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Executive Division
The Executive Division, located in White River Junction, Vermont, provides leadership, directs program planning, and promotes collaboration to facilitate optimal functioning of the Divisions, both individually and collectively. The Executive Division specializes in the development of innovative and authoritative educational resources, programs that disseminate and implement best management and clinical practices, and the use of technologies to reach a broad range of audiences.

VA National PTSD Brain Bank
Under the direction of Dr. Matthew Friedman, Senior Advisor to the Center and its founding Executive Director, the National Center continued to coordinate the first VA National PTSD Brain Bank. The Brain Bank supports the Presidential Executive Order of August 2012 on deployment health by enabling VA to lead the nation in unique research that will facilitate deeper understanding of the causes and consequences of PTSD, as well as assessment and treatment.

Enrollment of potential post-mortem donors began in May 2015, with the launch of the Brain Bank website. Since then it has expanded to a seven-part consortium, with facilities at the Miami, Durham, Boston, San Antonio, West Haven, and White River Junction VA Medical Centers and the Uniformed Services University of the Health Sciences (USUHS). As of the end of FY 2016, the Brain Bank had 149 PTSD and comparison tissue specimens. Currently 44 prospective donors have volunteered to be followed over their lifetimes and another six are expected to volunteer soon.

The Clinical Neurosciences Division in West Haven, Connecticut, serves as the primary research site for the Brain Bank. Publications from Brain Bank data have so far identified SGK1 (serum and glucocorticoid-regulated kinase) as a molecular mechanism of PTSD and found that metabotropic glutamatergic receptors, a key signaling molecule, are increased in several brain regions, including the prefrontal cortex, in PTSD patients. Planned analyses at the genetic, cellular, and molecular levels, as well as work in neuroproteomics (i.e., related to synaptic connections) and preclinical rodent models, could lead to the identification of long-term neurobiological changes induced by chronic stress.

Treatment Research
The Executive Division has a long history of participation in VA’s Cooperative Studies Program (CSP). Enrollment continued for CSP #591, a groundbreaking study comparing two treatments for PTSD: Cognitive Processing Therapy (CPT) and Prolonged Exposure (PE). The study, which to date has enrolled over 600 male and female Veterans, will eventually enroll 900 Veterans at 17 sites across the country. The study’s findings will help VA leadership, clinicians, and Veterans make informed choices about the delivery of PTSD care in VA, and will also be broadly relevant to the scientific and clinical communities outside VA.

The Executive Division also participates in trials to investigate new treatment approaches for trauma-exposed individuals; the primary outcome paper for the Acceptance and Commitment Therapy (ACT) trial is online ahead of print.

Investigators continue to focus on disorders that frequently co-occur with PTSD. Recruitment was completed for a trial comparing two treatment approaches for Veterans with PTSD and substance use disorders: CPT plus usual outpatient addiction care versus usual care alone. A second trial, which has 115 of 120 participants randomized, compares two psychotherapies — Prolonged Exposure (PE) and Seeking Safety — for comorbid alcohol use disorder and PTSD.

Recruitment was recently launched for a trial to evaluate a brief protocol to reduce guilt and shame related to a traumatic event among Veterans who served in Iraq and Afghanistan. Investigators also continue collaborations with the PTSD specialty clinics and the residential PTSD/substance use treatment program at the San Diego VA to develop ways to use clinical data for research.

Implementation Research
The Executive Division continues work on several initiatives aimed at assessing models of care and improving evidence-based practice. In one study, investigators surveyed a national sample of Veterans and civilians to assess their decision-making needs and preferences for PTSD treatment; the recently published results are informing the development of the first publicly available online decision aid for PTSD.
Another recent initiative examined the impact of an academic detailing model to reduce inappropriate prescribing practices for PTSD patients and uses decision support tools to encourage the use of shared decision making. An extension of that initiative will examine whether using telehealth and a clinical pharmacist in an academic detailing model can improve local PTSD prescribing practices in rural clinics throughout Vermont and New Hampshire.

In addition to projects aimed at improving clinical practices, investigators are continuing to assess the state of VA care for PTSD. Work is continuing on a project that applies novel informatics and operational methods to medical and administrative data in order to understand multiple dimensions of quality of PTSD care.

Behavioral Science Division

The Behavioral Science Division in Boston, Massachusetts, conducts research on post-deployment adjustment, aging and health, assessment, genomic and neuroscience mechanisms of psychopathology, and innovative approaches to intervention and treatment delivery.

Longitudinal Studies

Project VALOR (Veterans After-Discharge Longitudinal Registry) is a prospective cohort study involving a registry of 1,649 male and female combat Veterans who became users of VA services after 2002. The project is collecting data about health outcomes associated with PTSD, supplemented by clinical information from VA electronic medical records. Data collection for the third sampling wave is now complete, with retention of 89% of the second wave (1202 of 1340 participants). The next phase of data analyses will begin soon.

The Neurocognition Deployment Health Study began collecting data at the outset of the Iraq War in 2003. Military personnel were assessed before deployment and at several intervals afterward, making it the first prospective longitudinal study to address the psychological impact of war zone stress. The study design allows examination of long-term emotional and neuropsychological outcomes, as well as health-related quality of life and occupational functioning. Initial papers stemming from this research have described PTSD outcomes, neuropsychological outcomes, and the relationships among these outcomes, PTSD symptoms, and traumatic brain injury (TBI). Data collection on an associated study that examines the adjustment of both partners and children of the Servicemembers and Veterans in the cohort was completed in June 2016.

Collaboration with other investigators from the VA Boston Healthcare System is advancing a multidisciplinary approach to research focused on the long-term effects of military service on health and well-being, including PTSD, in later life. This effort has led to the creation of a website that provides researchers with information about military service variables associated study that examines the adjustment of both partners and children of the Servicemembers and Veterans in the cohort was completed in June 2016.

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Biomarkers

Division investigators are examining neural biomarkers of PTSD and blast-related TBI in Veterans who served in Iraq and Afghanistan. The research aims to clarify the contribution of mild TBI (mTBI) and psychiatric conditions to the various deficits experienced by military personnel with blast injury, as well as long-term negative consequences such as neurodegenerative disease. Results have shown that mTBI accompanied by genetic risk for Alzheimer’s disease is associated with measures of brain and cognitive domains that are the first to show signs of decline in Alzheimer’s disease. Other work has implicated the gene COMT in explaining the relationship between PTSD and hippocampal volume. This research has also uncovered patterns of white and gray matter changes differentially associated with PTSD and mTBI.

Biomarker research at the Division also includes a rapidly growing portfolio of genetic and epigenetic studies in collaboration with the Translational Research Center for TBI and Stress Disorders (TRACTS) Center of Excellence, the Brain Bank, and the Psychiatric Genomics Consortium PTSD Workgroup. These studies have revealed that PTSD-related metabolic syndrome is associated with widespread reductions in cortical thickness, along with evidence for a genetic contribution to this association. Meta-analytic findings have shown that PTSD is associated with reduced amygdala and hippocampal volume, and confirmed previous findings that PTSD is associated with accelerated cellular aging in the epigenome. Related research based on data from the Vietnam Era Twin Registry suggests matching genetic architecture for PTSD and resilience, implying that there is need to refine the construct of traumatic stress to align with its genetic structure.

Finally, Division researchers are conducting functional and structural magnetic resonance imaging (MRI) studies to identify neural circuitry involved in PTSD. Structural MRI data point to specific hippocampal subfield volumes that are negatively correlated with PTSD and that may be related to the persistence of PTSD symptoms. Preliminary data for functional MRI (fMRI) projects also suggest specific brain regions within the prefrontal cortex that are active when individuals with...
PTSD manage negative emotions. The findings suggest brain pathways that could be targeted to enhance emotional regulation and cognitive performance.

**Treatment Research**

The Division continues to conduct pioneering research on treatments for PTSD, with the key aims of overcoming barriers to seeking care, reducing dropout, and increasing efficiency of care delivery. A prime example is the Internet-based treatment, VetChange, designed for Iraq and Afghanistan combat Veterans who report risky use of alcohol and PTSD-related distress. The initial trial produced evidence of effectiveness in reducing both drinking and PTSD symptoms. A second version was constructed as a mobile-friendly public website, and this version is now under evaluation. A mobile app with key VetChange features, developed in conjunction with the Dissemination and Training Division, will begin a pilot test phase soon. In addition, a major extension of the VetChange web intervention is underway, with investigators looking to integrate VetChange directly into clinical care delivered by VA providers and to evaluate its effectiveness in VA clinics.

Researchers are working to develop and test efficient therapist-delivered interventions or treatment extenders, with the expectation that these new approaches will require less professional staff time and will be easier for patients to complete. One example is a brief, exposure-based treatment for PTSD that in the past has demonstrated strong effectiveness with non-Veteran patients. Current and future studies are testing whether this brief intervention is as effective as CPT and whether it can be implemented successfully with Veterans and active duty Servicemembers.

Research on factors that link PTSD with aggression toward intimate partners has led to the development and evaluation of interventions to reduce and prevent aggression within families of Iraq and Afghanistan Veterans. Clinical trials examining two such interventions were completed and positive results were published in 2016. These intervention programs are currently being implemented at multiple sites in the VA and on one military installation. A new pilot study will focus on adapting and examining one of these programs in an underserved urban civilian setting.

In the area of complementary interventions, a pilot study investigating Tai Chi exercise for PTSD-related distress has demonstrated high satisfaction and enthusiasm on the part of Veteran participants. An upcoming five-year study will compare Tai Chi with a wellness intervention and measure the impact of these two interventions on chronic pain experienced by Veterans with Gulf War Illness, a set of chronic, medically unexplained symptoms that afflicts some Veterans of that service era.

Division investigators are examining a phenomenon termed later-adulthood trauma re-engagement (LATR), in which older combat Veterans actively re-engage with wartime memories in an effort to build coherence or find meaning; the LATR process could have the potential to lead to either growth and positive outcomes or to increased symptomatology. A current study of LATR is examining the utility of a 10-week psychosocial discussion group for older combat Veterans who report experiences consistent with the LATR process. Two cohorts are complete, and recruitment for the third cohort is ongoing.

Research is being conducted into the efficacy of transcranial, low-level light (t-LLLT) as a treatment for PTSD and comorbid conditions. Some preclinical studies have shown that exposure to red and near-infrared light re-establishes normal mitochondrial functioning in damaged brain cells. This approach is used to treat a variety of animal and human conditions, but application to psychiatric and neurological conditions is a relatively recent undertaking. The therapy t-LLLT intervention is being tested in two studies, one involving Veterans with Gulf War Illness and another involving Veterans with PTSD and TBI.

**Assessment**

A recent study looked at proposed revisions to the PTSD diagnosis in the International Classification of Diseases (ICD-11) using network models. Another study evaluated the new Minnesota Multiphasic Personality Inventory (MMPI-2) Restructured Form scales in relation to the assessment of DSM-5 PTSD, the dissociative subtype of PTSD, and PTSD-related malingering. New data collection also is underway that will evaluate the utility of the MMPI-2 Restructured Form scales in relation to PTSD-related chronic pain and other chronic pain outcomes. A product of past work is a new published measure to assess the dissociative subtype of DSM-5 PTSD (Dissociative Subtype of PTSD Scale); it is available for download on the National Center’s website.

Division investigators are participating in a consortium of private industries, universities, and government agencies that are working with the Defense Advanced Research Projects Agency (DARPA) to develop analytical tools to assess the psychological status of Warfighters. The current effort applies machine learning methods developed from the initial project to the extensive TRACTS dataset. The primary aim is to be able to predict various outcomes, including PTSD, TBI, and suicide risk. In addition, a collaborative study with investigators from Harvard University tests new methods for measuring and modifying cognitive processes related to suicidal behavior among Veterans.

A pilot study has been completed for a project designed to inform postmortem donor classification for the Brain Bank. Individual incidence of PTSD and comorbid disorders is
determined on the basis of data collected directly from living elderly Veterans. This information is then used to evaluate the predictive potential of information drawn from an informant interview and medical record review. The aim is to determine the best predictors from indirect sources and to provide a template for use by the Brain Bank.

Clinical Neurosciences Division

The Clinical Neurosciences Division (CND), located in West Haven, Connecticut, focuses on the neurobiology of traumatic stress, investigating paradigms of risk and resilience, and pharmacotherapeutic interventions for the treatment of PTSD and comorbid conditions. Publications and presentations are also an important part of CND’s work, and in FY 2016 the Division launched Chronic Stress, a new peer-reviewed scientific journal that focuses on the neurobiology, assessment, and treatment of the behavioral and biological effects of stress.

Molecular Neuroimaging

The Division has been in the forefront of the development of new technologies and methods to non-invasively investigate human brain chemicals, structure, and function. CND was the first group to identify alterations in specific signaling molecules in Veterans using single-photon emission computed tomography (SPECT) and positron emission tomography (PET) technologies.

Recent work in this area has shown that a key signaling molecule, metabotropic glutamatergic receptor (mGluR5), is present at higher levels in people with PTSD. Work continues in this area, examining ketamine-induced changes within mGluR5 and studying how these changes may be related to disruptions in behavioral and cognitive functioning, resting state connectivity, and receptor internalization. This novel paradigm has been studied in healthy control participants and in PTSD and depressed patients.

By characterizing the type and extent of neuroinflammation in PTSD, it may be possible to uncover new mechanisms of treatment with anti-inflammatory agents.

Division investigators are conducting a number of synaptic protein level (SV2a) studies, using both preclinical and clinical participants in stress models. Synaptic loss is known to be a contributor to treatment failure in PTSD, and this research explores whether stress-related loss of synaptic connectivity compromises the circuits involved in mood regulation. By using a PET tracer for SV2a, researchers are able to quantify the density of synapses in the brain. Preclinical work with SV2a includes examination of synaptic density in nonhuman primates after administration of drugs that have been shown to rapidly increase synaptic density in rodent models. Clinical work includes measuring SV2a levels in patients diagnosed with depression and PTSD, as well as examining postmortem samples.

Another area of focus during the year included a series of projects utilizing a novel Carbon-13 magnetic resonance spectroscopy (13C-MRS) paradigm, providing for a non-invasive measurement of glutamate neurotransmission. This work revealed two important findings: global brain connectivity was identified as a putative marker for stress-related synaptic pathology and as one possible mechanism of action for antidepressants; and anterior hippocampal dysconnectivity (functional and anatomical) was observed in Veterans with high PTSD symptoms. Based on these results, the Division will continue research that tests the efficacy of glutamate based drugs, while also investigating underlying neural mechanisms and synaptic strength in the pathophysiology and treatment of PTSD and depression.

Additionally, CND investigators plan to establish graph network based measures and machine learning approaches to identify disorder-specific biomarkers related to PTSD and depression. Graph theory can be used to evaluate changes in the way that brain networks communicate and interact, as well as the consequence or cause of some changes. Similarly, investigators will attempt to characterize psychopathology by investigating patterns of connectivity. Preliminary work...
in this area was conducted over the past year via univariate analyses that distinguished between dimensions of PTSD. To expand upon this work, investigators will employ high quality multimodal neuroimaging scans and well established functional and connectivity measures to conduct a proof of concept study using artificial intelligence to predict diagnoses and PTSD severity. This study will be the first to combine state-of-the-art graph-based and voxel-wise data-driven measures (as opposed to cluster- or seed-based, a priori measures) of anatomical and functional connectivity along with current multi-voxel pattern analysis algorithms.

The Division is also participating in the PTSD research efforts of the Psychiatric Genomics Consortium and ENIGMA, which together have assembled the largest collection of MRI data in PTSD patients. The initial results from this collaboration replicate CND’s first MRI study in showing evidence of smaller hippocampal volume in PTSD.

Genetic Studies
Genetic and epigenetic research in support of the Research Domain Criteria (RDoC) initiative of the National Institute of Mental Health (NIMH) continued. This work aims to characterize psychosocial, genetic, environmental, and genetic/environmental determinants of PTSD. A major focus is identification of risk factors for PTSD, as well as protective psychosocial factors that promote resilience.

One recent genetic study using data from the National Health and Resilience in Veterans Study (NHRVS) examined the relationship between forms of FK506 binding protein 5 (FKBP5), childhood abuse, and the risk for PTSD in Veterans. It was found that these substances directly interacted with childhood abuse and were associated with increased severity of PTSD symptoms. These findings further suggested that the associations are specific to the hyperarousal symptoms of PTSD.

Other work examining associations between oxytocin receptor gene (OXTR) polymorphisms and PTSD revealed that the OXTR single nucleotide polymorphism (SNP) rs53576 minor A allele is associated with increased risk for PTSD, and that this relationship was especially strong for individuals who reported insecure adult attachment. Investigators also examined psychosocial determinants of accelerated cellular aging in Veterans. Results revealed that accelerated cellular aging is associated with hostility, particularly difficulties controlling anger, as well as negative age stereotypes, such as believing that depression is an inevitability of aging.

Treatment Research
The Division’s clinical trials program has continued to grow. By combining neuropharmacology and neuroimaging to study mechanisms of action and treatment response, researchers aim to develop biomarkers that lead to better matching of patients to treatments. Pharmacotherapeutic agents currently under study include riluzole, a glutamate modulating agent; ketamine, a N-Methyl-D-Aspartate (NMDA) receptor antagonist drug; neuropeptide Y, an endogenous neuropeptide; intranasal oxytocin, a peptide hormone; and the immunosuppressant rapamycin.

Ketamine, an agent known to interact with glutamate and to rapidly reverse the damaging effects of stress on neurons, is being studied specifically for its effects in treatment-resistant PTSD. Ketamine is also the subject of a number of other trials, including an assessment of the potential benefit of intense seven-day PE therapy combined with a single ketamine infusion; a study of ketamine’s ability to improve cognitive functioning using a single intravenous dose to study visual, verbal, and working memory in PTSD; and a study of the interactive effects of ketamine and guanfacine on activation and connectivity of the locus coeruleus, a prominent brain region for hyperarousal in PTSD.

As part of the National Center’s work on NMDA receptor antagonist drugs, including ketamine and lanicemine, Division researchers also completed a scholarly review looking at the potential use of these medications to prolong the therapeutic effects of cognitive behavioral therapy, as well as their effects as rapid-acting antidepressants for the treatment of suicidal thoughts. This work has led to consultation with the American Psychiatric Association to develop consensus guidance on the clinical use of ketamine for the treatment of psychiatric disorders.

Investigations continue studying the neural mechanisms of fear and safety learning in Veterans with PTSD in order to better understand the process of fear extinction and to develop treatment strategies. Data collected from a study of the neural correlates of decision making in PTSD patients demonstrated that aversion to ambiguity helped to explain the relationship between combat exposure and the level of anxious arousal in PTSD. One component of this research is using fMRI technology, and preliminary findings are promising. The team is now expanding this work to further study the relationship between substance use and PTSD symptoms.

Finally, the pilot phase of a study utilizing real-time fMRI neurofeedback for the treatment of PTSD has been completed and published. Examination of changes in resting-state functional connectivity patterns in the pilot data revealed normalization of brain connectivity consistent with clinical improvement. These preliminary results suggest that this emerging technique has potential clinical utility in treatment of PTSD. Additionally, a treatment trial comparing standard care to an intensive integrated treatment for Veterans with PTSD and comorbid chronic pain completed enrollment and is scheduled for data analysis.
(Clinical Neurosciences Division Continued)

**Epidemiology**
Several additional studies using data from the NHRVS and the World Trade Center (WTC) Health Program were conducted during 2016. Recent projects have focused on the epidemiology of DSM-5 PTSD in U.S. Veterans, and on trajectories and latent typologies of PTSD in WTC responders. Other work looked at the prevalence and determinants of late-life re-emergence or exacerbation of PTSD symptoms in older Veterans, and revealed that approximately 10% have these experiences on average nearly 30 years after the trauma. Greater executive dysfunction, trauma burden, loneliness, and reductions in social support were associated with this re-emergence or exacerbation of symptoms.

A series of studies using the NHRVS data were conducted on the prevalence, course, and determinants of posttraumatic growth (PTG) in Veterans. Results revealed that 50% of Veterans, including 72% of those with PTSD, experienced PTG in relation to what they described as their “worst” traumatic event; specifically, those with PTSD reported better mental functioning and quality of life. Key predictors of PTG included experiencing a life-threatening illness or injury, having greater severity of re-experiencing symptoms, and enjoying higher levels of social connectedness, purpose in life, and altruism. PTG, particularly perceptions of greater personal strength following one’s “worst” traumatic event, was also associated with lower risk of developing PTSD in response to a new trauma, suggesting that PTG may help trauma survivors develop coping skills to better manage subsequent traumas and stressful life events.

**Dissemination and Training Division**
The Dissemination and Training Division in Palo Alto, California, conducts research on patient needs and preferences; development and testing of novel or adapted treatments; development and testing of treatments that employ technology-based delivery of services; and implementation science.

**Patient Needs and Preferences**
The Division has undertaken several studies on the development and evaluation of strategies to quickly identify patient needs, patients at risk, and patient preferences. A current study funded by Health Services Research & Development (HSR&D) is developing a brief measure of patient characteristics associated with effective engagement in care; the measure is expected to guide identification of the type and amount of resources needed to engage Veterans and encourage them to continue with treatment. A second and related study is focusing on the development and cross-validation of a hospital risk screening tool that can provide guidance about the type and intensity of mental health services that might benefit patients.

Two studies concern substance use: one is evaluating a brief screen for drug use among primary care patients with and without PTSD. The other examines barriers to cannabis treatment among Veterans with PTSD. Along with collaborators at the Women’s Health Sciences Division, staff at the Division also completed research and evaluation work on screening and treatment of military sexual trauma (MST).

**Treatment Research**
Randomized controlled trials that are evaluating patient outcomes under various delivery strategies in a variety of treatment settings and using novel interventions are underway. One large multisite clinical trial has been completed and will assess the effectiveness of a flexibly delivered evidence-based PTSD skills-plus-exposure treatment among civilian public sector women and will examine how variations in delivery affect patient outcomes. Another study is evaluating adaptive changes in cardiac autonomic status, physical activity, social cognition, and social interaction in real time among Veterans participating in the VA Service Animal Training Intervention program.

Three new trials address substance use disorders: a project evaluating cognitive remediation for alcohol abuse and PTSD; an evaluation of ACT in patients with comorbid PTSD and substance use problems; and an evaluation of the effectiveness of exercise in resolving cannabis dependence. Evaluation of the national rollout of PE therapy continued, with recent results confirming PE’s effectiveness in a national sample of more than 1,800 Veterans.

**Technology-based Treatments and Treatment Delivery**
Several ongoing studies are assessing the benefits of phone and web-based technology to increase Veteran access to mental health care and to enhance outcomes. Following two successful pilot studies of PTSD Coach, a new project will assess the efficacy of this treatment compared to treatment as usual in reducing PTSD symptoms in Veterans who are receiving service in a primary care setting. Other mobile phone apps under study include PTSD Family Coach, an app for family members of individuals with PTSD intended to reduce stress among family members; Parenting2Go; Mindfulness; and Cognitive Behavioral Therapy for Insomnia (CBTi).

A study in a national sample of trauma-exposed individuals compared the effectiveness of web-based “brain games” versus “games as usual.” The brain games were more effective for PTSD symptoms and emotion regulation than “games as
usual,” but this effect was only observed in individuals with low to moderate PTSD symptoms. The first investigation of Moving Forward, a web-based problem-solving intervention, has been completed; findings suggested that it was helpful in reducing PTSD symptoms.

In collaboration with investigators from the Minneapolis VA Medical Center, Division researchers are testing a web-based intervention to help National Guard families encourage their loved ones to seek mental health care. Key questions concerning the ways and extent to which social networks can be utilized to increase treatment engagement and improve mental and physical health outcomes is being investigated in a study of a highly stressed population — cancer survivors.

**Implementation Research**

A current implementation project is evaluating competing strategies intended to enhance and sustain the delivery of a PTSD treatment, where one strategy emphasizes fidelity to the protocol through expert consultation and the other focuses on improving fit of the intervention to the environment through continuous quality improvement. Division researchers are also conducting a trial that focuses on increasing awareness of, receptivity to, and implementation of clinical practice guidelines for management of traumatic stress. Investigators from the Division and the Minneapolis VA have completed a study that identifies organizational factors that differentiate VA PTSD clinics with high and low reach of evidence-based psychotherapies.

The Department of Defense (DoD) is funding an investigation of the use of Web technology to train clinicians in evidence-based treatments, and testing variations in training procedures as they affect quality of skills in implementing the treatments. A long-term project is working to develop a practitioner network across both VA and DoD that will assess the benefits of the implementation of measurement-based care (MBC), specifically on the use of symptom measures during the course of treatment to guide treatment planning.

New efforts are underway to improve patient access to care, including reduced patient wait times, by using participatory systems dynamics, a collaborative stakeholder model in which specific system problems are identified, changes are proposed, and the impact of the changes on the outcome of interest is predicted in a data-driven fashion. The model has the potential to guide decisions about system changes in a manner that is collaborative, evidence-based, and cost effective.

**Evaluation Division**

The Evaluation Division, headquartered in West Haven, Connecticut, is linked to VA’s Northeast Program Evaluation Center (NEPEC). NEPEC has broad responsibility within the Office of Mental Health Operations (OMHO) to evaluate their programs, including those for specialized treatment of PTSD.

**Treatment Research**

NEPEC has continued to monitor and assess PTSD treatment at VA, including residential and outpatient specialty treatment programs and PTSD treatment by trained providers not working within one of the specialty programs. The Evaluation Division also monitors the efforts to improve psychotropic medication prescribing practices at the Veterans Health Administration (VHA). Two of the measures being investigated in this initiative are the use of off-label antipsychotics to treat PTSD and the use of benzodiazepines.

The Evaluation Division continues research on PTSD health services, pain management, and the role of pain in the treatment of PTSD. Data collection has been completed for a NIMH project investigating the implementation of CPT and PE in 38 VA residential treatment programs. Published findings include provider perspectives on perceived effective residential treatment ingredients, provider perceptions of factors that support the use of CPT and PE, and changes in implementation of CPT and PE over time.

A number of investigators are using administrative data to explore treatment patterns and outcomes of PTSD care.

Studies have been published on medication use for the treatment of PTSD, as well as factors that correlate with self-reported PTSD symptoms over time. Over the next year the Evaluation Division will examine further the role of pain in specialized PTSD treatment and in the treatment of comorbid disorders.

The national psychotropic drug safety initiative (PDSI) has entered its third year and has been tracking data on changes in prescribing practices for PTSD. The Division continues to work with the Mentoring Program and OMHO to provide technical assistance and to respond to requests from specialized programs and staff in the field on policy, operations, handbook implementation, and the use of evidence-based practices.

**Gender-Related Issues**

The Division is involved in research on gender-related issues. Recruitment has been completed for the Survey of Returning Veterans (SERV), a repeated panel study of gender differences in psychiatric status and functioning among Veterans of Iraq and Afghanistan. The 850 participants — more than 40% of whom are female — were interviewed at three-month intervals for at least a year, and a sizable subset continued for
as long as three years. Analyses of the data have begun, and the Division is making the data available to investigators who want to do add-on or other primary data collection studies.

Papers have been published on MST and PTSD as they relate to unit cohesion, gender differences in prevalence rates of disorders over time, and characteristics of Veterans reporting sex addiction.

**Measurement Based Care**
A new national VA initiative, Measurement Based Care in Mental Health, was formally launched by Mental Health Services and OMHO, and now has 58 hospitals and 179 mental health clinics enrolled as Champion Sites for implementation. Two Division staff members are supporting the initial pilot program evaluation; members of both the Executive and Dissemination and Training Divisions are involved in the senior leadership of the initiative. Additional investigators from within the National Center may be closely involved in the evaluation study itself.

**Pacific Islands Division**
The Pacific Islands Division in Honolulu, Hawaii, advances PTSD work in the Pacific Rim. The Division also focuses on improving understanding of cultural attitudes and using advanced technologies to reach out to Veterans in remote locations who are unable to access evidence-based care.

**Specific Populations**
Several ongoing studies examine ethnic minority populations with regard to prevalence of PTSD, response to treatment, and related mental health comorbidities. The studies identify unique risk and resilience correlates of PTSD among ethnically and racially diverse Veterans, as well as identifying their response to evidence-based PTSD treatments.

Researchers have also studied whether there are racial and ethnic differences between patients who drop out and those who continue with VA psychotherapy and pharmacotherapy for PTSD, and in providers’ perceptions of reasons for patient dropout from treatment. An ongoing study using the same database examines racial and ethnic disparities in PTSD symptoms and mental health quality of life among Veterans six months after the PTSD diagnosis.

**Women’s Health Sciences Division**
The Women’s Health Sciences Division, located in Boston, Massachusetts, specializes in the study of women Veterans, with an additional focus on understanding gender differences in trauma exposure and post-trauma psychopathology.

**Biomarkers**
Division investigators have undertaken a number of studies aimed at understanding the basic biological processes underlying PTSD. Recently completed projects include data analysis on a study of sex hormones and derivatives associated with decreased extinction retention across the menstrual cycle in PTSD; a study of GABAergic neuroprotective steroids in men and in women across the menstrual cycle; a study of the role of stress-modulating biological factors in reducing symptoms of withdrawal and negative mood during smoking cessation in trauma-exposed individuals with and without PTSD; an analysis of plasma predictors of PTSD and comorbid psychiatric, substance abuse, and medical conditions in the longitudinal cohort of Iraq and Afghanistan Veterans; and a series of studies of the gene-environment interplay in the comorbidity of PTSD and eating disorders.

**Treatment Research**
Several intervention studies are examining more efficient treatment formats for CPT. With funding from the South Texas Research Organizational Network Guiding Studies on Trauma and Resilience (STRONG STAR) Consortium, investigators recently completed studies on the relative effectiveness of CPT delivered in a group versus individual format. The Division is also investigating a variable-length CPT protocol, testing the efficacy of the intervention when treatment end is determined by patient progress. In a related effort, investigators are working to improve adherence to existing PTSD treatments; one current study is exploring Veteran and provider perspectives regarding reasons for dropout from CPT and PE in
Appendix A: Fiscal Year 2016 Research Narrative

(Women's Health Sciences Division Continued)

order to create an intervention to increase rates of completion.

Other intervention studies include a recently completed
examination of the efficacy of contingency management-
supported tobacco cessation in Veterans with and without
PTSD, and an examination of a physical exercise intervention
to elucidate the shared neurobiology of PTSD and chronic
pain. Research is underway on a project to test the
effectiveness of the Unified Protocol, a transdiagnostic
treatment, for trauma-exposed Veterans with co-occurring
diagnoses.

Finally, continued analyses are being conducted on two
recently completed trials funded by the National Institutes
of Health (NIH). The first set of studies involves further
examination of therapist fidelity and client variables that
contribute to change in PTSD across administrations of CPT.
The second trial examines the role of sleep improvement in
augmenting recovery from PTSD and depression in a civilian
sample of survivors of interpersonal violence.

The Division is also focused on intervention research targeting
women who report subthreshold symptoms, including
the development of a national network of peer-facilitated
psychoeducation and support groups for women Veterans
who want to improve their wellbeing. Another project recently
published findings on a brief mindfulness-based training to
assist Servicemembers who are coping with post-deployment
intrusive thoughts.

Gender Differences
The Women's Health Sciences Division is continuing its
research on the Iraq and Afghanistan Veteran cohort,
 focusing particularly on the experiences of women Veterans.
A longitudinal study, supported through a public-private
partnership between VA, DoD, academia and industry, was
recently initiated to investigate the reintegration experiences
and use of VA services by both male and female Veterans. A
total of 9,600 Veterans have completed the first assessment,
which was administered within three months of military
separation. Additional assessments will be conducted at
six-month intervals over the next three years. Work with this
cohort also includes an examination of gender differences in
the effects of deployment stressors and associated mental
health conditions on occupational and family quality of life
over time.

Investigators are conducting research on the associations
between PTSD and suicidal behavior among VA health care
users. One cohort study is looking at gender differences in
predictors of suicide attempts VHA patients with and without
PTSD; the study is focusing on psychiatric comorbidities and
gender differences as moderators of these relationships.
Using a different large sample of Iraq and Afghanistan
Veterans, investigators recently conducted a gender-stratified
examination of risk models for suicidal thoughts, and found
critical gender differences among this cohort.

Gender differences are being examined in both a community
sample and a sample of law enforcement officers recently
exposed to community violence. This prospective study seeks
to examine gender differences in both positive and negative
mental health outcomes, as well as a host of health-related
behaviors. Such differences are being considered within the
context of socioeconomic status, racial identity, and prior
trauma history. Differences in barriers to seeking treatment
across study groups are being investigated as part of this
effort.

The Division is conducting research on the health of older
women Veterans. A new study is investigating the impact on
later life health of military and other early life stress exposures
and resulting mental health issues, with a focus on PTSD; the
study involves an epidemiologic cohort of Vietnam-era women
Veterans.

An important project that is just getting underway is the
Longitudinal Investigation of Gender, Health and Trauma
(LIGHT) study. This is a large national survey of Veterans that
will focus on the impact of trauma and community violence
on mental, physical, and reproductive health. Planning for this
survey took place in FY 2016, and the survey is expected to be
launched in 2017.

Military Sexual Trauma and Intimate Partner Violence
Exposure to different forms of interpersonal violence is a
key issue of study at the Division. Research related to MST
includes a recent qualitative investigation aimed at identifying
unique factors associated with sexual trauma that occurs
within a military context. Another effort is a mixed-methods
investigation of Veterans’ experiences with and preferences for
the VHA’s universal MST screening program.

Intimate partner violence (IPV) among female Veterans is a
strong focus area. Researchers are examining best practices for
IPV identification, assessment, treatment, and the targeting of
health services within the VHA context. A new study will refine
and evaluate the effectiveness of a patient-centered brief
counseling intervention for women who experience intimate
partner violence. This study incorporates hybrid methodology
that will help to facilitate expansion of the intervention in VA.
### Appendix B: Fiscal Year 2016 Funding

#### VA Cooperative Studies Program (CSP)

<table>
<thead>
<tr>
<th>Principal Investigator</th>
<th>Research Title</th>
<th>Years</th>
<th>Current Funding</th>
<th>Total Funding</th>
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<tr>
<td>Gelernter &amp; Stein</td>
<td>CSP #575B: Genomics of Posttraumatic Stress Disorder</td>
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<td>Schnurr, Chard, &amp; Ruzek</td>
<td>CSP #591: Comparative Effectiveness Research in Veterans with PTSD</td>
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#### Other VA Sources

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<td>Strategies to Improve PTSD Care</td>
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<td>Bovin &amp; Schnurr</td>
<td>Validation of the PTSD Primary Care Screen</td>
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<td>Cloitre</td>
<td>Telemental Health for Rural Women Veterans Who Have Experienced Military Sexual Trauma</td>
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<td>Hamblen</td>
<td>CBT for PTSD in Veterans with Co-occurring Substance Use Disorders</td>
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<td>Hamilton &amp; Kimerling (Site PI)</td>
<td>Enhancing the Mental and Physical Health of Women through Engagement and Retention (EMPOWER)</td>
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<td>Heinz</td>
<td>Cognitive Remediation for Alcohol Use Disorder and PTSD</td>
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<td>Iverson</td>
<td>Intimate Partner Violence, Health, and Healthcare Use Among Women Veterans</td>
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<td>Iverson (Co-I)</td>
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<td>Japuntich</td>
<td>Tobacco Treatment as Augmentation to Cognitive Processing Therapy for PTSD</td>
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<td>Kanwal &amp; Kimerling (Co-I)</td>
<td>Care for Women Veterans with Hepatitis C Virus Infection</td>
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<td>Kehle-Forbes</td>
<td>Dropout from Evidence-Based Therapy for PTSD: Reasons and Potential Interventions</td>
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<td>Kimerling</td>
<td>Development of a Brief Measure of Patient Activation for Veterans</td>
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<td>Knight</td>
<td>LED Light Therapy To Improve Cognitive-Psychosocial Function in TBI-PTSD Veterans</td>
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<td>Kuhn</td>
<td>An RCT of a Primary Care-Based PTSD Intervention: Clinician-Supported PTSD Coach</td>
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### Appendix B: Fiscal Year 2016 Funding

#### (Other VA Sources Continued)

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<th>Principal Investigator</th>
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<td><strong>Landes &amp; Rosen (Site PI)</strong></td>
<td>Variation in Implementation of Dialectical Behavior Therapy in VA Settings</td>
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<td>An Integrative Technology Approach to Home-based Conjoint Therapy for PTSD</td>
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<td><strong>Niles &amp; Mori</strong></td>
<td>Novel Interventions for Gulf War Veterans’ Illnesses</td>
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<td><strong>Phibbs &amp; Kimerling (Co-I)</strong></td>
<td>Pregnancy Outcomes of Veterans (PROVE)</td>
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<td><strong>Sayer &amp; Rosen</strong></td>
<td>Promoting Effective, Routine, and Sustained Implementation of Stress Treatments (PERSIST)</td>
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<td><strong>Scioli</strong></td>
<td>Neurobiological and Psychological Benefits of Exercise in Chronic Pain and PTSD</td>
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<td><strong>Street</strong></td>
<td>Military Sexual Trauma Screening: Examining Patient Satisfaction and Preferences</td>
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<td><strong>Tiet &amp; Bonn-Miller</strong></td>
<td>SUD Treatment for Dually Diagnosed Patients in PTSD Outpatient Programs</td>
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<td><strong>Vogt &amp; Smith</strong></td>
<td>Work and Family Functioning in Women Veterans: Implications for VA Service Use</td>
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<td><strong>Wolf</strong></td>
<td>PTSD-Related Accelerated Aging in DNA Methylation and Risk for Metabolic Syndrome</td>
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BLR&D Biomedical Laboratory Research & Development Service; CSR&D Clinical Science Research and Development Service; HSR&D Health Services Research and Development Service; ORH Office of Rural Health; QUERI Quality Enhancement Research Initiative; RR&D Rehabilitation Research and Development Service

### National Institutes of Health (NIH)

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<thead>
<tr>
<th>Principal Investigator</th>
<th>Research Title</th>
<th>Funding Source</th>
<th>Years</th>
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<td><strong>Abdallah</strong></td>
<td>Examining The Effect of Ketamine on Glutamate/ Glutamine Cycling</td>
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<td>2013-2018</td>
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<td><strong>Anticevic</strong></td>
<td>Classification of Neuropsychiatric Conditions via Connectivity and Machine Learning</td>
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<td><strong>Cloitre</strong></td>
<td>The Implementation of an Evidence-Based PTSD Treatment in Public Sector Settings</td>
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<td><strong>Clouston &amp; Pietrzak</strong></td>
<td>A Life Course Approach to Integrating Trauma and Cognitive Aging: A Cohort of 9/11 Responders</td>
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<td>2015-2020</td>
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<td><strong>Cosgrove</strong></td>
<td>Imaging Genetics in Tobacco Smokers</td>
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<td><strong>Duman</strong></td>
<td>Role of mTOR and Synaptic Protein Synthesis in the Rapid Antidepressant Actions of NMDA Receptor Blockade</td>
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<td>2011-2016</td>
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### Appendix B: Fiscal Year 2016 Funding

(National Institutes of Health (NIH) Continued)

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<th>Years</th>
<th>Current Funding</th>
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<td>Synaptic Mechanisms Underlying the Rapid Antidepressant Actions of Scopolamine</td>
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<td>Esterlis</td>
<td>PET-fMRI Study of Glutamate and Frontal Function in Bi- and Unipolar Depression</td>
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<td>Feder &amp; Pietrzak</td>
<td>A Randomized Controlled Trial of Internet CBT for PTSD in WTC Responders</td>
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<td>Feder &amp; Pietrzak</td>
<td>Gene Expression Profiles as Markers of PTSD Risk and Resilience in WTC Responders</td>
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<td>Gradus</td>
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<td>Effectiveness of a Unified Transdiagnostic Treatment in Routine Clinical Care</td>
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<td>Han &amp; Gelernter</td>
<td>Fine Mapping a Gene Sub-Network Underlying Alcohol Dependence</td>
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<td>Harpaz-Rotem</td>
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<td>McKee &amp; Cosgrove</td>
<td>Translational Center to Develop Gender Sensitive Treatments for Tobacco Smoking</td>
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<td>Miller</td>
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<td>Morris &amp; Cosgrove</td>
<td>Imaging Sex Differences in Smoking-Induced Dopamine Release via Novel PET Methods</td>
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<td>Wilsey Stirman &amp; Monson</td>
<td>Improving and Sustaining CPT for PTSD in Mental Health Systems</td>
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<td>Traumatic Stress and Accelerated Aging in DNA Methylation</td>
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CDC/NIOSH Centers for Disease Control and Prevention/National Institute for Occupational Safety and Health; NIA National Institute on Aging; NIAAA National Institute on Alcohol Abuse and Alcoholism; NIDA National Institute on Drug Abuse; NIH CTSI National Institutes of Health Clinical and Translational Science Institute; NIMH National Institute of Mental Health
## Appendix B: Fiscal Year 2016 Funding

**Department of Defense (DoD)**

<table>
<thead>
<tr>
<th>Principal Investigator</th>
<th>Research Title</th>
<th>Years</th>
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<td>Keane &amp; Marx</td>
<td>Project VALOR: Trajectories of Change in PTSD in Combat-Exposed Veterans</td>
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<td>Krystal &amp; Abdallah</td>
<td>CAP-Ketamine for Antidepressant-Resistant PTSD: A Translational Neuroscience, Biomarker-Informed Clinical Trial</td>
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<td>Nock &amp; Marx</td>
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<td>Norman</td>
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<td>Peterson &amp; Resick</td>
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<td>Ruzek</td>
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<td>Ruzek &amp; Rosen</td>
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<td>White &amp; Mackintosh</td>
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<td>Woodward</td>
<td>Can a Canine Companion Modify Cardiac Autonomic Reactivity and Tone in PTSD</td>
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**Other Non-VA Sources**

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<th>Years</th>
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<tr>
<td>Abdallah</td>
<td>Glial and Glutamatergic Deficits In Posttraumatic Stress Disorder</td>
<td>Brain &amp; Behavior Research Foundation</td>
<td>2015-2017</td>
<td>$32,500</td>
<td>$65,000</td>
</tr>
<tr>
<td>Abdallah</td>
<td>Neuroimaging and Behavioral Examination of Ketamine-Related Cognitive Improvements in MDD</td>
<td>Robert Leet and Clara Guthrie Patterson Trust</td>
<td>2015-2016</td>
<td>$25,000</td>
<td>$125,000</td>
</tr>
<tr>
<td>Bonn-Miller &amp; Walser</td>
<td>A Test of the Efficacy of Compassion Cultivation Training for Veterans with PTSD</td>
<td>Mind and Life 1440 Award</td>
<td>2014-2016</td>
<td>$0</td>
<td>$14,975</td>
</tr>
<tr>
<td>Harpaz-Rotem</td>
<td>Combining Neurobiology and New Learning: Ketamine and Prolonged Exposure: A Potential Rapid Treatment for PTSD</td>
<td>NARSAD</td>
<td>2016-2017</td>
<td>$50,000</td>
<td>$100,000</td>
</tr>
<tr>
<td>Jaworski</td>
<td>Mood Challenge - Aware Study</td>
<td>Robert Wood Johnson Foundation</td>
<td>2016-2017</td>
<td>$20,000</td>
<td>$120,000</td>
</tr>
<tr>
<td>Krystal &amp; Sanacora</td>
<td>Discovering a New Class of Antidepressants</td>
<td>Gustavus and Louise Pfeiffer Research Foundation</td>
<td>2014-2017</td>
<td>$167,000</td>
<td>$500,000</td>
</tr>
<tr>
<td>Krystal &amp; Abdallah</td>
<td>Examining the Impact of Rapamycin on Ketamine’s Antidepressant Effects</td>
<td>Pfeiffer Foundation</td>
<td>2015-2018</td>
<td>$167,000</td>
<td>$500,000</td>
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<tr>
<td>Marx</td>
<td>Mining Biological Cues from PTSD Interview Recordings</td>
<td>MITRE Corporation Innovation Award</td>
<td>2015-2016</td>
<td>$500,000</td>
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</tr>
</tbody>
</table>
## Appendix B: Fiscal Year 2016 Funding

### (Other Non-VA Sources Continued)

<table>
<thead>
<tr>
<th>Principal Investigator</th>
<th>Research Title</th>
<th>Funding Source</th>
<th>Years</th>
<th>Current Funding</th>
<th>Total Funding</th>
</tr>
</thead>
<tbody>
<tr>
<td>McCaslin</td>
<td>Evaluation of the Community Provider Toolkit and Military Culture Training</td>
<td>OGP/Office of Executive Council</td>
<td>2016-2017</td>
<td>$100,000</td>
<td>$200,000</td>
</tr>
<tr>
<td>Monson &amp; Wiltsey Stirman</td>
<td>Improving and Sustaining Clinician Use of CPT</td>
<td>Canadian Institute of Health Research</td>
<td>2014-2018</td>
<td>$182,128</td>
<td>$728,215</td>
</tr>
<tr>
<td>Sanacora</td>
<td>An Open-label Long-term Extension Safety Study of Intranasal Esketamine in Treatment-Resistant Depression</td>
<td>Janssen Research &amp; Development</td>
<td>2016-2018</td>
<td>$0</td>
<td>$1,000</td>
</tr>
<tr>
<td>Sanacora</td>
<td>Exploring the Role of Glial Mediated Glutamate Clearance in Stress Sensitivity &amp; Resiliency</td>
<td>Brain and Behavior Research Foundation</td>
<td>2015-2016</td>
<td>$99,819</td>
<td>$99,819</td>
</tr>
<tr>
<td>Sanacora</td>
<td>Utility of NMR as a Translatable Biomarker for the Regulation of Glutamate Neurotransmission Behavioral Effects of Compounds that Influence Glutamate Release</td>
<td>Merck, Sharp, and Dohme</td>
<td>2016-2017</td>
<td>$119,211</td>
<td>$119,211</td>
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<tr>
<td>Taft</td>
<td>Implementation of the U.S. Department of Veterans Affairs’ Rollout of Strength at Home Violence Prevention Model</td>
<td>Blue Shield Foundation of California</td>
<td>2015-2016</td>
<td>$178,081</td>
<td>$178,081</td>
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<tr>
<td>Taft</td>
<td>Implementation of VA Rollout of Strength at Home</td>
<td>Bob Woodruff Foundation</td>
<td>2016-2017</td>
<td>$137,100</td>
<td>$137,100</td>
</tr>
<tr>
<td>Vogt</td>
<td>The Veterans Metrics Initiative: Linking Program Components to Post-Military Well-Being</td>
<td>Private Foundations, VA</td>
<td>2015-2020</td>
<td>$642,283</td>
<td>$4,867,000</td>
</tr>
<tr>
<td>Wolf</td>
<td>The MMPI-2-RF for the Assessment of DSM-5 PTSD and its Subtypes</td>
<td>University of Minnesota Press, Test Division</td>
<td>2013-2016</td>
<td>$0</td>
<td>$54,757</td>
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<tr>
<td>Wolf</td>
<td>The Utility of MMPI-2 RF in Informing VA Pain Clinic Care</td>
<td>University of Minnesota Press, Test Division</td>
<td>2016-2017</td>
<td>$24,000</td>
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</tbody>
</table>

### Pending Research Projects

<table>
<thead>
<tr>
<th>Principal Investigator</th>
<th>Research Title</th>
<th>Funding Source</th>
<th>Years</th>
<th>Total Funding</th>
</tr>
</thead>
<tbody>
<tr>
<td>Banducci</td>
<td>Interoceptive Exposures as a Pre-Treatment Intervention for PTSD</td>
<td>HSR&amp;D</td>
<td>2017-2021</td>
<td>$809,419</td>
</tr>
<tr>
<td>Bonn-Miller</td>
<td>Acceptance and Commitment Therapy for Veterans with Cannabis Use</td>
<td>HSR&amp;D</td>
<td>2017-2021</td>
<td>$1,097,621</td>
</tr>
<tr>
<td>Bonn-Miller</td>
<td>An RCT of Exercise for Cannabis Use Disorder</td>
<td>RR&amp;D</td>
<td>2017-2021</td>
<td>$882,584</td>
</tr>
<tr>
<td>Bonn-Miller</td>
<td>Sleep-Focused Prevention of Substance Use Disorders among Veterans with PTSD</td>
<td>HSR&amp;D</td>
<td>2017-2021</td>
<td>$1,080,489</td>
</tr>
<tr>
<td>Carlson</td>
<td>Development and Cross-Validation of a Hospital Risk Screening Tool for Posttraumatic Psychological Disorder</td>
<td>NIMH</td>
<td>2017-2021</td>
<td>$2,745,603</td>
</tr>
<tr>
<td>Carlson</td>
<td>Pilot Study of Stand Alone and Peer Supported Online Problem Solving Program in Veterans with Untreated Mental Health Problems</td>
<td>HSR&amp;D</td>
<td>2017-2018</td>
<td>$100,000</td>
</tr>
<tr>
<td>Cosgrove &amp; Pietrzak</td>
<td>Imaging Microglial Activation in PTSD Using PET</td>
<td>NIMH</td>
<td>2016-2021</td>
<td>$4,127,478</td>
</tr>
<tr>
<td>Esterlis &amp; Pietrzak</td>
<td>Kappa Opioid Receptors, Stress and Gender: Mediation of Depressive Endophenotypes</td>
<td>NIMH</td>
<td>2016-2021</td>
<td>$3,718,116</td>
</tr>
<tr>
<td>Galovski &amp; Street</td>
<td>Women Veterans Network (WoVeN)</td>
<td>Walmart Foundation, Wounded Warriors Foundation</td>
<td>2017-2021</td>
<td>$2,025,955</td>
</tr>
</tbody>
</table>
## Appendix B: Fiscal Year 2016 Funding

### (Pending Research Projects Continued)

<table>
<thead>
<tr>
<th>Principal Investigator</th>
<th>Research Title</th>
<th>Funding Source</th>
<th>Years</th>
<th>Total Funding</th>
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</thead>
<tbody>
<tr>
<td>Gradus</td>
<td>Characterizing Trauma Outcomes: From Pre-trauma Risk to Post-trauma Sequelae</td>
<td>NIMH</td>
<td>2016-2020</td>
<td>$1,225,042</td>
</tr>
<tr>
<td>Gradus &amp; Marx</td>
<td>Predicting Suicide Risk among VHA Patients with PTSD</td>
<td>CSR&amp;D</td>
<td>2017-2019</td>
<td>$549,236</td>
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<tr>
<td>Iverson</td>
<td>Recovering from Intimate Partner Violence through Strengths and Empowerment (RISE): Tailoring and Evaluating a Patient-Centered Counseling Intervention for Women Veterans</td>
<td>HSR&amp;D</td>
<td>2017-2020</td>
<td>$855,526</td>
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<tr>
<td>Kehle-Forbes</td>
<td>Pilot Test of a Self-Management Program for Completers of Trauma-Focused Therapy</td>
<td>RR&amp;D</td>
<td>2017-2019</td>
<td>$199,545</td>
</tr>
<tr>
<td>Logue</td>
<td>Genetic and Epigenetic Biomarkers of PTSD</td>
<td>BLR&amp;D</td>
<td>2017-2020</td>
<td>$610,510</td>
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<tr>
<td>Miller</td>
<td>Neuroimaging Genetics of PTSD</td>
<td>NIMH</td>
<td>2017-2021</td>
<td>$3,304,043</td>
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<tr>
<td>Mitchell</td>
<td>Bidirectional Associations Among Waist Circumference and Cognitive Functioning: The Impact of Childhood Adversity</td>
<td>NIDDK</td>
<td>2017-2022</td>
<td>$3,870,386</td>
</tr>
<tr>
<td>Morey &amp; Logue (site PI)</td>
<td>Trauma and Genomics Modulate Brain Structure across Common Psychiatric Disorders</td>
<td>NIMH</td>
<td>2016-2020</td>
<td>$1,994,799</td>
</tr>
<tr>
<td>Morissette &amp; Sloan</td>
<td>A Novel Brief PTSD Treatment for Student Veterans: Written Exposure Therapy</td>
<td>CAP</td>
<td>2016-2019</td>
<td>$2,800,000</td>
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<tr>
<td>Nillni</td>
<td>PTSD-Related Neurobiological Mediators of Negative Pregnancy Outcomes</td>
<td>Eunice Kennedy Shriver National Institute of Child and Human Development</td>
<td>2017-2021</td>
<td>$517,642</td>
</tr>
<tr>
<td>Norman</td>
<td>Topiramate and Prolonged Exposure for Alcohol Use Disorder and PTSD</td>
<td>RR&amp;D</td>
<td>2016-2021</td>
<td>$820,000</td>
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<tr>
<td>Pineles</td>
<td>Neurobiological Predictors of SSRI Response in Trauma-Exposed Veterans</td>
<td>CSR&amp;D</td>
<td>2017-2021</td>
<td>$600,000</td>
</tr>
<tr>
<td>Pless Kaiser</td>
<td>Improving Psychosocial Functioning in Older Veterans with PTSD</td>
<td>RR&amp;D</td>
<td>2016-2021</td>
<td>$809,149</td>
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<tr>
<td>Rasmusson</td>
<td>A Clinical Trial of Letrozole for the Treatment of Irritable Aggression in PTSD</td>
<td>NARSAD</td>
<td>2016-2018</td>
<td>$300,000</td>
</tr>
<tr>
<td>Rasmusson (PI), Hayes &amp; Galovski (Co-Pls)</td>
<td>Molecular Basis for Pre-session Exercise Augmentation of Trauma-Focused PTSD Treatment</td>
<td>NIMH</td>
<td>2017-2022</td>
<td>$5,041,365</td>
</tr>
<tr>
<td>Ross &amp; Woodward</td>
<td>Lucid Dreaming in Veterans with PTSD</td>
<td>CSR&amp;D</td>
<td>2017-2020</td>
<td>$538,000</td>
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<tr>
<td>Scioli-Salter</td>
<td>Neurobiological and Psychological Benefits of Fibromyalgia and PTSD</td>
<td>RR&amp;D</td>
<td>2016-2018</td>
<td>$197,206</td>
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<tr>
<td>Wachen &amp; Galovski</td>
<td>Massed Cognitive Processing Therapy for Combat-related PTSD</td>
<td>DoD</td>
<td>2017-2020</td>
<td>$3,262,817</td>
</tr>
</tbody>
</table>

BLR&D: Biomedical Laboratory Research & Development Service; CAP: Consortium to Alleviate PTSD; CSR&D: Clinical Science Research and Development Service; DoD: Department of Defense; HSR&D: Health Services Research and Development Service; NARSAD: National Alliance for Research on Schizophrenia and Depression; NIDDK: National Institute of Diabetes and Digestive and Kidney Diseases; NIMH: National Institute of Mental Health; RR&D: Rehabilitation Research and Development Service


Appendix C: Fiscal Year 2016 Publications


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Appendix C: Fiscal Year 2016 Publications


Appendix D:
Fiscal Year 2016 In Press and Advance Online Publications


Appendix D: Fiscal Year 2016 In Press and Advance Online Publications


Appendix D: Fiscal Year 2016 In Press and Advance Online Publications


Appendix D: Fiscal Year 2016 In Press and Advance Online Publications


Appendix D: Fiscal Year 2016 In Press and Advance Online Publications


Appendix E:
Fiscal Year 2016 Scientific Presentations

American Psychological Association – Denver, CO, August 2016

1. Davis, L., Schutte, K., & Tiet, Q. Motivation and the working alliance in veterans with substance use disorders.
3. Galovski, T. E. Gender and recovery from PTSD following community violence in Ferguson. In Z. D. Peterson (Chair), Trauma in context—Community and law enforcement reactions to the events in Ferguson, Missouri.
4. Keane, T. M. Past presidents’ panel: Getting the word out on trauma psychology.
5. Keane, T. M. Discussant. In S. Norman (Chair), Community care for returning combat veterans.
7. Tiet, Q., Leyva, Y. E., Moos, R., & Smith, B. N. Diagnostic accuracy of a revised, Two-Item Alcohol, Smoking and Substance Involvement Screening Test (Ti-ASSIST) for drug use.

Anxiety and Depression Association of America – Philadelphia, PA, April 2016

11. Keane, T. M. Recent advances in the psychological treatment of military related PTSD. In T. M. Keane (Chair), Recent advances in the psychological treatment of military related PTSD.
13. Marx, B. P., Green, J. D., Kearns, J. C., Gradus, J. L., Rosen, R. C., & Keane, T. M. Postdeployment social support as a protective factor for suicide risk among OEF/OIF veterans. In B. P. Marx (Chair), Suicide risk and resiliency in active duty military personnel and returning military veterans.

Association for Behavioral and Cognitive Therapies – Chicago, IL, November 2015

17. Galovski, T. E. Sex differences in reaction to violent protests in Ferguson, Missouri among law enforcement personnel.
20. Healy, E., Chard, K. M., Cogan, C. M., & Ashton, S. A. CPT or CPT-C: Do therapists need to learn one first? In E. L. Birkley (Chair), Moderators of cognitive-behavioral treatments for PTSD: Implications for assessment, intervention and dissemination.
International Society for Traumatic Stress Studies – New Orleans, LA, November 2015


33. Beagley, M., Straschofer, D., Held, P., Peterson, Z., & Galovski, T. E. The relative contributions of perceived social support and morale to the development of posttraumatic stress symptoms in police officers responding to protests in Ferguson, Missouri.


36. Bosch, J., McCaslin, S. E., Neylan, T., Dinh, J., & Weaver, T. The impact of exercise on PTSD symptoms among OEF/OIF/OND veterans.

37. Bovin, M. J., Black, S., Erb, S., Street, A. E., Marx, B. P., Rosen, R., & Keane, T. M. Reports of military sexual trauma among returning veterans: Who are we missing?


44. Galovski, T. E. Integrating CPT for caregivers into a trauma-informed model of care for families experiencing multiple traumas across generations. In K. Chard (Chair), Cognitive Processing Therapy: Expanding the horizons.


47. Glotch, C., & Galovski, T. E. I had homework? An investigation of homework compliance and outcomes during CPT. In C.J. Fleming (Chair), The role of homework completion in evidence-based treatments for PTSD: Results across three studies of Cognitive Processing Therapy.


49. Griffin, M., & Galovski, T. E. Psychophysiological alterations following Cognitive Processing Therapy with hypnosis. In C. Chou (Chair), Psychological and psychophysiological features of traumatic memory processing.


Appendix E: Fiscal Year 2016 Scientific Presentations

(International Society for Traumatic Stress Studies Continued)


53. Haller, M., Angkaw, A. C., Hendrickx, B. A., & Norman, S. B. Does reintegration stress contribute to suicidal ideation among returning veterans seeking PTSD treatment?

54. Haller, M., Crocker, L. D., Norman, S. B., & Angkaw, A. C. Shame versus guilt as mediators of the relation between PTSD symptoms and verbal aggression among returning veterans.

55. Hamblen, J. L., Bippart, V., Bunnell, B., Davidson, T., & Ruggiero, K. AboutFace: A qualitative study of an approach to reduce stigma and improve readiness to seek services among veterans.


57. Hayes, J. P. COMT polymorphism moderates the association between PTSD symptom severity and hippocampal volume.


60. Herbst, E., Leach, B., O’Connor, A., Armstrong, K., Ersyky, B., & McCaslin, S. E. VHA services on the college campus: Acceptability and impact of the student Veteran’s Health Program.


65. Knight, J. A., Naesser, M. A., Martin, P. A., Ho, M., & Hamblin, M. D. An innovative photomedicine treatment for comorbid TBI and PTSD.

66. Krystal, J. H. Stress resilience is more than dampening of arousal.

67. Kuhn, E., Eftekharii, A., Hoffman, J. E., Owen, J. E., Crowley, J. J., Rosen, C., & Ruzek, J. Using mobile apps to support the provision of evidence-based psychotherapy for PTSD.


70. Lunney, C., & Schnurr, P. P. An exploration of racial and ethnic differences in symptom presentation and treatment outcome in female veterans with PTSD.


72. Mackintosh, M. A., Cash, R., Greene, C. J., & Morland, L. A. Advances and innovation in treating anger and aggression in trauma exposed populations. In M. A. Mackintosh (Chair), Affective processes/interventions track symposium.


74. Mackintosh, M. A., Willis, E., & Morland, L. A. Anger reductions in response to evidence based psychotherapy for PTSD.

75. McCaslin, S. E., Cloitre, M., Neylan, T., Gavert, D., & Marmar, C. Towards thriving: Identifying predictors of high functioning in the context of high distress.

76. McCaslin, S. E., O’Connor, A., Herbst, E., Armstrong, K., & Leach, B. Student veterans with PTSD symptoms: Perceived barriers and support needs.


Appendix E: Fiscal Year 2016 Scientific Presentations

(International Society for Traumatic Stress Studies Continued)


86. Mota, N., Sippel, L. M., & Connolly, K. Examining resilience as a predictor of treatment outcome in a sample of veterans undergoing an outpatient day program for posttraumatic stress disorder and substance use disorders.


90. Pless Kaiser, A., Cook, J., & Harpaz-Rotem, I. Mental health service utilization among a national sample of older veterans with PTSD. In B. N. Smith (Chair), PTSD and aging: Examining treatment outcomes, psychosocial health correlates, and implications for mental health treatment of PTSD for older adults.


92. Possemato, K., Kuhn, E., & Johnson, E. Clinician-supported PTSD Coach: Pilot results on changes in PTSD symptoms and treatment seeking. In K. Possemato (Chair), Using technology at multiple levels of PTSD Treatment.


96. Schnurr, P. P. Getting beyond the bedside—but not forgetting the bench.


103. Spadoni-Townsend, A., Norman, S. B., & Simmons, A. N. Neural correlates of emotion identification predict treatment response in PTSD. In A. Simmons (Chair), Application of machine learning to diagnostic and prognostic brain imaging in anxious populations.

104. Spoon, M., Clothier, B., & Nelson, D. Treatment-related beliefs and preferences associated with race and ethnicity among veterans with PTSD.


109. Willis, E., Mackintosh, M. A., & Morland, L. A. The impact of neuropsychological functioning and depressive symptoms on Cognitive Processing Therapy outcomes in an ethnically diverse sample of civilians and veterans with PTSD.

Appendix E: Fiscal Year 2016 Scientific Presentations

(International Society for Traumatic Stress Studies Continued)


112. Woodward, S. H., Schaer, M., & Kaloupek, D. G. FreeSurfer-derived estimate of cranial volume is smaller in chronic severe PTSD.


American College of Neuropsychopharmacology - Hollywood, FL, December 2015


117. Cosgrove, K. PET imaging of TSPO expression in alcohol dependent subjects during acute abstinence: Comparison with healthy control subjects.

118. Duman, R. REDD1/mTORC1/S6K1 signaling in the pathophysiology and treatment of depression.

International Family Violence and Child Victimization Research Conference - Portsmouth, NH, July 2016


Collaborative Perspectives on Addiction – San Diego, CA, March 2016


129. Haller, M., Bogner, R., Davis, B., Colvonen, P., Trim, R., & Norman, S. B. Exploring pre-treatment differences between residential and outpatient programs for veterans with alcohol use disorders and comorbid combat-related PTSD.


VA and Military


Appendix E: Fiscal Year 2016 Scientific Presentations

(VA and Military Continued)


Other


Appendix E: Fiscal Year 2016 Scientific Presentations

(Other Continued)


165. Gelernter, J. (2016, February). Genetics of substance dependence: What we know and how we know it. Chulalongkorn Faculty of Medicine, Bangkok, Thailand; Yale-Chula Drug Dependence Through the Lifespan (DDTLS) Training Program Course, Bangkok, Thailand.


Appendix E: Fiscal Year 2016 Scientific Presentations

(Other Continued)


201. Petrakis, I. (2015, November). Post traumatic stress disorder (PTSD) & comorbid alcohol use disorders (AUD). Grand Rounds, University of Connecticut School of Medicine, Department of Psychiatry, Farmington, CT.


Appendix E: Fiscal Year 2016 Scientific Presentations

(Other Continued)


Appendix F: Fiscal Year 2016 Educational Presentations

Department of Veterans Affairs


15. Taft, C. T. (2015-2016). Strength at home: Programs for veterans. Invited trainings at: Atlanta VA Medical Center, Atlanta, GA; Providence VA Medical Center, Providence, RI; Durham VA Medical Center, Durham, NC; Philadelphia VA Medical Center, Philadelphia, PA; Salem VA Medical Center, Salem, VA; VA Portland Healthcare System, Portland, OR; Kansas City VA Medical Center, Kansas City, MO; VA Maryland Healthcare System, Baltimore, MD; Cincinnati VA Medical Center, Cincinnati, OH.

International Society for Traumatic Stres Studies – New Orleans, LA, November 2015

16. Gutner, C. A. How to submit a graduate or early career award: What you need to know about NIH and VA grants.

17. Haller, M., Cummins, K., Xu, X., Cui, R., Norman, S. B., & Tate, S. Integrated cognitive behavioral therapy versus Cognitive Processing Therapy for adults with depression, substance use disorder, and trauma: PTSD and depression outcomes.


Appendix F: Fiscal Year 2016 Educational Presentations

Other


33. Matteo, R. (2016, May). National Center for PTSD educational products and tools. PTSD and TBI - Recognizing and Intervening with Veterans Conference, St Johnsbury, VT.


41. Schnurr, P. P. (2016, February). Update on psychotherapy for PTSD. University of Texas Health Psychiatry Update, Houston, TX.


55. Wolf, E. J. (2016, April). PTSD-related accelerated aging in DNA methylation as manifested in neurocognitive and health decline. Trauma Genomics Group Bi-monthly at Massachusetts General Hospital, Boston, MA.

Appendix G: Fiscal Year 2016 Editorial Board Activities

**Addiction**
Bonn-Miller

**Addictive Behaviors**
Bonn-Miller

**Administration and Policy in Mental Health Services and Mental Health Services Research**
Wiltsey Stirman

**American Journal of Medical Genetics, Part B**
Gelernter

**Asian Biomedicine (Research Reviews and News)**
Gelernter

**Behavior Therapy**
Keane (Guest Editor); Sloan (Editor-Elect); Wolf

**Behaviour Research and Therapy**
Ruzek; Sloan

**Biological Psychiatry**
Duman; Gelernter; Krystal (Editor); Sanacora

**Biological Psychiatry: Cognitive Neuroscience and Imaging**
Duman, Gelernter, Sanacora

**Cannabis and Cannabinoid Research**
Bonn-Miller

**Chronic Stress**
Abdallah (Editor); Duman; Esterlis; Krystal (Associate Editor); Pietrzak; Rasmusson; Sanacora; Southwick; Woodward

**Clinical Psychology Review**
Pineles

**Cognitive and Behavioral Practice**
Shipherd

**Community Mental Health Journal**
Harpaz-Rotem

**Critical Reviews in Neurobiology**
Duman (Editorial Advisory Board)

**European Journal of Psychotraumatology**
Cloitre (Associate Editor)

**Frontiers in Neurogenomics**
Miller (Associate Editor); Wolf (Review Editor)

**International Journal of Emergency Mental Health**
Keane

**Journal of Abnormal Psychology**
Miller; Wolf

**Journal of Addiction Medicine**
Bonn-Miller

**Journal of Addiction**
Tiet

**Journal of Anxiety Disorders**
Pietrzak; Ruzek

**Journal of Child and Family Studies**
Tiet

**Journal of Clinical Psychology**
Sloan

**Journal of Consulting and Clinical Psychology**
Marx; Sloan; Taft

**Journal of Contemporary Psychotherapy**
Sloan

**Journal of Depression and Anxiety**
Tiet

**Journal of Family Psychology**
Taft

**Journal of Family Violence**
Taft

**Journal of Neuroscience**
Levy (Associate Editor)

**Journal of Psychoactive Drugs**
Babson, Bonn-Miller
Appendix G: Fiscal Year 2016 Editorial Activities

**Journal of Trauma and Dissociation**
Carlson; Marx

**Journal of Traumatic Stress**
Galovski (Associate Editor); Miller; Morland; Rosen; Wolf

**Journal of Traumatic Stress Disorders and Treatment**
Gradus

**Molecular Pharmacology**
Duman

**Neuropsychology**
Hayes (Consulting Editor)

**Neuropsychopharmacology**
Duman; Gelernter; Sanacora (Associate Editor)

**Partner Abuse**
Taft

**Psychiatric Genetics**
Gelernter

**Psychological Assessment**
Vasterling

**Psychology Injury and Law**
Pietrzak

**Psychological Trauma: Theory, Research, Practice and Policy**
Carlson; Keane; Marx; Miller; Ruzek; Smith; Taft; Vogt

**Psychology of Addictive Behaviors**
Bonn-Miller (Consulting Editor)

**Psychosomatic Medicine**
Sloan

**Trauma, Violence, and Abuse**
Keane