

# Home-based Telemental Health for Rural Veterans

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## Research Objective

With support from the US Department of Veterans Affairs and the Department of Defense, we conducted a pilot study to assess the feasibility, and to collect preliminary data on the effectiveness of a home-based telemental health (HBTMH) intervention among rural Veterans with established post-traumatic stress disorder (PTSD).

## Background and Rationale

- Rural Veterans, like others in rural areas, have difficulty accessing specialty services.
- The VA has had unacceptably long wait times for Veterans who require PTSD treatment.
- Providers at VA Clinical Based Outpatient Clinics (CBOCs) are either not trained to treat PTSD or are otherwise unable to devote weekly or twice-weekly sessions, as is standard of care.
- In Hawaii, PTSD-related travel to clinics is especially difficult because of time, difficulties associated with getting care in rural areas, inter-island travel logistics and cost, and physical and psychological challenges that are inherent in this population.
- Prior research has shown that telemental health is equivalent in most ways to in-clinic mental health treatment for rural veterans.
- Telemental health research has been conducted from one clinic to another remote clinic, or from one room to another to demonstrate the effect.
- The work presented here extends previous work on telemental health provision with a focus on practical applications for rural Veterans with PTSD.

## Methods

This 2013 pilot study aimed to enroll Veterans with PTSD in the VA Pacific Islands Healthcare System to receive 12 twice-weekly psychotherapy sessions via HBTMH. In addition to therapy sessions, the Defense Automated Neurobehavioral Assessment (DANA) was administered. DANA is a tablet-based device that collects neurocognitive efficiency measures as well as several measures of PTSD severity, depression, and sleep disturbance. Data were collected at baseline, mid-treatment (after three to four weeks), and post-treatment (after seven to ten weeks). The primary outcome was feasibility and acceptability of the HBTMH intervention compared to usual care. Secondary outcomes included preliminary data on HBTMH effectiveness as assessed by self-reported measures of PTSD, depression and insomnia, as well as neurocognitive measures assessed by DANA.

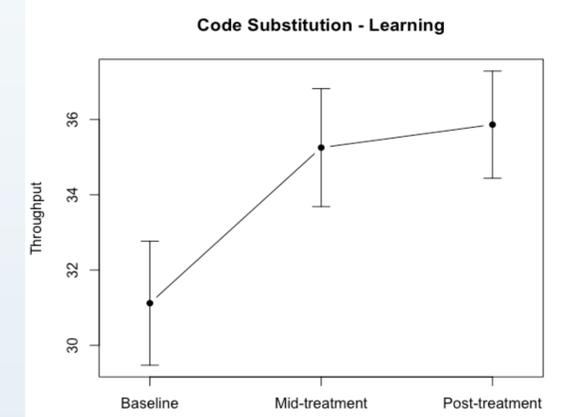
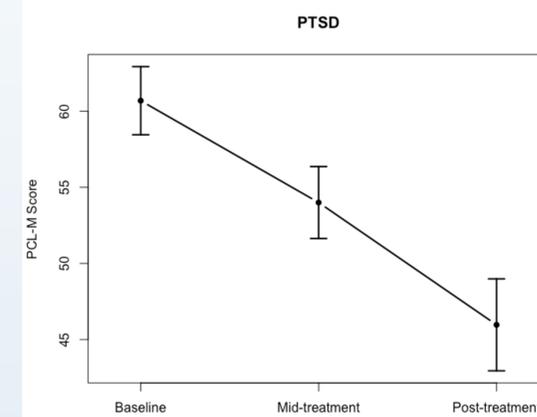
## Operational Challenges

- Many rural veterans:
  - Did not have high speed internet
  - Did not have a computer or tablet or did not feel comfortable using them
- The VA did not have a home-based program, and when it did launch home-based care, it used a system that:
  - Needed downloads prior to every session
  - Had frequent dropped calls
- The Federal government requires very secure connections, and prohibits emailing patient information
- VA does not like to loan out equipment
- Purchasing IT equipment is difficult for patients and providers
- Contracting with service providers is difficult
  - Practical issues with confidentiality
- Safety considerations with a vulnerable population

## Results

A total of 29 Veterans with PTSD were completed the protocol. Of these, 78.7% were male, 74.5% had been deployed within the past 5 years, 38.3% reported a blast/explosion injury to the head, 68% and 40.4%, had diagnosed depression and anxiety disorders, respectively, 55.3% reported sleep problems, and 15.3% had attempted suicide in the past four years.

The primary study outcome—feasibility of administering HBTMH to rural Veterans with PTSD—was favorable. Participants were typically seen by a mental health professional within two weeks of referral, all surveyed participants reported a high degree of comfort using the TMH technology, and most participants reported that they preferred to see mental health and other professionals via HBTMH or that they did not have a preference between HBTMH and clinic visits. DANA-based measures of PTSD, depression, and a number of neurocognitive measures showed trends suggesting favorable response to treatment.



## Conclusions

This pilot study of a HBTMH intervention supplemented by DANA indicated a favorable response on the part of rural Veterans with PTSD to receipt of telemental health services. The study also demonstrates that tablets can be used as part of mental health service delivery to collect data on a variety of measures, including neurocognitive function and self-reported symptoms of depression and PTSD severity. These feasibility data are an important step for future work focusing on the potential impact of mental health treatment on neurocognitive function in this population. Combining telemental health and tablet-based technologies may offer promise to a particularly high risk population of Veterans that does not have easy access to mental health services.