***What other organizations were involved as partners?***
  **Organization Name:** Charleston Research Institute
  **Location of Organization:** 176-A Ashley Avenue
  Charleston, SC 29403

  **Partner's contribution to the project** *(identify one or more)*
  Collaboration

**8. SPECIAL REPORTING REQUIREMENTS:**

- **COLLABORATIVE AWARDS:**
  N/A

- **QUAD CHARTS:**
  Attached

**9. APPENDICES:**
N/A

# Do You Really Expect Me to get MST Care in a VA Where Everyone is Male? Innovative Delivery of Evidence Based Psychotherapy to Women with Military Sexual Trauma

W81XWH-14-1-0264 / PT130434

**PI:** Ronald Acierno, PhD **Org:** Medical University of South Carolina **Award Amount:** $2,064,315

## Study/Product Aim(s)

•Objective 1: To compare, at post, 3 and 6-month follow-up, whether PE-HBT is superior to PE PE-SD across critical clinical and quality of life outcomes (i.e., PTSD, depression, quality of life) due to increased PE 'dosing' that results from improved session attendance and reduced attrition.

•Objective 2: To compare at post-intervention whether PE-HBT is superior to PE-SD across critical process outcomes (e.g., session attendance, satisfaction, and treatment adherence).

## Approach

Using a randomized, between groups, repeated measures design, 100 female Veterans with MST-related PTSD will be recruited from the Charleston VA medical center catchment area during the study time frame. Veterans will be randomized 1:1 to one of two conditions: PE via home-based telehealth (PE-HBT) or PE via standard service delivery (PE-SD). The active intervention phase is 12 weeks. Participants randomized to PE-HBT will receive 12 weekly sessions of PE via in-home video-conferencing technology, and participants randomized to PE-SD will receive 12 sessions of PE via standard in-person care delivery. All participants will be assessed at baseline, post-treatment, and at three and 6 months follow-up.

**Pilot Data indicate MST survivors prefer PTSD Treatment via Home Based Televideo at a rate of 2:1**

**Accomplishments this Year:** Between 01-AUG-2015 and 31-JUL-2016, 98 participants were screened and 32 were consented, bringing our total to date since the initiation of study procedures on 01-AUG-2014 to 57 consented. Additionally, 15 post assessments and 28 follow up assessments (15 3-month; 13 6-month) have been completed during this period.

**Recruitment activities that were implemented during Year 2 include:**

- Study staff began actively recruiting directly from CBOC satellite clinics (specific clinics include: Trident, Goose Creek, Savannah, and Hinesville) and establishing relationships directly with primary care providers there that are now referring patients to the study.
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- Study staff screened charts of primary care-mental health integration (PCMHI) providers weekly to identify potential participants and alert the provider that the study may be beneficial for the Veteran.
- The study team sought and received additional funds and resources from MUSC to bolster online recruitment strategies (e.g., Facebook ads) and provide materials to study participants (e.g., bags with study information printed on them).

## Timeline and Cost

| Activities YEAR | 1 | 2 | 3 | 4 |
|---|---|---|---|---|
| Approvals: IRB / VA / DoD | | | | |
| Recruit and Treat Participants | | | | |
| Data Analysis and Reports | | | | |
| Dissemination | | | | |
| **Budget** (Direct and Indirect Costs) | $459,071 | $537,799 | $553,331 | $514,114 |

**Updated:** (11-AUG-2016)

## Goals/Milestones

**YR1 Goal** – Institutional Human Subject Approvals Submitted
☑ IRB, VA Research, DoD HRPO approvals obtained

**YR2 Goals** – Recruitment, Reports
☑Establish recruitment protocols and procedures
☑Recruit and consent participants

**YR3 Goal** – Recruitment, Reports
☐ Continue to recruit and consent participants

**YR4Goal** – Complete Recruitment, Analyze Data, Submit Publications
☐ Submit final report and presentations to DoD

**Comments/Challenges/Issues/Concerns**

- None at this time

**Budget Expenditure to Date**

- Actual Expenditure: **$469,636** (as of 31-JUL-2016)