

## FROM THE EXECUTIVE DIRECTOR

This Annual Report focuses on research, education, and consultation activities during the fiscal year 2002, a year in which much attention of the nation was focused on the aftermath of the September 11, 2001, terrorist attacks on the World Trade Center and Pentagon. The Center staff was called upon during this time of crisis to offer its expertise to individuals and agencies affected by this crisis – expertise that has been built up during more than a decade of involvement in disaster mental health.

The introductory section of this report presents an overview of Center activities directly related to those terrible events, with an emphasis on several initiatives of particular interest to veterans. To put these recent activities in context, we also review the Center's history in the field of disaster mental health, which has been a major priority since we were first established in 1989.

During this period of national emergency, we also remained committed to our full schedule of research, education, and consultation activities. We have continued to respond effectively to the needs of veterans, to the clinicians who treat them, to the scientists conducting research on PTSD, and to executives and policymakers who seek our consultation. This report summarizes our accomplishments and future plans in all our areas of endeavor.

During the preparation of this report, Under Secretary for Health, Dr. Robert Roswell, introduced a strategic plan for VA that has five aims: (1) Restore the capability of veterans with disabilities to the greatest extent possible; (2) Ensure a smooth transition for veterans from active military service to civilian life; (3) Honor and serve veterans in life and memorialize them in death for their sacrifices on behalf of the nation; (4) Contribute to the public health, emergency management, socio-economic well-being, and history of the nation; and (5) Deliver world-class service to veterans and their families through effective management of people, communications, technology, and governance. I believe that the goals and objectives of the National Center are completely consonant with VA's strategic plan and will help VA achieve these aims.

As I write this letter, US troops are fighting a war in Iraq. The National Center for PTSD is working closely with VA and Department of Defense (DoD) officials to prepare to meet the needs of these troops when they return, to assist their families, and to support VA professionals preparing to meet this new clinical challenge. Information on all of these initiatives will have to wait until next year's Report.

As we continue to learn, to respond to national emergencies, and to serve the needs of veterans, we look forward to the future, determined to carry out our Congressionally-mandated mission even more effectively and with greater success.

A handwritten signature in black ink that reads "Matthew J. Friedman". The signature is fluid and cursive, with a long horizontal line extending from the end of the name.

Matthew J. Friedman, MD, PhD



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# THE NATIONAL CENTER FOR PTSD: A RESOURCE IN TIMES OF NATIONAL EMERGENCY

The National Center for PTSD's fiscal year 2002 began on October 1, 2001 – just a couple of weeks after the nation was jolted by the terrorist attacks on New York's World Trade Center and the Pentagon in Washington. The attacks focused the nation's attention on the human costs of disasters, costs that include the psychological as well as the physical. The subsequent weeks and months saw an unprecedented degree of contribution and cooperation from government agencies, relief organizations, and private citizens from all walks of life – and the National Center was called upon to do its part to help the nation.

The Center's primary focus throughout its history has been and continues to be the country's veterans, but the knowledge and expertise gained through work in the VA system has proven invaluable in the field of disaster mental health. In fact, since the VA's mission explicitly calls for that agency to participate in the National Disaster Medical System, the Center has always counted disaster mental health among its top priorities.

## The Center's History in Disaster Mental Health

The Center was only a few months old when staff were called in to assist in the aftermath of the Loma Prieta, CA, earthquake in 1989. That dramatic cataclysm, witnessed by millions of Americans watching the televised World Series game between the San Francisco Giants and Oakland As, shook the entire Bay Area, destroying the main building at the Palo Alto VA Hospital, among many other structures.

Four days later a small group from the National Center's Palo Alto Division made the trip to Santa Cruz, the location of the earthquake's epicenter. They established a "helping the helper" program that provided crisis counseling and other psychological support to Red Cross personnel, schoolteachers, mental health workers, and other local officials. During the 18 months that program was in existence, Center staff had their first introduction to the National Emergency Disaster System. They had the opportunity to work with officials from the Federal Emergency Management Agency (FEMA), the Public Health Service, and military emergency technicians from the Oakland Naval Hospital, in addition to the Red Cross and local emergency personnel.

Since then emergency response has been a part of the Center's activities in almost every year of its 13-year history (see sidebar). Center staff have been called upon to assist at the sites of many natural disasters, including Hurricanes Andrew, Floyd, and Iniki; the Northridge, CA, earthquake of 1994; and the 1997 floods in North Dakota. The Center's expertise has also been sought in the aftermath of man-made and criminally-perpetrated disasters, such as the crash of Alaska Airlines flight #241 in 2000 and the 1995 terrorist bombing in Oklahoma City.

The Center has been active in training and education as well. In 1998 the Center, in partnership with the Readjustment Counseling Service (RCS), launched the Disaster Mental Health (DMH) training series, which consists of on-site two-day workshops featuring presentations, demonstrations, and simulation exercises; the workshops have been delivered to VA audiences

## Disaster Mental Health at the National Center for PTSD

**1989** Center's involvement in disaster mental health begins with response to earthquake in Loma Prieta, CA.

**1991** Center is called in by State Dept. to coordinate services to hostages released from Iraq and Kuwait.

**1992** Center provides consultation to American Red Cross after Hurricane Andrew hits Florida.

**1993** Center is called in to consult following Oklahoma tornadoes.

**1994** Staff works with FEMA on a disaster response handbook for mental health professionals.

Staff begins working with agencies – including VA, DoD, FEMA, and San Francisco Airport – to improve preparedness in the event of disasters.

**1995** Website comes online, bringing latest information on disaster mental health to researchers, clinicians, and laypersons all over the world.

Staff consults to FEMA on long-term mental health response to April bombing of Federal building in Oklahoma City.

DMH Response training curriculum is developed in collaboration with EMPO.

**1996** Video and audiotape series on disaster mental health are completed, in collaboration with FEMA.

**1997** Center completes *Guide to Disaster Mental Health Services*.

First training is held for VA DMH responders, in collaboration with American Red Cross.

Center responds to Red River floods in North Dakota with detailed fact sheets for survivors, families, and rescue workers.

across the US. In addition, during 1999 and 2000 the Center and RCS together hosted 24 monthly teleconference calls, bringing experts in mental health crisis counseling to staff throughout the VA.

In addition to specific consultative and educational initiatives, the Center has taken its place as a leader in longer-term development of mental health policy. In recent years professionals throughout the mental health community have become uncomfortably aware that the prevailing emergency mental health services and policies, mostly developed in the context of natural disasters, do not appear to be appropriate for criminally-perpetrated mass casualty events. For one thing, PTSD rates are generally much higher following a criminal event; moreover, the duration of psychological distress may last much longer as traumatic reminders are re-triggered by arrests and trials of the perpetrators, which may be heavily publicized and take years to unfold.

In 2001, the Center took leadership of a three-year project to develop best-practice guidelines for emergency mental health interventions, taking into account both criminal and natural disasters. This project is a collaboration between the National Center, the Center for Mental Health Services (CMHS) of the Department of Health and Human Services (HHS), and the Office for Victims of Crime at the Department of Justice (DoJ). By September 2001, staff were one year into the project and had accumulated a wealth of research and analysis.

As a result of this extensive experience and accumulated knowledge, when the events of September 11 took place the National Center was well prepared to do its part in the recovery efforts. The Center's educational materials, especially those available on the website, were extremely useful in educating relief workers, victims, families, and bystanders about PTSD. Center staff were called upon to consult by many different agencies, and were sought after as knowledgeable spokespersons by the media. Moreover, Center researchers have taken the opportunity to gather data and conduct long-term studies on the effects of 9/11 – research that will enhance the understanding of PTSD and benefit veterans and others in the years to come.

## Using the Website for PTSD Education

Within hours after the 9/11 attacks the Center's website was expanded to include Fact Sheets on mass violence for the public and professionals, and in the month after the attack the site received as many as 35,000 unique visits a day. In addition, Center personnel provided training materials and classes to individuals involved in rescue and recovery efforts.

One VA staff member who was deeply involved in these efforts was Mara Kushner, VISN (Veterans Integrated Service Network) 3 Mental Health Care Line Business Manager. Ms. Kushner coordinated the mental recovery efforts for veterans and their families; she also worked closely with local VA and Central Office leadership to provide outreach to police, firefighters, and National Guard.

"One of our VA clinics is in Brooklyn, right across the river from Ground Zero," she remembers, "and patients and staff had an unobstructed view of the attacks as they were taking place." She was very concerned that veterans suffering from PTSD and other stress-related disorders might be especially vulnerable to these scenes of destruction and that they might provoke graphic reminders of past combat exposure.

The website proved invaluable to Ms. Kushner and her colleagues. "Disaster mental health is not really my area of expertise," she says, "but I had to become expert as quickly as possible. I used the website to educate myself, to prepare for talking to the media, and to help to educate others. For example, the website has excellent resources on how to talk to children about disasters of this type. My practice doesn't usually involve children, but talking to kids was a major issue for staff and others who were coming to us during this time – so the information on the website was very important to us."

Ms. Kushner also cites the importance of National Center Director Matthew Friedman's work with primary care doctors. "We were concerned that veterans who were not receiving mental health treatment at the clinics would go to their primary care physicians with medical symptoms caused by the stress of 9/11. Matt provided training to these physicians so they would know what symptoms to look for and how to handle the patients – training that was especially helpful for residents and younger doctors."

## Disaster Mental Health at the National Center for PTSD

**1998** National Disaster Mental Health Training Series is launched, in collaboration with RCS.

**1999** Guidebook for peacekeeping forces is published, applying the principles of disaster mental health to those working with active-duty peacekeeping forces.

Monthly teleconferences on disaster and crisis management begin.

Staff consults to VA personnel in the aftermath of Hurricane Floyd.

Center consults with international disaster relief agencies in Turkey, Colombia, and Taiwan.

**2000** Staff assists employees and victims' families after the crash of Alaskan Airlines flight #261.

Center launches a major multi-year initiative, in collaboration with HHS, aimed at developing practice guidelines for emergency responses to mass casualties.

**2001** Center staff collaborates with the DoJ on recommendations about best practices in the management of natural and criminally-perpetrated disasters, including convening a multidisciplinary focus group.

World Trade Center and Pentagon are targets of unprecedented terrorist attacks; Center personnel assist in relief efforts in NY and DC, and step up dissemination of PTSD information via website.

**2002** Best Practices guidelines are published in a bound volume and on the website, the result of the 2001 Consensus Conference on early intervention.

Center continues to support efforts in NY and DC in the aftermath of terrorist attacks.

## Consultation on PTSD: The Consensus Conference

The Center has had a long and productive relationship with the DoD, which has resulted in several collaborative research projects and some groundbreaking studies with active-duty military personnel. One of the individuals who has worked closely with the Center in the past is Dr. E. Cameron Ritchie, Program Director, Mental Health Policy and Women's Issues at the Department of Defense. Dr. Ritchie is a psychiatrist and a Lt. Colonel in the Army.

In recent years Dr. Ritchie had been studying combat stress control, the psychological casualties of combat, and the positive effects of early treatment, work which had led her naturally to become more involved in disaster mental health. However, she and many of her colleagues had become increasingly concerned with the often-haphazard nature of post-disaster interventions. She was especially alarmed by the trend toward well-meaning but minimally trained laypersons descending on disaster sites to debrief victims, which sometimes did more harm than good.

To address these issues, Dr. Ritchie had been working with the Center and professionals from other government departments such as HHS and the DoJ to organize a Consensus Conference, "Early Intervention Following Mass Casualties." The Conference was intended to bring together top domestic and international experts in disaster mental health to review current research and clinical experience in order to develop guidelines for best practices. But it was scheduled for late October, just six weeks after the terrorist attacks.

"Until 9/11, people had viewed the Conference as a rather academic exercise," Dr. Ritchie recalls. "The attacks of 9/11 changed all that and made people realize how important it was, in a very personal way." Despite the uncertainties of security and transportation, they decided to go ahead with the conference as scheduled, and organizers were surprised and pleased that a total of 58 professionals from six countries attended.

"The Conference deepened and solidified the relationship between the Center and the DoD," Dr. Ritchie says. "And because it followed so soon after 9/11, there was a great deal of interest in our results." The proceedings of the Conference, published in September 2002 by the National Institute of Mental Health (NIMH) in a bound volume and posted on the Internet, received wide distribution and attention throughout the mental health community.

## PTSD Research with the New York City Firefighters

Dr. Terry Keane is Director of the Behavioral Sciences Division of the National Center for PTSD at the VA Boston Healthcare System. He has been working with the Fire Department of New York (FDNY) through one of his colleagues at the Boston VA, Dr. John Greene, an advisor to the Boston Fire Department and one of many mental health professionals from fire departments all over the country who stepped in to help the FDNY after 9/11. When the FDNY decided to form a task force to advise their own medical staff, Dr. Keane was invited to join.

"The stress on firefighters after 9/11 was enormous," Dr. Keane says. "Sifting through wreckage and recovering remains was exhausting physically and mentally. And every firefighter knew dozens – even hundreds – of colleagues who had died. The sheer number of funerals that took place in the weeks following the attacks was staggering." These horrific events would be expected to take

a significant psychological toll on everyone involved in rescue and recovery efforts, at least in the short term. But what about the long-term effects?

“We realized that we were being presented with a unique opportunity for research that could significantly enhance our understanding of the development of PTSD,” Dr. Keane recalls. The task force designed and launched a longitudinal research project involving the entire FDNY – nearly 15,000 firefighters, medical technicians, and administrators – with the aim of understanding the long-term effects of the 9/11 experience.

Task Force researchers developed an evaluation instrument that will track each individual’s physical and mental health history, along with incidents of significant problems such as substance abuse, marital discord, and the like. Researchers intend to follow these same individuals for 4-5 years, by administering the same questionnaire during annual physical exams.

This project gives researchers an important opportunity to study a group of individuals during and immediately after they have experienced the same traumatic event, as compared to much of the traditional research on PTSD that takes place months or even years after the incidents have occurred. Researchers hope that they will be better able to understand why, when exposed to the same event, some people develop PTSD and other stress-related disorders while others do not.

Dr. Keane explains, “Even though everyone in the FDNY experienced the same event, we know that people do not evaluate or interpret the same event in the same way. Understanding this process can be the key to understanding the long-term effects of traumatic stress.” Results of this research may lead to better treatments for PTSD, and even possible approaches to PTSD prevention – developments that would be of inestimable benefit to veterans, active-duty military, and others in the future.

## Implications for Veterans of Today and Tomorrow

During the year 2002, Center leadership has been studying ways to adapt existing products and programs, many of which have been designed primarily for the VA system, to serve the needs of the broader disaster mental health community. For example, the Center has a number of methods for disseminating information on PTSD to clinicians and others throughout the VA system, including the “Science into Practice” electronic information service, conferences for primary care physicians, and a wide variety of training materials. These programs can be modified to include information about natural disasters, mass violence, and bioterrorist activities, and can easily be disseminated to recipients outside the VA system.

The events of 9/11 gave the National Center an unparalleled opportunity to bring all of its expertise – accumulated over 13 years of research, education, and consultation through the VA – to help the country cope with the worst terrorist attack in history. Dr. Keane remarks, “It was gratifying to see the VA and the National Center viewed as leaders in the field of traumatic stress, and as a resource that the country can turn to in a crisis.”



But the same process works in reverse: the knowledge gained through the past year's work with the nation's disaster response system will inform all the Center's work in the future. The consensus on best practices for post-disaster interventions, the outcome of the research with the New York firefighters, the improvements to preparedness that are identified through the VISN 3 experiences – all these will have a profoundly positive effect on the country's ability to help the country's veterans, active-duty military personnel, and the civilian population.

### For Further Reading

The following articles by National Center personnel are available for further reading; they can be found on the Center's website at [www.ncptsd.org](http://www.ncptsd.org).

- Litz, Gray, Bryant, & Adler (2002). **Early intervention for trauma: Current status and future directions.** *Clinical Psychology: Science and Practice*, 9, 112-134.
- Norris, Friedman, Watson, Byrne, Diaz, & Kaniasty (2002). **60,000 disaster victims speak, part I: A review of the empirical literature, 1981-2001.** *Psychiatry*, 65, 207-239.
- Norris, Friedman, & Watson (2002). **60,000 disaster victims speak, part II: Summary and implications of the disaster mental health research.** *Psychiatry*, 65, 240-260.
- Watson, Friedman, Gibson, Ritchie, Ruzek, & Norris (in press). **Early intervention for trauma-related problems.** *Annual Review of Psychiatry*.
- Young, Ford, Ruzek, Friedman, & Gusman. (1998). **Disaster mental health services: A guidebook for clinicians and administrators.** St. Louis, MO: Department of Veterans Affairs Employee Education System, National Media Center.

In addition, the results of the Consensus Conference on Early Intervention were published in booklet form and are available online at [www.nimh.nih.gov](http://www.nimh.nih.gov). National Institute of Mental Health (2002). **Mental health and mass violence: Evidence-based early psychological intervention for victims/survivors of mass violence.** NIH Publication No. 02-5138, Washington, DC.

## About this Annual Report

The balance of this Annual Report presents the highlights of the activities of the National Center for PTSD during FY 2002, including the major accomplishments of the seven divisions in the three key areas of endeavor:

- **Research:** Through its research into new treatment for PTSD, psychobiology, assessment, and the effects of PTSD in special populations, the Center is a world leader in research on trauma and its aftermath. The Center's multisite structure and multidisciplinary staff, coupled with the extensive network of partnerships and collaborations, give the Center a unique ability to take on projects of a size and scope that would be beyond the capabilities of most research organizations.
- **Education:** The Center's educational initiatives aim to assimilate information and coordinate communication among top scientists in the field, to bring that information to clinicians and policymakers both inside and outside the VA, and to serve as a resource for laypersons who wish to gain a better understanding of PTSD.
- **Consultation:** Center expertise has been sought with increasing frequency by the top leadership, policy makers, and program directors in the VA and in other government agencies and branches; by a growing number of academic and non-governmental organizations that are dealing with PTSD as a major public health problem; and by the United Nations and national governments around the world.

A series of tables at the back of this document provide details on the organization of the Center and its seven individual divisions, research grants, publications, and educational activities. Detailed reports of activities at the divisions can be obtained by contacting the individual locations directly or by visiting the Center's website at [www.ncptsd.org](http://www.ncptsd.org).

## RESEARCH

The National Center is at the forefront of research into PTSD: its causes, assessment, and treatment. The Center's research capabilities gain strength from several unique features of the Center's organization. First, the multidisciplinary backgrounds of the staff bring different research emphases and points of view to bear on research initiatives. The multisite geographic structure, with locations across the country, allows the Center to carry out projects of major size and scope. Finally, the Center's many relationships with agencies and organizations throughout the VA, the government, academia, and the health care community afford the opportunity to reflect real-world considerations in research projects — and to put science into practice.

The sections that follow summarize the major research initiatives in FY 2002, followed by discussions of some key accomplishments in five areas: treatment, psychobiology, physical health and coping, assessment, and special populations. The tables at the back of the document contain a listing of Center research: 141 professional publications, 41 in-press publications, and 240 scientific and educational presentations.

### Major Research Initiatives

The Center's unique structure, broad-based expertise, and network of relationships make possible major research projects that would not be possible at conventional research facilities. Some of the more noteworthy efforts currently under way are listed below.

**VA Cooperative Study #494:** CSP #494 is a study of female veterans and active-duty personnel who have PTSD, testing the effectiveness of exposure therapy compared with therapy that focuses on current life problems. Spearheaded by the Executive Division and sponsored by the VA Cooperative Studies Program (CSP) and the DoD, it will enroll 384 women from 12 study sites. Patient enrollment began in September 2002.

**NVVLS follow-up:** The National Vietnam Veterans Longitudinal Study (NVVLS) is an extension of the original National Vietnam Veterans Readjustment Study, which examined the prevalence of PTSD in Vietnam veterans from 1980 to 1988. The NVVLS will examine the long-term effects of PTSD on psychological problems, physical health, and social functioning. It is funded by Congress and will be conducted by the Research Triangle Institute with oversight by the Behavioral Sciences Division.

**Millennium Project:** The Millennium Project is a Congressionally-mandated study of former members of the Reserve forces, examining the rates of military sexual trauma experienced while they were on active duty for training purposes. The study, directed by the Women's Health Sciences Division, will examine the extent to which these individuals have sought counseling from the VA for these experiences and determine the additional resources that would be required to meet the projected need for such counseling. Over 4,500 randomly selected male and female former members of the Reserve Components of the Armed Forces are being interviewed about their experiences in the Reserves and their current mental and physical health.

**Provider Perspectives on Disaster Mental Health Services:** As part of a three-year inter-agency agreement with the CMHS, the National Center is examining provider perspectives on current practices, principles, and processes in disaster mental health services as well as how processes at the inter-organizational level relate to service delivery at the organizational level. Interviews were first conducted in Oklahoma City following the 1995 bombing of the Federal Building. In FY 2003, interviews will be conducted in New York City, in the context of a complex system that experienced an exceptionally complex event, the 9/11 terrorist attack on the World Trade Center. Results will be shared with CMHS to shape future disaster mental health policies. The Executive Division is guiding this initiative, with major contributions from the Education Division.

## Treatment Research

In 2002, approximately 200,000 veterans were seen for PTSD treatment at one of the VA Medical Centers around the US. As demand for PTSD services grows, the Center continues to place major emphasis on research into developing, evaluating, and implementing new treatments.

A key avenue of research is in psychopharmacology, or studies of the effects of various medications, either singly or in combination, on PTSD. The Clinical Neurosciences Division (CND) has primary responsibility for such research. One such study, the PTSD Treatment Algorithm study that was planned during the last fiscal year, was modified in 2002 to concentrate on the novel experimental treatment agents lamotrigine and prazosin. One hundred fifty patients will take part in this project.

In a second study, the Center will be working with selected Mental Illness Research, Education, and Clinical Center (MIRECC) sites to evaluate the effectiveness of supplementing antidepressants with the alpha-2 noradrenergic receptor agonist guanfacine, to determine if the combination will help to reduce arousal and re-experiencing in PTSD patients. A third study, recently submitted to the VA Cooperative Studies Program as a letter of intent, is a trial of risperidone in combination with antidepressants.

The Center is also involved in many smaller-scale medication studies, which can be useful on their own and can also serve as the foundation for later, large-scale investigations. Among these projects are pharmacotherapy studies examining the interaction between disulfiram and naltrexone, a naltrexone augmentation study, and an investigation of anticonvulsants for the initiation of sobriety in veterans with PTSD. Center researchers are also conducting a clinical trial of the effects of the antidepressant venlafaxine on dissociation symptoms in veteran and non-veteran outpatients with PTSD.

In addition to the pharmacological studies, much of the Center's treatment research deals with behavioral, cognitive, and other types of treatments; some examples include:

- A clinical trial to determine whether ongoing monitoring of PTSD patients by telephone after their discharge from residential treatment improves their aftercare attendance and clinical outcomes.
- A clinical trial of brief cognitive-behavioral therapy that employs web-based methods for prompting and monitoring self-directed behavior change, working with victims of the 9/11 attack on the Pentagon.

- The first randomized controlled trial of critical incident stress debriefing provided to soldiers returning from Kosovo.

Researchers in the Evaluation Division completed a large-scale study in FY 2002 that examined treatment processes and clinical outcomes among black, Hispanic, and white veterans across four different types of specialized intensive programs – long-stay inpatient, short-stay inpatient, residential, and day hospital. Other evaluation research includes a study with all patients enrolled in the PTSD clinics at the VA Boston Healthcare System, an evaluation of current PTSD treatment practices in VISN 21, and an assessment of how patient variables and treatment factors predict PTSD patients' functioning.

The Center's Evaluation Division continues to study the quality and effectiveness of the PTSD and mainstream mental health programs in each of VA's 22 VISNs. The Center issued the seventh Report Card of the National Mental Health Program Performance Monitoring System and the tenth report in the *Long Journey Home* series on the status of specialized treatment programs for PTSD.

## Psychobiology

The Center, and its Clinical Neurosciences Division in particular, has been a world leader in studies aimed at understanding the pathophysiology of PTSD – that is, how traumatic stress acts on brain structures and functioning.

During FY 2002, the Center continued to investigate the impact of stress and psychoactive agents on neurotrophic factors and neurogenesis, particularly related to the hippocampus, which is the part of the brain that governs memory. Recent studies have demonstrated that chronic administration of antidepressants – including fluoxetine, tranylcypromine, or electroconvulsive shock – increases the production of granule cells in the hippocampus.

Researchers have developed sophisticated techniques to define the complex functional circuitry that underlies the stress response. Of particular importance is a recent study with animals, showing that normal prefrontal cortical inhibition of limbic regions is compromised in animals with a hyperactive amygdala. It is possible that an overactive amygdala may interfere with normal adaptive responses to repeated stress in the prefrontal cortex of humans as well. A number of brain imaging studies have reported exaggerated amygdala metabolism among patients with PTSD who are exposed to reminders of their traumatic stress.

A series of neuroendocrine studies have been conducted that study genetic influences on the release of a stress-related substance called Neuropeptide-Y and on neurosteroid production in veterans with PTSD. Studies on the neurobiology of traumatic memory have focused on noradrenergic and glutamatergic function. Recent findings have further explained the process of memory consolidation in humans under conditions of arousal, with potential implications for the treatment of trauma-related dissociative symptoms and prevention of trauma-related re-experiencing symptoms. Two other studies in this area involve borderline personality disorder and PTSD, one with veterans of the 1991 Gulf War and another with Vietnam combat veterans.

Work continues in the area of understanding phenomenology and neural circuitry of key facets of memory dysfunction and maladaptive mood reactivity in PTSD. A study of men with

combat-related PTSD indicated that veterans with PTSD had impairments across several domains of frontal lobe function: general attention, response inhibition, and working memory. In addition, performance clearly degraded in response to affective stress. These deficits appear to contribute to a number of dysfunctional symptoms and behaviors in individuals with chronic combat PTSD. Another study examines disturbances in autobiographical memory and dissociative states in soldiers undergoing extreme stress. A second examines alterations in autobiographical memory related to the 9/11 attacks. A final study examines electrical activity of the brain as one of several measures of an individual's ability to direct attention to and sustain it on designated targets.

Another area of importance is molecular neuroimaging. A major focus of the imaging program has been the development of ligands to identify specific synaptic receptors in the brain pertinent to PTSD. This year, progress has been made in SPECT ligand development for a glutamate receptor target. Planning is also under way for a study of 5-HT<sub>2A</sub> receptor binding in frontal cortex in PTSD and to relate such neuroimaging results to cognitive function in PTSD. Other neuroimaging initiatives have focused on the development of magnetic resonance spectroscopy (1H-MRS) as a tool for studying mood disorders and PTSD.

CND researchers have begun work on establishing a brain bank for PTSD, in collaboration with colleagues at the Uniformed Services University of Health Sciences. As part of a major programmatic initiative to examine molecular aspects of vulnerability in veterans to develop PTSD (and comorbid disorders such as substance abuse), an initial study failed to replicate a prior report of a relationship between PTSD and mutations of the dopamine transporter gene. Finally, as part of an extensive effort to genotype subjects with substance abuse disorders, the research team has collected detailed data regarding PTSD diagnoses in a sample of 1,300 individuals.

Sleep research is continuing, using the recently patented sensorless mattress actigraphy, which allows biological readings to be taken without attaching sensors to the subject's body. One study is examining the sleep patterns of identical twins with and without combat-related PTSD. Another examines the effect of exercise on sleep disturbance in the elderly, a treatment approach that could be transferable to people with PTSD-related sleep disturbance.

## Physical Health

PTSD can affect all aspects of a person's life: physical and mental health, as well as occupational and interpersonal functions. The Center is currently involved in several projects related to physical health. One study aims to identify the mechanisms that cause individuals with PTSD to perceive smoking as a positive and reinforcing activity. Another series of studies is examining the mortality status of almost 2,000 veterans that received residential PTSD treatment, to determine if PTSD patients are at higher risk for dying than non-psychiatric controls. There are also two MIRECC-funded nationwide studies underway examining mortality and causes of death in over 600,000 Vietnam-era VA patients with and without PTSD.

## Risk and Resilience

Understanding risk and resilience factors is another important area of study. This year, the Center worked on two studies with people who were involved in the aftermath of the 9/11 attacks. One project examines the effects of stress and coping on Casualty Assistance Officers who served at

the Pentagon Family Assistance Center; another assesses PTSD in clinicians who treated survivors of the World Trade Center attacks. Another study involves a program addressing risk and resilience among active-duty and recently discharged veterans who participate in hazardous military deployments. Finally, the Center is involved in a multi-year program of research with veterans of the 1991 Gulf War, aimed at developing a psychosocial risk and resilience inventory as a prototype instrument for use with personnel in future military deployments. The primary product of this project, the Deployment Risk and Resilience Inventory, is now complete.

## Assessment

The Center continues to be a leader in the development of assessment measures for trauma and PTSD. Several investigators are now validating short screening instruments to identify patients at risk for PTSD who present to their primary care physicians for medical concerns. Other assessment projects include validation studies of measures of trauma exposure, post-traumatic dissociation, and impulsive aggression.

Researchers have launched a study of Late Onset Stress Symptomatology (LOSS) in aging combat veterans. A series of pilot studies with older male and female veterans have been conducted, including a qualitative focus group approach to understanding the stressors of the normal aging process and how they may activate combat-related stress reactions in aging veterans – even those who have functioned successfully in the years since combat exposure. In addition, the LOSS construct has been used to develop a questionnaire, and data have been collected from samples of veterans of World War II, Korea, and Vietnam.

## Special Populations

In the early years of PTSD research, most investigation was focused generally on veterans of the Vietnam War and earlier conflicts. Since that time, the Center's focus has expanded to include extensive research into how PTSD manifests itself in distinct subgroups of the veteran population, as well as groups within the population at large.

**Women:** In addition to CSP #494 and the Millennium Project, there are several other projects focused specifically on women. The Women's Division continues to disseminate findings from a women veterans' health services research project focused on employees' gender awareness in VA health care. New funding was obtained to develop and validate a computerized, interactive educational module to enhance VA health care workers' awareness of women veterans' specific health care needs. It is expected that this educational intervention will be a positive step toward improving the care provided to women veterans in the VA. An evaluation of self-defense training as an intervention for traumatized veterans is also underway.

**Ethnic Minorities:** Investigators are studying whether race-related events can result in symptoms of PTSD, using a newly developed self-report instrument called the Impact of Race-Related Events (IRE). Two projects are using narrative data obtained from the IRE to augment the quantitative data obtained from another instrument, the Race-Related Stressor Scale. Two other projects are focused specifically on the Asian-American and Pacific Islander subgroups, one analyzing the data on subgroup differences and another that is assessing the Clinician-Administered

PTSD Scale (CAPS) for reported negative race-related events. This year, the Center produced the *Report on the Asian American Pacific Islander Vietnam Veterans Race Related Study*.

**Veterans of tomorrow:** Active-duty personnel are the subject of several interesting studies. Investigators continue to study the psychological consequences of peacekeeping and peace-enforcement missions for combat-trained US military personnel who served in Somalia, Bosnia, and Kosovo. Recent findings from a prospective study of a cohort of soldiers who deployed to Kosovo show that potentially traumatizing events related to peacekeeping duty were predictive of the severity of PTSD at redeployment.

A number of studies are examining the clinical history and neuroendocrine markers (such as NPY and the stress hormone cortisol) as predictors of stress-related cognitive dysfunction in soldiers undergoing special forces training. In a recently-completed study of active-duty military personnel enrolled in survival school training, subjects attempted to accurately identify a person they had encountered during an interrogation, under conditions of high stress compared to low stress. The ability to recognize people encountered during realistic, highly personal, threatening stress was poor in the majority of individuals.

**Adolescents and children:** Better understanding of the neurobiological sequelae of trauma in children may indicate why some veterans are more vulnerable to the development of PTSD than others. Among the projects currently underway with children and adolescents are:

- Clinical and neuroimaging studies on a group of traumatized children over time, hoping to identify disturbances in brain development related to traumatic stress exposure.
- A study dealing with modifiable risk factors, studying the relationship between substance abuse, cortisol responsivity, and trauma-related symptomatology in children who have experienced traumatic experiences such as multiple foster care and residential placements.
- A project utilizing twins that examines how exposure to violence interacts with genetic factors to affect children's cognitive development.
- An epidemiological needs assessment survey assessing trauma exposure and psychiatric symptoms in over 8,000 New York City public school children following the World Trade Center attacks.



## Research Funding

In FY 2002, Center researchers held grants and submitted proposals for 25 new grants (see Table 3 at the back of this document for details). These grants supplemented the Center budget as indicated below, bringing research funding for FY 2002 to \$ 13.1 million and total research funding to over \$ 59.1 million.

<b>National Center for PTSD Research Funding</b>				
	<i>FY 2002 Research Funding</i>	<i>Total Research Funding</i>	<i>Number of Grants</i>	<i>Number of Submitted Grants</i>
Executive Division	\$1,581,943	\$7,537,367	6	2
Behavioral Science Division	\$3,211,531	\$14,812,077	18	7
Clinical Neurosciences Division	\$6,058,482	\$29,553,699	45	7
Education Division	\$420,111	\$900,384	9	2
Pacific Islands Division	\$699,075	\$4,258,923	10	2
Women's Health Sciences Division	\$1,189,262	\$2,085,525	5	5
<b>Total*</b>	<b>\$13,160,404</b>	<b>\$59,147,975</b>	<b>91*</b>	<b>25</b>

\* Total does not match rows because some grants had Co-Principal Investigators from two different sites.

## EDUCATION

The educational activities of the National Center for PTSD are the mechanism through which the findings from empirical research, program evaluation, and best-practice development are put into practical application. Many educational activities are aimed at getting knowledge to the practitioners who deliver trauma-related services, including both mental health professionals and primary care providers. The communication channels established through educational activities also allow information from these practitioners to be directed back to the Center, ensuring that future research priorities are grounded in practical considerations.

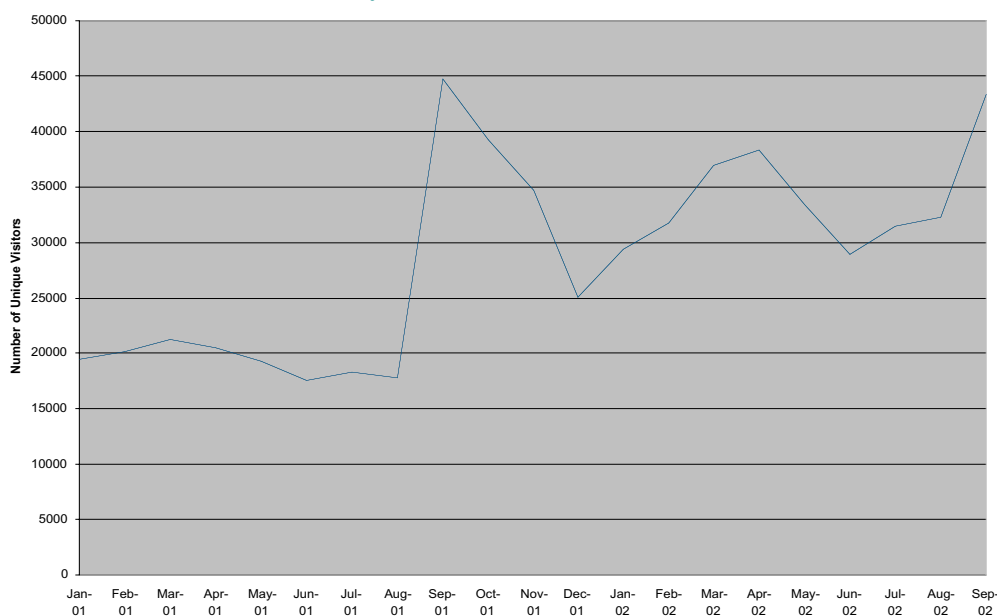
But many of the Center's educational programs are also designed to bring information about PTSD to a broader audience, going beyond both the scientific research community and health care professionals. For example, as part of an interagency agreement with CMHS, the Center produced several important products, including a literature review of state-of-the-art research on mental health crisis response protocols, a two-part review on mental health consequences to disaster, and a curriculum for model training approaches on mental health needs of disaster and crime victims.

The Center's publications – both paper and electronic – allow direct communication with veterans and their families, active-duty personnel, civilian victims of traumatic stress, government policy makers, journalists, academics, and the general public. All these resources proved to be of incalculable help to thousands of people, from the most experienced health-care professionals to average citizens, during the post-terrorist attack climate of FY 2002.

### Website

The year 2002 saw a dramatic increase in the usage of the Center's website, as thousands of professionals and laypersons sought information on PTSD in the aftermath of the 9/11 terrorist

Monthly Visitors to the Website



attacks. Website usage, which had been stable at about 100,000 page requests per month, tripled in the weeks following the attacks, remained at a high level for the balance of the year, and then spiked even higher around the anniversary of 9/11 in September, 2002. Over the fiscal year in total, a conservative estimate is that there were over 450,000 unique visitors to the website from over 150 countries.

The website currently contains more than 1,200 pages, 110 fact sheets, over 400 downloadable articles by Center staff, and a number of videos. During FY 2002 the layout and navigation of the website were updated to make it easier to access a range of information on a given topic. Plans for the coming year include adding more downloadable articles, expanding the assessment section significantly, and creating pages on Center staff that include background information, current interests, and a selection of publications.

## Training Sessions and Conferences

Center staff presented a total of 81 workshops, training sessions, and papers in a wide range of educational settings during FY 2002. Key topics included prevention, assessment, early intervention, acute stress reactions, cognitive behavioral treatment of PTSD and related conditions, disaster mental health, and the neurobiology of PTSD.

The Center continued to offer its popular Clinical Training Program, a 30-hour program offered nine times per year, which serves as a primary training opportunity for VA and Vet Center PTSD treatment providers. This year the program served 96 primarily VA-based mental health treatment providers.

Among the conferences organized by the Center this year was the Conference on Acute Stress Reactions, sponsored in conjunction with the Anxiety Disorders Association of America. This conference addressed key conceptual models and scientific findings related to the phenomenology, psychology, psychobiology, and evidence-based early interventions for adults and children acutely exposed to catastrophic events. Findings from the meeting will be published in a special issue of *Biological Psychiatry*.

Other important conferences in FY 2002 included the Consensus Conference on Best Practices for Early Intervention, which was described at length in the introductory section of this Annual Report. During the year the Center also organized its third national conference on PTSD in the primary care setting, with the broad goal of promoting integration of mental health and primary care medical services. Keynote speakers at that conference included VA Under Secretary for Health, Robert H. Roswell, M.D., and the U.S. Surgeon General, Richard H. Carmona, M.D.

The Evaluation Division conducts a nationwide conference call each month with clinicians from specialized PTSD programs. Every other month the conference call focuses on a presentation on a clinical topic of current interest. On the alternate months, the call focuses on evaluations, policy developments, and administrative matters. All calls also devote time to clinical concerns of field practitioners or programmatic issues addressed by the Division's comprehensive evaluation data.

## Distance Learning

In addition to conferences and meetings where professionals can meet face to face, the Center is committed to providing opportunities for distance learning, including satellite broadcasts, videos, and teleconference calls, so that people in more remote locations can take advantage of the Center's resources.

This year the Center continued its collaboration with the VA Employee Education System (EES) to produce satellite broadcasts for their series "Selected Topics in Post-Traumatic Stress Disorder," which provides VA practitioners with access to national experts and is seen at 220 VA facilities. Four broadcasts were produced this year: "Psychopharmacology of PTSD," "Readiness to Change in PTSD Treatment," "Trauma Exposure, PTSD, and Violence," and "PTSD: Assessment of Trauma Exposure and Responses."

The Center also continued to develop training materials on minority veterans. After the great success of the video series on PTSD in American Indian and Alaskan Native veterans, this year the Center produced a three-video series on PTSD in Asian-American and Pacific Islander veterans, which won a bronze TELLEY award in the Health and Medicine category. All these video series are posted on the website so that VA practitioners and others are able to access them.

## Education of Primary Care Health Care Providers

PTSD training for general medical practitioners is becoming increasingly important, as research continues to show that individuals with PTSD are at greater risk for medical illness and often report their symptoms to their primary care physicians first rather than seeking out mental health care. The Center continues to work on developing and validating short screening instruments that can be used in a primary care setting to identify individuals who should be referred to a mental health provider.

The Women's Health Division once again was closely involved with the now-yearly Boston Mini-Residency on Mental Health in Women's Primary Care, which was held in September 2002. This mini-residency provided in-depth, hands-on-training for a select group of VA primary care providers from across the country who have made a commitment to working with women veterans.

The manual and self-study program "Post-Traumatic Stress Disorder: Implications for Primary Care," written in collaboration with EES as part of the Veterans Health Initiative, was completed during FY 2002. This program is intended to teach VA primary care clinicians about the symptoms of PTSD, identification of patients with PTSD, treatment options and referrals, and preparing veterans with PTSD for stressful medical procedures.

## Research and Clinical Publications

The Center produces two regular publications, the *PTSD Research Quarterly* and the *National Center for PTSD Clinical Quarterly*.

The *Research Quarterly* is a guide to the scientific literature on traumatic stress and PTSD, and is aimed largely at researchers and scientists. Topics covered during FY 2002 included: early

intervention, traumatic bereavement, disaster mental health, and trauma in people with severe mental illness.

The *Clinical Quarterly* focuses on issues related to the assessment and treatment of PTSD and is intended primarily for practitioners. Articles this year covered a range of important topics, including caregiver burden, matching treatment resources to patient readiness, emergency outreach guidelines, how to work with women veterans, treating complex trauma cases, the mental health response to the Pentagon after 9/11, and virtual reality therapy for veterans with PTSD.

The PTSD Resource Center in White River Junction, VT, houses the largest single collection of traumatic stress literature in the world, containing over 1,600 books as well as reprints of journal articles, book chapters, and other publications. The PILOTS database, the Center's online index to published literature, has grown to 22,323 entries at year end, with hypertext links provided to the full text of over 2,000 documents. During the fiscal year, over 80,000 connections were made to the database by users from around the world.

## CONSULTATION

Over its 14-year history, the National Center for PTSD has come to be recognized as a key resource nationally and internationally on traumatic stress. The multidisciplinary capabilities of the staff mean that the Center has a unique ability to bring a wide variety of perspectives and skills to bear on problems and situations, and the Center's history of collaboration with a range of agencies and institutions has forged relationships with professionals around the country and around the world. As a result, staff are frequently consulted, both formally and informally, by many institutions and individuals, in arrangements that range from brief phone contacts to long-term collaborative projects.

### Major Initiatives

**PTSD Practice Guidelines:** Several years ago the Center provided leadership and substantial input to the PTSD practice guidelines produced by the International Society for Traumatic Stress Studies (ISTSS). The Center is also well-represented in two current PTSD practice guideline activities. The first is a joint initiative with the DoD to develop guidelines for primary care and mental health clinicians who treat active-duty military personnel as well as veterans. The second, under the aegis of the American Psychiatric Association, is developing guidelines for public and private sector psychiatrists.

**Disaster Mental Health:** The Center was called upon to provide expertise and assistance by many agencies involved in the aftermath of 9/11. Within the VA, the Center consulted extensively to VISN 3, which serves the New York area, assisting both mental health and primary care clinicians to provide services to veterans affected by the attacks. The Center provided consultation to the DoD on response and recovery for family members and victims of the attacks. Also at the Federal level, the Center's ongoing consultation to SAMHSA's Center for Mental Health Services focused in large part on the post-9/11 civilian psychological recovery, with a specific emphasis on New York City and State.

In New York, the Center was one of a select number of consultants that helped the State Office of Mental Health plan its response to the attacks. Center staff developed a referral tool to identify individuals with prolonged distress, and served on a planning board to help determine the best ways to provide services to these individuals. The Center also helped the New York City Fire Department design an evaluation survey to determine how firefighters are coping, along with a treatment manual for those firefighters experiencing continued difficulties.

### Consultation to the VA

The Center continues to provide consultative services to a number of key VA programs and committees. Dr. Friedman served on the Under Secretary for Health's Special Committee on PTSD along with Dr. Rosenheck, Mr. Gusman, and Dr. Orsillo. Drs. Friedman and Keane served on the Mental Health Strategic Health Group's Field Advisory and New Knowledge Committees as well as the NVVLS Steering Committee. Dr. Rosenheck served on the Under Secretary's Special Committee

on the Treatment of Seriously Mentally Ill Veterans. Together with Dr. Harold Kudler from the Durham VA Medical Center, Mr. Young and Dr. Ruzek continued a collaboration with Dr. Hodgson of VA Occupational Health to develop a systematic evidence-based approach to management of mental health consequences of workplace violence in VA staff survivors of assault. Finally, Dr. Knight served on the VA Headquarters Advisory Committee on Mental Health Instrumentation.

The Center also holds important positions within the MIRECCs around the country. Dr. Rosenheck is Co-Director of the Connecticut-Massachusetts MIRECC. Dr. Keane is a member of the VISN 16 MIRECC, and Drs. Ruzek and Walser continued their collaborations with the Sierra-Pacific MIRECC to enhance PTSD care in VISN 21. Dr. Friedman is an advisor to the national MIRECC program, and Dr. Schnurr is an advisor to the MIRECC evaluation group. Projects conducted for MIRECCs included the dissemination of an evidence-based treatment protocol for dual-diagnosis PTSD and substance abuse, the development of a website to prevent relapse in veterans receiving PTSD treatment, and delivery of PTSD and traumatic stress training to VISN 21 extended-care treatment providers.

The Women's Division has consulted to VA's Center for Women Veterans and VA's national network of Comprehensive Women's Health Centers, as well as to professional staff on VA's Women's Stress Disorders Treatment Teams.

The Behavioral Science Division continued to play an integral role in a PTSD Task Force convened for VISN 1 Mental Health Programs and in the New England PTSD Network, a regional organization that promotes communication and consultation across nonprofit, state, and federal PTSD treatment programs.

## Other Agencies

In addition to his many consultations through the VA, Dr. Rosenheck also served on the Expert Advisory Panel for the National Survey of Homeless Assistance Providers and Clients of the Federal Interagency Council on the Homeless, the Advisory Panel on Intelligent Mental Health and Substance Insurance Benefit Design of SAMHSA, and the Expert Panel for the National Symposium on Homelessness of the US Department of Health and Human Services.

Additional consultations with other government agencies during FY 2002 included the following:

- Staff from the Clinical Neurosciences Division are participating on a number of scientific advisory boards, including the NIMH Intramural Program, the Special Emphasis Group of NIMH, USUHS/VA Postmortem Brain Laboratory for Severe Neuropsychiatric Trauma, and the American College of Neuropsychopharmacology.
- Dr. Friedman has served on scientific advisory programs for the NIMH Intramural Program and as consultant to the NIMH Outreach Partners Program.
- Staff from the Behavioral Sciences Division participated in the New England PTSD Network, a regional organization that promotes communication and consultation across nonprofit, state, and federal PTSD treatment programs.

- The Behavioral Sciences Division staff consulted on best practices in dealing with trauma to the Federal Railroad Administration and to Walter Reed Army Medical Center.

## Professional Societies

Dr. Schnurr has recently been elected President of the ISTSS; she begins serving as President-elect in November 2002 and as President in November 2003. During FY 2002 Dr. Kaloupek served as treasurer and chair of the Finance Committee of the ISTSS, and Drs. Schnurr, Carlson, and Chemtob served as board members. Dr. Carlson served as the Program Chair for the 18<sup>th</sup> Annual Meeting of the ISTSS and on the Fundraising Committee. Other staff who served as chairs of special interest groups and other committees included Drs. Friedman, Keane, Ruzek, Lynda King, Daniel King, Leskin, Litz, and Watson.

Staff hold key positions in other professional societies as well. Dr. Rosenheck is Chairman of the American Psychiatric Association (APA) Committee on Health Services Research; Dr. Keane serves on the Bioterrorism Task Force of the American Psychological Association; and Dr. Friedman is a member of the APA's PTSD Practice Guidelines Working Group.

A number of Center professionals serve on important advisory boards. Drs. Friedman and Duman are members of the Scientific Advisory Board of the Anxiety Disorders Association of America. Staff from CND serve as members on a number of scientific advisory boards, including Intervention Research Center, Hillside Hospital, Biological Psychiatry, Medical Research Advisory Group, and the Cattell Foundation. Dr. Schnurr serves on the Scientific Advisory Committee for the European Conference on Traumatic Stress.

BSD Staff served on the program committee for the 2002 and 2003 annual meetings of the Society for Psychophysiological Research. Division staff also serve on the Program Committee for the American Psychological Association and the Association for the Advancement of Behavior Therapy, and Dr. Keane served on the Awards Committee for two years.

## International Agencies

As its range of experiences has widened and its expertise has grown, the Center has increasingly become recognized as a valuable resource to governments and agencies around the world in their efforts to deal with traumatic stress in both military and civilian settings. Among the Center staff who have been called upon for international consultations are the following:

- Drs. Keane and Friedman served on the United Nations/ISTSS Committee for the development of guidelines for governments managing natural disasters, the effects of war, and other forms of trauma exposure.
- Dr. Friedman is co-sponsor of a NATO-funded international conference on the impact of war and terrorism on children, to be held in Ljubljana, Slovenia, in May, 2003.
- Staff from the Behavioral Sciences Division continue to contribute to development of best practices for training to the Australian National Center for War-related PTSD.



**TABLE 1A**  
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**FISCAL YEAR 2002**

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**TABLE 1B**  
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17. Hofmann, S.G., **Litz, B.T.,** & Weathers, F.W. Social anxiety and posttraumatic stress disorder. *Journal of Anxiety Disorders*.
18. **Jankowski, M.K.** [Review of the book Posttraumatic stress intervention: Challenges, issues, and perspectives]. *Journal of Nervous and Mental Disease*.
19. **Kaufman, J.,** & Blumberg, H. Neurobiology of early onset mood disorders. In A. Martin, L. Scahill, J. Leckman, & D. Charney (Eds.), *Textbook of child and adolescent psychopharmacology*. New York: Oxford University Press.
20. **Keane, T.M.** A call to action: Summarizing the issues in responding to social and humanitarian crises. In Green, B.L., **Friedman, M.J.,** de Jong, J., Solomon, S., **Keane, T.,** Fairbank, J.A., Donelan, B., & Frey-Wouters, E. *Trauma Interventions in War and Peace: Prevention, Practice, and Policy*. Amsterdam: Kluwer Academic/Plenum.
21. **Keane, T.M., Kimble, M.O., Kaufman, M., & Kaloupek, D.G.** Diagnosis and assessment of posttraumatic stress disorder in adults. *Journal of Interpersonal Violence*.



22. **King, L.A., & King, D.W.** Male-perpetrated domestic violence: Testing a series of multifactorial family models. In B. Fisher (Ed.), *Violence against women and family violence*. Washington, DC: National Institute of Justice.
23. Kranzler, H.R., Hernandez-Avila, C.A., & **Gelernter, J.** Polymorphism of the 5-HT<sub>1B</sub> receptor gene (HTR1B): Strong within-locus linkage disequilibrium without association to antisocial substance dependence. *Neuropsychopharmacology*.
24. **Krystal, J.H., & D'Souza, D.C.** Ketamine has equal affinity for NMDA receptors and the high affinity state of the dopamine D2 receptor. *Biological Psychiatry*.
25. **Kubany, E.S., & Watson, S.B.** Guilt: Elaboration of a testable multidimensional model. *The Psychological Record*.
26. **Leskin, G.A., Morland, L.A., & Keane, T.M.** Integrated treatment of PTSD in primary care settings. In W. O'Donoghue, N. Cummings, M. Byrd, & D. Henderson (Eds.), *Behavioral integrative care: Treatments that work in the primary care setting*. New York: Allyn and Bacon.
27. **Leskin, G.A., Moreland, L., & Keane, T.M.** Integrating PTSD services: The behavioral health model. In K. Strohsahl (Ed.), *Integrative behavioral health services*.
28. **Litz, B.T., Bolton, E., & Gray, M.** Posttraumatic stress disorder following peacekeeping operations. In T. Britt & A. Adler (Eds.), *The psychology of the peacekeeper: Soldiers holding fire*. Westport, CN: Praeger.
29. **Loo, C.M., & Kiang, P.N.** Race-related stressors and psychological trauma: The contributions of Asian American veterans. In L. Zhan (Ed.), *Asian voices: Emerging needs of Asian Americans, 2<sup>nd</sup> Edition*. Sudbury, MA: Jones and Bartlett.
30. **Morgan III, C.A., Rasmusson, A.M., Wang, S., Hoyt, G., Hauger, R., & Hazlett, G.** Neuropeptide Y and subjective distress in humans exposed to acute stress: Replication and extension of previous report. *Biological Psychiatry*.
31. **Morgan III, C.A., Wang, S., Rasmusson, A., Hazlett, G., Anderson, G., & Charney, D.S.** Relationship among plasma cortisol, catecholamines, neuropeptide-y and human performance during exposure to uncontrollable stress. *Psychosomatic Medicine*.
32. Naugle, A., Resnick, H., **Gray, M., & Acierno, R.** Treatment for acute stress and PTSD following rape. In J. Petrak & B. Hedge (Eds.), *The trauma of sexual assault: Treatment, prevention, and policy*. London: John Wiley and Sons.
33. Newman, E., Sinclair, R., & **Kaloupek, D.G.** Empirically supported ethical research practice: The costs and benefits of research from the participant's view. *Accountability in Research*.
34. **Prigerson, H.G., Maciejewski, P.K., & Rosenheck, R.A.** War and society: Impact of combat exposure on the public health of U.S. males. *American Journal of Public Health*.
35. **Prigerson, H.G., Silverman, G.K., Jacobs, S.C., Maciejewski, P.K., Kasl, S., & Rosenheck, R.A.** Traumatic grief, disability and the underutilization of health services. *Primary Psychiatry*.
36. **Rasmusson, A.M., Shi, L., & Duman, R.S.** BDNF mRNA in the hippocampal dentate gyrus of male rats decreases after re-exposure to cues previously associated with footshock. *Neuropsychopharmacology*.
37. Read, J.P., Bollinger, A.R., & **Sharkansky, E.J.** Assessment of co-morbid alcoholism and posttraumatic stress disorder. In P.C. Ouimette & P.J. Brown (Eds.), *PTSD and substance use disorder comorbidity*. Washington, DC: American Psychological Association Press.
38. **Rosenheck, R.A., & Fontana, A.** African-American and Latino veterans in intensive VA treatment programs for posttraumatic stress disorder. *Medical Care*.
39. Russell, D., & **Duman, R.S.** Neurotrophic factors and intracellular signal transduction pathways. In D. Charney, C. Nemeroff, J. Coyle, & M. Davis (Eds.), *Psychopharmacology: The fourth generation*. New York: Raven Press.
40. **Ruzek, J.I., & Cordova, M.J.** The role of hospitals in delivering early intervention services following traumatic events. In R. Ørner & U. Schnyder (Eds.), *Reconstructing early intervention after trauma*. Oxford, England: Oxford University Press.
41. Tolbert, L.M., D'Sa, C., & **Duman, R.S.** Neuronal signal transduction and plasticity to psychotropic drugs. In S.J. Martin, T. Scahill, D. Charney, & J. Leckman, (Eds.), *Textbook of child and adolescent psychopharmacology*. New York: Oxford University Press.

**TABLE 2**  
**SCIENTIFIC PRESENTATIONS ON PTSD BY NATIONAL CENTER STAFF**  
**FISCAL YEAR 2002**

**INTERNATIONAL SOCIETY FOR TRAUMATIC STRESS STUDIES**  
**New Orleans, LA, December 2001**

Abramovitz, R.H., Panzer, P.G., van der Kolk, B.A., Bloom, S.L., & Chemtob, C.M. "Developing trauma competence in existing mental health systems."

Bachrach, P.S., King, D.W., King, L.A., Spiro, A., Salgado, D.M., Rooney, M.E., Evans, C.D., & Davison, E.H. "Characterizing LOSS in older veterans: Focus groups in aging research."

Baker, C.L., Leskin, G.A., & Lauterbach, D. "PTSD and comorbid antisocial personality disorder: Trauma history and symptom profiles."

Batten, S.V., Palm, K.M., Hall, M.L.R., & Follette, V.M. "Can a written disclosure paradigm be extended to survivors of CSA?"

Bernardy, N.C., Jalowiec, J.E., Friedman, M.J., Schnurr, P.P., McDonagh-Coyle, A.S., & McHugo, G.J. "The influence of smoking on psychophysiological assessment of PTSD subjects."

Carlson, E.B., Ruzek, J., Burling, T., & Sullivan, B. "Traumatic stressor exposure and posttraumatic symptoms in homeless veterans."

Chemtob, C.M. "Mental health responses to the September 11 terrorist attacks: New York City."

Chemtob, C.M., Cohen, J.A., Mannarino, A.P., & DeMartino, R. "A public health approach to assessment and treatment of children exposed to terror."

Cook, J.M., Ruzek, J., Sheikh, J.I., Cassidy, E.L., & Ram, G.D. "The prevalence of traumatic exposure and post-traumatic stress in older nursing home veterans."

Dorian, E.H., Sherker, J.L., Foy, D.W., Ruzek, J.I., Drescher, K.D., & Huss, M.T. "Firearm collection and use among PTSD combat veterans."

Drescher, K.D., Loew, D., & Young, H.E. "Spirituality and PTSD: Making sense of trauma."

Evans, C.D., Salgado, D.M., Rooney, M.E., King, D.W., King, L.A., Kaloupek, D.G., & Keane, T.M. "Predicting physical and psychological health among Vietnam-era repatriated prisoners of war: Demographics and captivity stressors."

Evans, C.D., Vogt, D.S., Stone, E.R., Keehn, M.G., Knight, J.A., King, L.A., King, D.W., & Foy, D.W. "Multiple dimensions of stress in two cohorts of Gulf War personnel."

Fisher, L.M., Smith, A.A., Niles, B., & Quinn, S. "Fluctuating psychopathology in the course of group treatment for PTSD."

Flack, W.F., Jr., Litz, B.T., Beaudreau, S.A., & Laird, J.D. "Manipulated and deliberate expressions and emotional feelings in PTSD."

Forti, A., Kaufman, M., & Kimble, M. "The 28-item childhood trauma questionnaire: Psychometric properties in a sample of Vietnam veterans with combat-related PTSD."

Friedman, M.J. "Community based treatment of complex PTSD: Reports from the Victims of Violence Program."

Friedman, M.J. "Neurohormonal findings during treatment of women with PTSD due to CSA."

Friedman, M.J. "Predictors of outcome in trauma focused vs. present centered group therapy."

Friedman, M.J., McDonagh-Coyle, A.S., Jalowiec, J.E., Wang, S., Fournier, D.A., & McHugo, G.J. "Neurohormonal findings during treatment of women with PTSD due to CSA."

Gray, M.J., Wang, J.L., Litz, B.T., & Lombardo, T.W. "An examination of the psychometric properties of the life events checklist."

Jenkins, R., & Rosen, C. "Cross-cultural issues in rehabilitation of combat-related PTSD."

Keehn, M.K., King, D.W., King, L.A., Foy, D.W., & Resnick, H.S. "Domestic violence: A developmental and intergenerational perspective."

Keehn, M.K., Stone, E.R., Vogt, D.S., Evans, C.D., King, D.W., King, L.A., Knight, J.A., & Foy, D.W. "Unique stressors for women in the Gulf War."

Kimble, M.O., Kaufman, M., Forti, A., & Kaloupek, D.G. "Emotional priming effects on ERP measures of attention in veterans."

Knight, J.A., Vogt, D.S., Stone, E.R., Keehn, M.G., Evans, C.D., King, D.W., King, L.A., & Foy, D.W. "Pre- and post-deployment stressor patterns in Persian Gulf War veterans."

Kutter, C.J., Krinsley, K.E., & Kaloupek, D.G. "Subjective responses to child and adult trauma as predictors of PTSD and co-occurring diagnoses."

Kutter, C.J., Prestel, R.S., Kaloupek, D.G., Kimble, M.O., Woodward, S.H., Stewart, L.P., Stegman, W.K., & Arsenaault, N.J. "Memory complaints and performance deficits in individuals with PTSD."

Lauterbach, D., Leskin, G.A., & Baker, C.L. "An examination of the relationship between PTSD and antisocial personality disorder."

- Leskin, G.A., Huleatt, W., Ruzek, J., & Gusman, F.D.** "September 11 Pentagon disaster: Results from the CAO study."
- Leskin, G.A., & Westrup, D.A.** "Control and stalking: Predicting PTSD in domestic violence."
- Lindley, S.E., & Carlson, E.B.** "Basal and post-dexamethasone salivary cortisol concentrations in medication-free outpatients with PTSD."
- Lipschitz, D.S., Rasmusson, A.M., Billingslea, E., Anyan, W., & Southwick, S.M.** "PTSD and nicotine, marijuana and alcohol use in inner-city adolescent girls."
- Litz, B.T., & Adler, A.** "The effects of psychological debriefing on soldiers deployed on a peacekeeping mission."
- Litz, B.T., & Miller, M.W.** "Recent studies of emotional behavior in PTSD."
- Loo, C. M.** "Assessment of race-related PTSD among ethnic minority Vietnam veterans."
- Loris, M., & Lipschitz, D.S.** "Structural analysis of adolescent trauma narratives."
- McDonagh-Coyle, A.S., Friedman, M.J., McHugo, G.J., Ford, J.D., Mueser, K.T., Descamps, M., Demment, C.C., & Fournier, D.A.** "Psychometric outcomes of a randomized clinical trial of psychotherapies for PTSD-CSA."
- McHugo, G.J., Kelsey, R., & Jalowiec, J.E.** "Psychophysiology of PTSD-CSA before and after treatment."
- Miller, M.W.** "Personality and PTSD."
- Miller, M.W., Litz, B.T., Greif, J.L., & Wang, J.L.** "Startle reflex modification during picture processing in PTSD."
- Miller, M.W., Smith, A.A., Greif, J.L., & Patrick, C.J.** "MPQ profiles of veterans with PTSD: Internalizing and externalizing subtypes."
- Munroe, J.F., Fisher, L.M., & Chrestman, K.R.** "Is standard trauma training transferable to underserved populations?"
- Niles, B.L., & Smith, A.A.** "The course of combat-related PTSD in veterans 30 years after Vietnam."
- Pierce, K., & Morland, L.A.** "PTSD and psychoeducation treatment using telemedicine in the Pacific Islands."
- Pierce, K.S., Morland, L.A., & Wong, M.Y.** "Tele-health and PTSD psycho-education, a feasibility study."
- Prestel, R.S., Kutter, C.J., Kaloupek, D.G., Kimble, M.O., Woodward, S.H., Stewart, L.P., Stegman, W.K., & Arsenault, N.J.** "Trauma exposure, PTSD, and cognitive performance under stress."
- Prigerson, H.G.** "Traumatic grief: Rates, risks and outcomes."
- Rasmusson, A.M., Schultz, R., Arnsten, A., Charney, D.S., & Southwick, S.M.** "Decreased performance on neuropsychological tasks reliant on frontal cortical function in medication-free male veterans with chronic combat-related PTSD."
- Rasmusson, A.M., Zimolo, Z., Vasek, J., Lipschitz, D.S., Mustone, M.E., Gudmundsen, G., Southwick, S.M., Wolfe, J., & Charney, D.S.** "Increased adrenal DHEA release in premenopausal women with PTSD."
- Rooney, M.E., Bachrach, P.S., King, D.W., King, L.A., Davison, E.H., Evans, C.D., & Spiro, A.** "Discovering LOSS: Late onset stress symptomatology in aging combat veterans."
- Rosen, C.S., Murphy, R.T., Chow, H.C., Drescher, K.D., & Gusman, F.D.** "Veterans' readiness to change anger and alcohol problems associated with PTSD."
- Salgado, D.M., Rooney, M.E., Bachrach, P.S., Evans, C.D., King, D.W., King, L.A., Kaloupek, D.G., & Keane, T.M.** "A portrait of Vietnam-era prisoners of war: Descriptives and contrasts."
- Saxe, G., Stoddard, F., Lopez, C., Cunningham, K., Chawla, N., Sheridan, R., King, D., King, L., & Yehuda, R.** "PTSD in children with burns: A longitudinal study."
- Schnurr, P.P.** "Efficacy of two models of group therapy for treating PTSD in male veterans."
- Schnurr, P.P.** "Outcome of a randomized clinical trial of group therapy for PTSD."
- Schnurr, P.P.** "Personality and PTSD."
- Schorr, Y., Roemer, L., Bolton, E., Han, H., Adler, A., & Litz, B.T.** "Predeployment predictors of post-mission health in Bosnia peacekeepers."
- Sharkansky, E.J., Bruce, T.A., & Wolfe, J.** "Gender differences in the effects of unit and leadership cohesion."
- Smith, A.A., Greif, J.L., & Miller, M.W.** "Internalizing and externalizing behavior: Associated psychosocial and stressor characteristics."
- Smith, A.A., Niles, B.L., King, D.W., & King, L.A.** "Psychometric properties of the Boston Life Satisfaction Inventory."
- Stegman, W.K., Stewart, L.P., Kutter, C.J., Teresi, K., Prestel, R.S., Arsenault, N.J., Kaloupek, D.G., Kimble, M.O., & Woodward, S.H.** "Do the novelty P3 and P3b index declarative memory function in combat-related PTSD?"
- Stewart, L.P., Stegman, W.K., Kutter, C.J., Prestel, R.S., Arsenault, N.J., Kaloupek, D.G., & Woodward, S.H.** "Declarative memory function in combat-related PTSD: A replication."
- Wang, J.L., Han, H., Litz, B.T., & Adler, A.** "Stressors associated with peacekeeping in Bosnia."
- Watson, P.J., Chair.** "Early intervention to prevent development of PTSD."
- Whealin, J. M., Morgan, C.A., Batzer, W., Schnurr, P., & Friedman, M.J.** "The impact of prior trauma exposure upon military deployment cohesion and morale. New Research with Military Populations."

Woodward, S.H., Kimble, M.O., Kaloupek, D.G., Kutter, C.J., Teresi, K., Stegman, W.K., & Stewart, L.P. "Novelty P3 in PTSD revisited: Covariance with subjective depression."

Woodward, S.H., Leskin, G.A., & Sheikh, J.I. "Sleep movement time in PTSD: Associations with comorbid panic and nightmares."

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## ASSOCIATION FOR THE ADVANCEMENT OF BEHAVIOR THERAPY Philadelphia, PA, November 2001

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Batten, S.V., Follette, V.M., Plumb, J.C., Bruce, T., & Orsillo, S.M. "Quantitative and qualitative analysis of trauma-focused narratives by child sexual abuse survivors."

Batten, S.V., Orsillo, S.M., Hammond, C.B., & Plumb, J.C. "The impact of PTSD on emotional responding."

Batten, S.V., & Polusny, M.A. "In the wake of terror: Science-based guidelines for mental health professionals."

Bolton, E.E., Gray, M.J., & Litz, B.T. "A cross-lagged analysis of the relationship between symptoms of PTSD and retrospective reports of exposure."

Buckley, T.C., Rabois, D., & Greif, J. "Health behaviors, PTSD, and basal cardiovascular activity."

Gray, M.J., Bolton, E.E., Litz, B.T., & Hoff, R. "A longitudinal analysis of PTSD symptom course: Factors associated with delayed onset PTSD in peacekeepers."

Greif, J., Forti, A., Rabois, D., & Buckley, T.C. "Health risk behaviors, quality of life, longevity, and PTSD."

Greif, J., Forti, A., Rabois, D., & Buckley, T.C. "The relationship between PTSD, indicators of anger and hostility, and blood pressure."

Han, H., Wang, J.L., Litz, B.T., & Adler, A. "Predictors of physical health outcomes in U.S. military peacekeepers: A mediational model."

Levitt, J.T., Brown, T.A., & Orsillo, S.M. "The effects of acceptance versus suppression of emotion on subjective and psychophysiological response to carbon dioxide challenge in patients with panic disorder."

Luterek, J.A., Orsillo, S.M., & Plumb, J.C. "A preliminary study of the psychometric properties of the emotional numbing scale-revised."

Rabois, D., Bachrach, P.S., Salgado, D.M., Vogt, D.S., Keehn, M.K., King, L.A., & King, D.W. "Positive life adjustment of female and male Vietnam veterans: Testing an integrated model."

Roemer, L., & Orsillo, S.M. "Acceptance and mindfulness-based behavioral treatment for generalized anxiety disorder."

Roemer, L., & Orsillo, S.M. "Emotional avoidance in GAD."

Stafford, J., Resnick, H.S., Kilpatrick, D.G., Saunders, B., & Best, C.L. "Risk factors for revictimization among rape victims."

Street, A.E., Gibson, L.E., Rabois, D., & Bruce, T.A. "Guilt, coping and PTSD symptomatology in a sample of battered women."

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## AMERICAN PSYCHIATRIC ASSOCIATION Philadelphia, PA, May 2002

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Axelrod, S.R., Grilo, C.M., Sanislow, C.A., Lipschitz, D.S., McGlashan, T.H., & Southwick, S.M. "Exploring the phenomenological interface of borderline personality disorder and PTSD."

Becker, D.F., & McGlashan, T.H. "Diagnostic efficiency of BPD and antisocial personality disorder (APD) criteria in monolingual Hispanic men."

Donegan, N., & McGlashan, T.H. "Neural substrates of affective dysregulation in BPD."

Friedman, M.J. "Government response to terrorism."

Friedman, M.J. "New directions in mental health response to disaster and large-scale crises."

Grilo, C.M., & McGlashan, T.H. "Construct validity of BPD."

Kaufman, J., Lipschitz, D.S., Axelrod, S.R., & Southwick, S.M. "Borderline symptoms in maltreated children."

McGlashan, T.H. "Two-year diagnostic stability of four DSM-IV personality disorders: Schizotypal personality disorder, BPD, avoidant personality disorder, and OCD."

Sanislow, C.A., & McGlashan, T.H. "The BPD Status Change Scale: An interview to assess change and functioning."

Sanislow, C.A., & McGlashan, T.H. "Using factor analysis to test dimensional stability of personality disorder constructs."

Shea, M.T., & McGlashan, T.H. "Personality disorders and Axis I disorders: Longitudinal associations of course."

Skodol, A.E., & McGlashan, T.H. "Course of functional impairment in personality disorders over two years."

Southwick, S.M. "The relationship between trauma, borderline personality disorder and PTSD."

## AMERICAN PSYCHOLOGICAL ASSOCIATION Chicago, IL, August 2002

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**Hamblen, J.L.** "Modified individual PTSD treatment for people with severe mental illness."

Lagana, L., **Whealin, J.**, Carpio, F., Koopman, C., Classen, C., & Spiegel, D. "Psychological morbidity among breast cancer survivors: A longitudinal study."

**Schnurr, P.P.** "PTSD as a mediator of the relationship between traumatic exposure and physical health."

**Schnurr, P.P.** "Treating posttraumatic disorders in special populations."

### OTHER

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Baldwin, R.M., **Zoghbi, S.S.**, Staley, J.K., **Al-Tikriti, M.S.**, **Innis, R.B.**, & **Tamagan, G.** "Chemical composition of [123I]5-IA in baboon brain after intravenous administration." Annual Meeting of the Society for Nuclear Medicine, Los Angeles, CA, June 2002.

**Batten, S.V.** "Emotional avoidance, expression and acceptance: The case of trauma." Annual Meeting of the Eastern Psychological Association, Boston, MA, March 2002.

Bell, M.B., Cuthbert, C.B., **Krystal, J.**, Malison, R., Offord, D., Reiss, D., Shea, T., Widiger, T., & Wisner, K. "A research agenda for addressing crucial gaps in the DSM: Personality disorders and relational disorders." American Psychiatric Association DSM-V Preplanning Work Group, Washington, DC, December 2001.

**Bracha, H.S.**, **Gusman, F.**, Karson, C., Lloyd-Jones, J., Weiser, J., & Yui, K. "PTSD and 'Stress Rings': A laboratory method for estimating the failure of vagal recovery experienced pre-morbidly during extreme sympathetic activations in PTSD." American College of Neuropsychopharmacology (ACNP) Annual Meeting, Waikoloa, HI, December, 2001.

**Bracha, H.S.**, **Lopez, H.H.**, **Cummings, T.**, **Matsukawa, J.**, **Ralston, T.R.**, **Nelson, G.**, & Chang, K.B. "PTSD and 'Stress Rings'." John A. Burns School of Medicine, Department of Psychiatry, Honolulu, Hawaii, January, 2002.

**Chemtob, C.M.** "Disaster recovery in a national emergency: Challenges and tasks." Jewish Board of Family and Child Services Conference, New York, NY, October 2001.

**Chemtob, C.M.** "Children, mothers, and PTSD." Domestic Violence: Putting the Child in Focus, United Jewish Appeal-Federation of N.Y., New York, NY, April 2002.

**Chemtob, C.M.** "Posttraumatic stress disorder for adolescent primary care physicians." Conference on Adolescent Medicine, Health and Hospitals Corporation of New York City, New York, NY, May 2002.

**Chemtob, C.M.** "A public health approach to disaster recovery and preparedness." Health Promotion Conference, New York Academy of Medicine and New York City Department of Public Health, New York, NY, May 2002.

**Southwick, S. M.**, & **Axelrod, S. R.** "Exploring the phenomenological interface of borderline personality disorder and PTSD, and implications for DESNOS."

**Whealin, J. M.**, Batzer, W., Detwiler, H. F., **Friedman, M. J.**, **Schnurr, P.**, Yamamoto, N., & Yim, S. "Does history of trauma impact cohesion in deploying medical personnel?"

**Whealin, J. M.**, & Jackson, J. L. "Childhood unwanted sexual attention and women's self-concept."

**Chemtob, C.M.** "Effective child trauma treatment: Integrating public health and clinical approaches." First Bi-National Child Trauma Treatment Conference, Jerusalem, Israel, June, 2002.

**Chemtob, C.M.** "Culture, trauma, and public health." Critical Incident Stress Society of Australia and Australian National Center for PTSD, Melbourne, Australia, August 2002.

**Chemtob, C.M.** "Early intervention: Models and opportunities." Critical Incident Stress Society of Australia and Australian National Center for PTSD, Melbourne, Australia, August 2002.

**Duman, R.S.** "Symposium on neurogenesis." American Association for the Advancement of Science Meeting, Boston, MA, February 2002.

**Duman, R.S.** "Neurotrophic hypothesis of depression." Annual Roche Meeting, Palo Alto, CA, March 2002.

**Friedman, M.J.** "Monitoring biological outcomes in psychosocial treatment research." Annual Meeting of the Association for Clinical Psychosocial Research, Portland, ME, October 2001.

**Friedman, M.J.** "Towards a psychological model for resilience and vulnerability in PTSD." Burghselzhi Psychiatric Institute, Zurich, Switzerland, June 2002.

**Friedman, M.J.**, Beebe, K.L., Duff, D., & Truman, M. "Paroxetine for sleep disturbance in posttraumatic stress disorder." European College of Neuropsychopharmacology, Montreal, Canada, June 2002.

**Friedman, M.J.**, **Schnurr, P.P.**, **Ruzek, J.**, **Watson, P.W.**, Raphael, B., & Wessley, S. "Current best practice for early intervention following mass violence." Consensus Workshop on Mass Violence & Early Intervention, Warrenton, VA, October 2001.

Goddard, A.W., Mason, G., Appel, M., Rothman, D.L., **Gueorguieva**[spelled OK?], **R.**, **Behar, K.L.**, & **Krystal, J.H.** "Reduced cortical GABA neuronal response to benzodiazepine administration in panic disorder." 40th Annual Meeting of the American College of Neuropsychopharmacology, Kona, HI, December 2001.

Hayes, S.C., Wilson, K.G., Gifford, E.V., Bissett, R., **Batten, S.V.**, Piasecki, M., Byrd, M., & Gregg, J. "The use of acceptance and commitment therapy and 12-step facilitation in the treatment of polysubstance abusing heroin addicts on methadone maintenance: A randomized controlled trial." Annual Meeting of the Association for Behavior Analysis, Toronto, ON, May 2002.

**Johnson, M.K.** "What have we learned from neuroimaging: fMRI studies of component processes of working memory." Symposium on Neuroimaging, Annual Meeting of the Memory Disorders Research Society, Boston, MA, October 2001.

**Koenen, K.C.**, Lyons, M.J., Toomey, R., Goldberg, J., Eisen, S.A., True, W., & Tuang, M. "Conduct disorder as a risk factor for trauma exposure and posttraumatic stress disorder." 32<sup>nd</sup> Annual Meeting of the Behavioral Genetics Association, Keystone, CO, July 2002.

**Krystal, J.H.** "Glutamate, glutamate receptors, and cognitive function: Lessons from microdialysis and psychopharmacologic studies." 40th Annual Meeting of the American College of Neuropsychopharmacology, Kona, HI, December 2001.

**Krystal, J.H.**, Chair. "New directions in electrophysiologic research." Annual Meeting of the Society of Biological Psychiatry, Philadelphia, PA, May 2002.

**Krystal, J.H.**, Chair. "Opportunities and challenges in human post-mortem research on the impact of stress and PTSD." Post-Mortem Brain Bank Conference, Philadelphia, PA, May 2002.

**Krystal, J.H.** "The pharmacotherapy of acute stress disorder." Anxiety Disorders Association of America, Conference on Acute Stress Reactions, Panel on Acute Stress Disorder, Chantilly, VA, June 2002.

Lagana, L., **Whealin, J.**, Carpio, F., Koopman, C., Classen, C., & Spiegel, D. "A longitudinal study on the sexual difficulties experienced by breast cancer survivors." Western Psychological Society Meeting, Fresno, CA, May 2002.

**Leskin, G.A.** "Trauma, PTSD, and terrorism: Reflections from the September 11<sup>th</sup> attack on the Pentagon." Invited Dinner at Eastern Michigan University, Ypsilanti, MI, September 2002.

**Lindley, S.** "Psychopharmacological treatment of PTSD." VA Employee Education System (EES) Series on Treatment of PTSD, Palo Alto, CA, January 2002.

**Loo, C. M.** "Race-related terrorism and PTSD." National Medical Association Annual Convention and Scientific Assembly, Honolulu, HI, August 2002.

**Loo, C. M.** "Racism and terrorism." Post Convention of the National Medical Association, Maui, HI, August 2002.

Michalkiewicz, M., Peeters, T., Adams, E., Lappalainen, J., **Rasmusson, A.**, & **Morgan, C.A.** "From genotype to phenotype: Polymorphisms in genes encoding neuropeptides." 23rd Annual Winter Neuropeptide Conference, Breckenridge, CO, February, 2002.

**Miller, M.W.**, **Kimble, M.O.**, **Litz, B.T.**, Greif, J.L., Wang, J.L., & Forti, A.M. "Startle reflex, ERP responses, and image content during affective picture processing in PTSD." Annual Meeting of the Society for Psychophysiological Research, Montreal, Canada, October 2001.

**Morgan, C.A.** "Assessment and diagnosis of PTSD." European Regional Medical Command U.S. Army Behavioral Science Conference, Bad Kissingen, Germany, March 2002.

**Morgan, C.A.** "Neurobiology of PTSD." European Regional Medical Command U.S. Army Behavioral Science Conference, Bad Kissingen, Germany, March 2002.

**Morgan, C.A.** "Psychological and pharmacologic treatment of PTSD." European Regional Medical Command U.S. Army Behavioral Science Conference, Bad Kissingen, Germany, March 2002.

**Morgan, C.A.** "Trauma history, dissociation and operational performance." Joint Personnel Recovery Association Annual Meeting, San Diego, CA, May 2002.

**Morgan, C.A.** "Eye witness identification: How good is it? New directions in stress research." Connecticut Public Defenders Annual Training Meeting, Meriden, CT, June 2002.

**Morgan, C.A.** "Terrorism and PTSD: Towards a pharmacotherapy of prevention." Ohio State Psychiatric Society, Cincinnati, OH, September 2002.

**Morland, L.A.**, & Fratarelli, L. "Trauma, PTSD and female health in obstetrics and gynecology." University of Hawaii School of Medicine, Department of Obstetrics & Gynecology, Manoa, HI, May 2002.

**Morland, L.A.**, & **Tokumine, L.** "Methods for assessing and screening trauma and PTSD in[OK?] pregnancy." Waianae Coast Comprehensive Health Care Workshop, Waianae, HI, March 2002.

**Orsillo, S.M.**, Roemer, L., **Block, J.**, & Tull, M.T. "Acceptance, mindfulness, and cognitive-behavioral therapy: Comparisons, contrasts and applications to anxiety." The Nevada Conference on the New Behavior Therapies, Reno, NV, July 2002.

**Pierce, K.S.** "Use of traditional native Hawaiian healing practices with trauma survivors: A pilot study." The Future of CAM Research and Education in Hawaii: A Planning Meeting, John A. Burns Medical School Conference, University of Hawaii, Honolulu, HI, June 2002.

**Prigerson, H.G.** "Complicated grief as a distinct disorder from PTSD." Annual Meeting of the Association for Death Education and Counseling, Portland, OR, April 2002.

**Raboiss Holohan, D.**, **King, L.A.**, & **King, D.W.** "Positive life adjustment of Vietnam veterans." Annual Meeting of the Eastern Psychological Association, Boston, MA, March 2002.

**Rasmusson, A.M.,** Gottschalk, C., **Krystal, J.,** Charney, D.S., & Guidotti, A. "Decreased cerebrospinal fluid 5α-dihydroprogesterone levels in women with PTSD correlate negatively with anger, anxiety, depression, and fatigue." American Academy of Neuropsychopharmacology Annual Meeting, Honolulu, HI, December, 2001.

**Southwick, S.M.** "The neurobiological and pharmacological treatment of PTSD." Harborwide PTSD Conference, VA Medical Center, Brooklyn, NY, June 2002.

**Southwick, S.M.** "Psychopharmacology treatment in PTSD." Anxiety Disorder Association of American Consensus Conference on Acute Posttraumatic Reaction, Brooklyn, NY, June 2002.

**Staley, J. K.,** Malison, R.T., Jacobsen, L., & Mash, D.C. "Monoaminergic dysfunction in cocaine addicts." Fourth Scientific Meeting of the German Society for Addiction Research and Therapy, Berlin, Germany, April 2002.

**Staley, J.K.,** Mason, G., Gottschalk, C., Petrakis, I., Zoghbi, S., Verhoeff, N.P., Seibyl, J.P., Van Dyck, C., Innis, R.B., **Baldwin, R.M., & Krystal, J.H.** "GABAergic dysfunction in recovering alcoholics." Fourth Scientific Meeting of the German Society for Addiction Research and Therapy, Berlin, Germany, April 2002.

**Staley, J.K.,** Mason, G., Petrakis, I., Zoghbi, S., Verhoeff, P., Seibyl, J., Innis, R.B., & **Krystal, J.H.** "Assessment of cortical GABA function in acutely (< 7 days) detoxified alcoholics." Annual Meeting of the Society for Nuclear Medicine, Los Angeles, CA, June 2002.

**Staley, J.K.,** Petrakis, I., Gottschalk, P.C., Zoghbi, S., Verhoeff, N.P., Seibyl, J.P., VanDyck, C., Innis, R.B., **Baldwin, R.M., & Krystal, J.H.** "Assessment of cortical benzodiazepine GABA-A receptors in recovering alcoholics over the first month of sobriety." Research for Society on Alcoholism Meeting, San Francisco, CA, July 2002.

**Vogt, D.S., Keehn, M.K., King, L.A., & King, D.W.** "Toward gender-aware VA healthcare: Existing strengths and areas for improvement." Women in Military Service for America conference, Arlington, VA, February 2002.

**Walsler, R.D.** "Emerging issues: PTSD in veterans with dementia." Updates on Dementia: Translating Research into Practice, Fourth Annual Conference, Palo Alto, CA, March 2002.

**Woodward, S.H., Kimble, M.O., Kaloupek, D.G.,** Kaufman, M., & Forti, A. "Novelty P3 is highly sensitive to depression in PTSD." Annual Meeting of the Society for Psychophysiological Research, Montreal, Canada, October 2001.

**TABLE 3**  
**NATIONAL CENTER FOR PTSD RESEARCH FUNDING**  
**FISCAL YEAR 2002**

**PROJECTS APPROVED AND FUNDED**

**VA Cooperative Studies**

<b>Principal Investigators</b>	<b>Title of Project</b>	<b>Years</b>	<b>FY 02 Funding</b>	<b>Total Award</b>
Schnurr Friedman	CSP#494: A Randomized Clinical Trial of Cognitive-Behavioral Therapy for Women	2000 – 2004	\$790,611	\$5,014,368

**VA Merit Review**

<b>Principal Investigators</b>	<b>Title of Project</b>	<b>Years</b>	<b>FY 02 Funding</b>	<b>Total Award</b>
Bracha	Clinical Research Bio-Markers for Estimating Early Stress	2000 – 2003	\$74,700	\$447,000
Kimble	Electrophysiological Markers of Vulnerability in PTSD	1999 – 2002	\$103,700	\$303,700
Krystal	NMDA Dysregulation in Alcoholism	2001 – 2005	\$139,600	\$409,400
Niles	Longitudinal Evaluation of Chronic Combat-Related PTSD	2000 – 2002	\$49,300	\$145,600
Rasmusson	HPA Reactivity in Men and Women with Chronic PTSD	2001 – 2004	\$101,400	\$309,700
Southwick	Guanfacine for the Treatment of PTSD	1999 – 2002	\$97,000	\$321,300

**Other VA Sources**

<b>Principal Investigators</b>	<b>Title of Project</b>	<b>Funding Source</b>	<b>Years</b>	<b>FY 02 Funding</b>	<b>Total Award</b>
Bracha	Comparison of a Selective Serotonin Reuptake Inhibitor, an Alpha2-Agonist and Placebo in the Treatment of Patients with PTSD	MIRECC	1996 – 2001	\$39,375	\$156,923
Dever	Outreach, Residential Treatment and Psychotherapy for Homeless Female Veterans	VA	2000 – 2003	\$205,336	\$616,008
Gelernter	Genetic Studies of Dual Diagnosis Populations	MIRECC	1997 – On-going	\$75,000	\$370,227
Innis	Neuronal Mechanisms and Treatment Response in Depression	REAP	1999 – 2004	\$199,500	\$1,600,000
Krystal	West Haven VA Medical Center Alcoholism Research Center	Research Center	1999 – 2003	\$290,700	\$1,400,000



Litz	Mental Health Outcomes Associated with the Peacekeeping Duty for U.S. Military Personnel	MAVERIC	1999 – 2002	\$100,000	\$453,423
Morland	Telehealth and PTSD Psychoeducation Classes: A Feasibility Study	VISN 21 YIA	2001 – 2002	\$25,000	\$25,000
Rosen	Feasibility of Telephone Case Monitoring for Veterans with PTSD	HSR&D Local Initiative Grant	2002 – 2002	\$10,000	\$10,000
Street	Military Sexual Trauma Among the Reserve Components of the Armed Forces	VA	2001 – 2003	\$885,926	\$1,196,072

## National Institute of Mental Health

Principal Investigators	Title of Project	Years	FY 02 Funding	Total Award
Chemtob	Collaborative Field Research Organization	2002 – 2007	\$500,000	\$3,200,000
Duman	Antidepressants: Signal Transduction and Gene Expression	2000 – 2005	\$200,000	\$1,400,000
Duman	Neurobiological Basis of Major Psychiatric Disorders (Stress Only)	1997 – 2002	\$555,719	\$2,299,070
Gelernter	Neurobiology and Genetics of Panic, TS, and OCD	1996 – 2002	\$99,000	\$475,943
Keane	Postdoctoral Research Training in Posttraumatic Stress Disorder	1996 – 2006	\$164,729	\$1,543,485
Keane	Treating Torture Among Bosnian Refugees	1999 – 2003	\$185,000	\$730,000
Kimble	Studies of Sustained and Selective Attention in PTSD	1998 – 2003	\$66,387	\$349,840
Krystal	Glutamatergic Mechanism in Cognition and Psychosis	1998 – 2003	\$95,000	\$325,000
Lipschitz	Modifiable Risk Factors for PTSD in Urban Adolescents	2000 – 2005	\$135,000	\$675,537
Litz	Emotional-Processing in PTSD	2001 – 2004	\$125,000	\$409,000
McDonagh-Coyle	Brief Integrative Therapy for PTSD	2001 – 2003	\$100,000	\$200,000
Miller	Circadian Effects on the Human Startle Reflex	2001 – 2003	\$0	\$63,000
Moghaddam	Biomedical Actions of Antipsychotic Drugs	1992 – 2002	\$147,574	\$681,786
Moghaddam	Glutamate and Prefrontal Cortex Function	1999 – 2004	\$108,680	\$594,000
Moghaddam	Translational Studies on Cognitive Flexibility	2001 – 2004	\$250,000	\$750,000
Mueser Rosenberg	Cognitive-Behavioral Treatment of PTSD in SMI Clients	2002 – 2004	\$250,000	\$750,000
Norris	The Social and Cultural Dynamics of Disaster Recovery	2002 – 2004	\$204,948	\$389,177
Norris	Toward Developing Postdisaster Community Interventions	2002 – 2005	\$106,384	\$328,822

Prigerson	Traumatic Grief: Criteria, Risks, Outcomes	1999 – 2003	\$238,000	\$989,000
Street	Characteristics of Persons at Risk for Trauma Exposure	2002 – 2004	\$50,000	\$100,000
Tamagnan Baldwin Krystal	Development of PET and SPECT ligands for mGluR5 Imaging	2002 – 2004	\$106,199	\$212,397

## Other Non-VA Sources

Principal Investigators	Title of Project	Funding Source	Years	FY 02 Funding	Total Award
Behar	Use of DNA Microarrays in Conjunction with Magnetic Resonance Spectroscopy to Identify Regulation Sites of GABA Metabolism In Vivo	NARSAD	2001 – 2003	\$30,000	\$60,000
Behar	NMR Studies of GABA Regulation In Vivo	NINDS	2001 – 2005	\$263,659	\$1,085,851
Bracha	Validating a Laboratory Procedure for Estimating Early Deleterious Life Experiences	NARSAD	1999 – 2002	\$0	\$100,000
Brunet Ruzek	Early Intervention Following Traumatic Stress Exposure	Conseil Quebécois de la Recherche Sociale	2001 – 2003	\$33,341	\$71,593
Buckley	Nicotine, Attention, and Conditioned Arousal in PTSD	NIDA	2002 – 2003	\$81,500	\$81,500
Chemtob	Child Trauma Research	Kirkeby Foundation	2001 – 2001	\$10,000	\$10,000
Chemtob	Statistical Analysis of Postdisaster Psychological Response Data: Hurricane Iniki	Hawaii Community Foundation	2000 – 2003	\$0	\$10,000
Chemtob	Trauma Treatment in Pediatric Primary Care	Klingenstein Third Generation Fund	2001 – 2001	\$50,000	\$50,000
Ciraulo Keane LoCastro	Behavioral and Psychopharmacological Treatment of Alcohol Abuse	NIAAA	1997 – 2003	\$345,029	\$2,800,000
Coel Chemtob	Evaluation of Hemispheric Lateralization in Domestic Violence Related PTSD Using PET Scan	Queens Health Systems	2000 – 2003	\$0	\$200,000
de Lanerolle	Molecular Genetics of Epilepsy and Related Disorders	Lee Foundation	2002 – 2002	\$200,000	\$200,000
de Lanerolle	Energy and Metabolism in Temporal Lobe Epilepsy	NIH/NINDS	1999 – 2004	\$150,000	\$803,875
Duman	Isolation of G Protein-Coupled Receptors from Locus Coeruleus	Pfizer	1997 – 2001	\$170,000	\$510,000

Duman	Regulation of Hippocampal Cell Morphology by Antidepressant Treatment	NARSAD	1999 – 2001	\$50,000	\$100,000
Duman	Neurotrophic Actions of Estrogen	Donaghue Foundation	2000 – 2001	\$50,000	\$50,000
Friedman Watson	Best Practices in Disaster Mental Health	SAMHSA/ CMHS	2001 – 2004	\$130,000	\$855,000
Gelernter	Thai-U.S. Drug Dependence Genetics Research Training Grant	NIH/NIDA/ Fogerty International Center	2002 – 2007	\$184,667	\$1,846,678
Gelernter	Family Controlled Linkage Disequilibrium Studies of Alcohol Dependence	NIH/NIAAA	2002 – 2007	\$689,316	\$3,446,581
Gelernter	Guided Family-Controlled Linkage Disequilibrium Scan for Alcohol Dependence and PFC-Related Endophenotypes	NIH/NIAAA	2001 – 2006	\$60,000	\$700,000
Johnson	Effects of Aging on Memory for Source of Information	NIH	2000 – 2004	\$298,510	\$1,245,094
Johnson	Aging and Memory: fMRI Studies of Component Processes	NIH/Univ. of CA at Berkeley	2000 – 2003	\$103,036	\$309,249
Johnson	Cognitive and Neural Mechanisms of Conflict and Control	NIH/Princeton Univ.	2000 – 2004	\$116,480	\$606,627
Kaloupek Woodward	Effects of Combat Stress on the Structure and Function of the Hippocampus	DoD	1999 – 2002	\$133,509	\$597,800
Kaufman	Are Child-, Adolescent-, and Adult-Onset Depression One and the Same Disorder?	NARSAD	2001 – 2003	\$27,083	\$54,204
Keane	Integrating Substance Abuse and PTSD Treatment with HIV Care to Improve Adherence and Outcome and to Reduce Health Care Utilization and Costs	SAMHSA	1998 – 2003	\$542,049	\$2,500,000
Keane King, D.	Predicting Health and Adjustment Among Vietnam-Era Repatriated Prisoners of War: A Quartet of Studies	DoD and Center for Naval Analysis	1998 – 2001	\$196,000	\$378,980
Keane Piwowarczyk Grodin	Cognitive-Behavioral Treatment for War Traumatized Refugees: Project Welcome	DHHS Office of Refugee Resettlement	2000 – 2004	\$500,000	\$2,000,000
Keane Saxe	Treatment/Services Development Center for Medical Trauma and Refugee Trauma in Children	SAMHSA	2000 – 2004	\$375,000	\$1,500,000
King, D. King, L. Knight	Measurement and Validation of Psychosocial and Resilience Factors Associated with Physical and Mental Health and Health-Related Quality of Life in Persian Gulf War Veterans	VA/DoD	1999 – 2002	\$68,000	\$318,890

Koenen	Exposure to Trauma and Disruptive Behavior: Cognitive and Genetic Pathways	Columbia Center for Youth Violence Prevention Pilot Research Grant	2002 – 2002	\$14,000	\$14,000
Krystal	Amino Acid Neurotransmitter Dysregulation in Alcoholism	NIH/NIAAA	1999 – 2004	\$75,000	\$524,040
Krystal	Naltrexone Blockade of NMDA Antagonist Intoxication in Humans	NIH/NIAAA	2000 – 2003	\$150,000	\$450,000
Leskin	VA Primary Care/Mental Health Conference	GlaxoSmithKline	2002 – 2002	\$140,000	\$140,000
Lindley	Effect of Chronic Corticosterone Administration on the Gene-Expression Profile in the Hippocampus and Mesotelencephalic Dopaminergic Cell Body Regions	Pritzker Depression Network	2001 – 2002	\$24,000	\$48,000
Lindley	The Effect of Mifepristone on the Blood Brain Barrier	Corcept, Inc.	2001 – 2002	\$30,000	\$65,000
Lindley	Venlafaxine versus Sertaline in the Treatment of PTSD	Wyeth	2001 – 2002	\$50,000	\$78,891
Lindley Carlson	Valproic Acid in the Treatment of Impulsive Aggression	Abbott Labs	2000 – 2001	\$16,015	\$85,000
Lindley Carlson	Topiramate in the Treatment of Symptoms of Chronic PTSD	Ortho-McNeil Pharmaceutical	2000 – 2002	\$50,000	\$103,000
Litz	The Effects of Psychological Debriefing on Soldiers Deployed on a Peacekeeping Mission	DoD	2001 – 2004	\$250,000	\$1,041,000
Mazure	Preventing and Treating Substance Abuse Disorders in Women with PTSD	NIDA	2001 – 2006	\$17,900	\$2,500,000
Moghaddam	Neurotransmitter Dynamics Associated with rTMS in Primates	NARSAD	2001 – 2003	\$50,000	\$100,000
Morgan	Psychobiological Assessment of High Stress: A Prospective Study	Ctr. for Naval Analyses	2000 – 2002	\$0	\$178,000
Morgan	Psychobiological Assessment of High Intensity Military Training	DoD	1997 – On-going	\$0	\$365,000
Nestler Duman	Neurobiology of Drug Addiction	NIDA	1998 – 2003	\$109,000	\$250,000
Noguchi Bracha	Dental Crown Ameloblast Stress Lines as a Marker for Experiences of Trauma; c-AMP and MRI Study	The Japan Scholarship Promotion Society – Basic Research Projects	2000 – 2002	\$0	\$60,000
Prigerson	Psychiatric Disorders in Dying Patients and Their Caregivers	Soros Foundation Project on Death in America	2002 – 2004	\$76,500	\$153,000

Prigerson	Disability and Interventions for Grief (DIG) Study	NIA Yale Pepper Center	2001 – 2002	\$32,200	\$32,200
Prigerson	Development and Testing of the Yale Evaluation of Suicidality (YES) Scale	Am. Foundation for Suicide Prevention	2001 – 2002	\$38,000	\$76,000
Prigerson	Bereavement Reactions in Surviving Caregivers of End Stage Renal Disease Patients	Schwartz Foundation	2001 – 2002	\$20,000	\$40,000
Rasmusson	Effects of POW Stress on NPY Physiology: Potential Long-Term Health Consequences	NAMRL, Center for Naval Analysis	2001 – 2004	\$ 70,704	\$212,113
Rasmusson	The Effectiveness of Risperidone in the Treatment of Posttraumatic Stress Disorder	Janssen Pharmaceutica Research Foundation	1999 – 2002	\$0	\$158,542
Staley	PET and SPECT Imaging in Alcoholic Smokers	NIH/NIAA	1999 – 2004	\$116,722	\$604,239
Staley	Naturalistic Primate Model of Tobacco Smoking	Robert Leet & Clara Guthrie Patterson Trust	2001 – 2003	\$63,636	\$63,636
Staley	Effects of Dual Alcohol and Tobacco Abuse on Brain Nicotine Acetylcholine Receptors	ABMRF	2002 – 2004	\$34,782	\$69,564

## APPLICATIONS PENDING APPROVAL

Principal Investigators	Title of Project	Funding Source	Years	Total Award
Buckley	Behavioral Pharmacology of Smoking in Anxiety Disorders	NIH/NIDA	2003 – 2008	\$478,899
Carlson Lindley	Venlafaxine ER and Sertraline in the Treatment of Posttraumatic Dissociative Symptoms	Wyeth-Ayerst	2002 – 2003	~\$50,000
Chemtob	Child Trauma Assessment and Treatment	NIMH RISP-IP	2002 – 2007	\$3,600,000
Davison	Older Female Survivors of Remote Sexual Trauma	NIMH-B/START	2002 – 2003	\$50,000
Frueh Kimble Buckley	CBT for PTSD Among Public Sector Consumers	NIMH	2002 – 2005	\$475,866
Gelernter	Genetic Studies of Anxiety Disorders and Related Phenotypes	VA	2002 – 2007	N/A
Kaufman	Corpus Callosum in Maltreated Children with PTSD	NIMH	2002 – 2007	\$1,610,893
Kaufman	SAFE Homes Program Evaluation	State of CT – Department of Children and Families	2001 – 2003	\$59,400
Keane	HIV Research Infrastructure	NIMH	2002 – 2006	\$2,000,000

King, L. Vogt	Toward Gender-Aware VA Care: Development and Evaluation of an Intervention	HSR&D	2002 – 2005	\$582,300
Kubany	Cognitive Trauma Therapy for Women with PTSD	HSR&D	2003 – 2005	\$595,000
Litz	Emotional Processing in PTSD	Merit Review	2002 – 2005	\$267,800
Miller	Startle Reflex Amplitude and Cortisol in PTSD	VA Merit Review	2002 – 2005	\$164,300
Miller	Startle Reflex Amplitude and Cortisol in PTSD	NIMH	2002 – 2004	\$126,000
Monson	A Randomized Controlled Trial of Cognitive Processing Therapy for Military-Related Post-Traumatic Stress Disorder	CSP Research Development Award	2002 – 2004	\$327,966
Newcomer	Acute Stress Following Severe Sport Injury	NIMH B/START	2002 – 2003	\$50,000
Norris	Research Education in Disaster Mental Health	NIMH	2003 – 2008	\$1,250,000
Prigerson	Brief Integrative Cognitive Dynamic Psychotherapy for Stress Response Syndrome: Intervention Development Project for Bereaved Seniors	Donaghue Foundation	2002 – 2005	\$240,000
Prigerson	Psychiatric Disorders in Dying Patients and Their Survivors	NIMH	2002 – 2006	\$1,913,908
Prigerson	Promoting the Research Participation of Black and Hispanic Older Adults	NIA	2002 – 2004	\$140,000
Rasmusson	HPA Axis Reactivity in Men and Women with Chronic PTSD	Merit Review	2001 – 2004	\$309,700
Sharkansky	Deployment Stress and Health: A Prospective Study of Mediating and Moderating Effects	DoD	2002 – 2005	\$498,821
Sheikh	Sleep in PTSD/Panic: A Multi-Modal Naturalistic Study	NIMH	2002 – 2006	\$1,603,348
Shipherd	Thought Suppression and PTSD	NIMH- B/START	2002 – 2003	\$50,000
Vogt King	Attitudes Toward Women in the Armed Forces as They Relate to Harassment and Assault: A National Survey of Military Personnel	NIJ	2002 – 2005	\$302,000

**TABLE 4**  
**EDUCATIONAL PRESENTATIONS ON PTSD BY NATIONAL CENTER STAFF**  
**FISCAL YEAR 2002**

**INTERNATIONAL SOCIETY FOR TRAUMATIC STRESS STUDIES**  
**New Orleans, LA, December 2001**

**King, D.W., Bachrach, P.B., & King, L.A.** “Contemporary approaches to missing or incomplete data.”

McFall, M., Blake, D., & **Watson, P.** “Assessment of PTSD using the Clinician Administered PTSD Scale (CAPS).”

**Morgan, C.A.** “Associative learning in humans exposed to uncontrollable stress.”

**Morgan, C.A.** “The impact of prior trauma exposure on military deployment cohesion and morale.”

**Prins, A., Ruzek, J.,** Flemming, T., Carter, M.B., Buck, K., & Esparza, D. “Development of an empirically supported counseling manual for community-based rape crisis counselors.”

**Ruzek, J.I.** “Early intervention to prevent development of PTSD.”

**Ruzek, J.I.** “Prevention of psychological and moral injury in military service, Part II: Preventing psychological problems in veterans.”

**Ruzek, J.I.** “Supporting workers at the Pentagon Family Assistance Center after September 11, 2001.”

**Ruzek, J.I.,** Bisson, J.I., Schnyder, U., Ritchie, C., & **Watson, P.** “Early intervention to prevent PTSD: Visions of the next generation of services.”

**VA**

**Chemtob, C.M.** “Treatment for PTSD-related anger.” Australian National Center for PTSD, Adelaide, Australia, August 2002.

**Chemtob, C.M.** “Treatment for PTSD-related anger.” Australian National Center for PTSD, Brisbane, Australia, August 2002.

**Chemtob, C.M.** “Treatment for PTSD-related anger.” Australian National Center for PTSD, Melbourne, Australia, August 2002.

**Chemtob, C.M.** “Treatment for PTSD-related anger.” Australian National Center for PTSD, Perth, Australia, August 2002.

**Chemtob, C.M.** “Treatment for PTSD-related anger.” Australian National Center for PTSD, Sydney, Australia, August 2002.

**Chemtob, C.M.** “Treatment for PTSD-related anger.” Australian National Center for PTSD, Townsville, Australia, August 2002.

**Friedman, M.J.** “PTSD and medical illness: Theory and practice.” Medical Manifestations of PTSD, VAMC, New York, NY, February 2002.

**Friedman, M.J.** “New directions in PTSD research.” NYVA Health Care System, New York, NY, June 2002.

**Friedman, M.J.** “Treating PTSD: Translating science into practice.” NYVA Health Care System, New York, NY, June 2002.

**Niles, B.L., & McKeever, V.** “Treatment strategies for veterans with chronic autonomic arousal.” Annual Training for Readjustment Counseling Services Region 1A, Mystic, CT, August 2002.

**Ruzek, J.I.** “Supporting workers at the Pentagon Family Assistance Center.” National VA Digital Video-Teleconference Broadcast, Palo Alto, California, December 2001.

**Ruzek, J.I., Gusman, F.D., & Loew, D.** “Assessment and treatment of military trauma.” Albuquerque VA Mental Health Services, Albuquerque, New Mexico, January 2002.

**Ruzek, J.I., Loew, D., & Carlson, E.B.** “Assessment of veterans for PTSD treatment.” Albuquerque VA Mental Health Services, Albuquerque, New Mexico, January 2002.

**Schnurr, P.P.** “Integrating research findings on PTSD into clinical practice: Focus on psychotherapy research.” NYVA Health Care System, New York, New York, June 2002.

**Schnurr, P.P.** “The relationship of PTSD to physical health.” NYVA Health Care System, New York, NY, June 2002.

**Sharkansky, E.J.** “Sexual trauma: Implications for healthcare.” VISN 1 MST Coordinator’s Meeting, Bedford, MA, May, 2002.

**Sharkansky, E.J.** “Management of PTSD and dissociation in primary care.” Boston VA Women’s Mental Health Mini-Residency, Boston Veterans Affairs Medical Center, Boston, MA, September 2002.

**Southwick, S.M.** "PTSD and the neurobiology of memory." VA/DOD Consensus Guideline Committee for the Treatment of PTSD, Alexandria, VA, July 2002.

**Vogt, D.S., King, L.A., King, D.W., Stone, E.R., Salgado, D.M., & Keehn, M.K.** "Toward gender-aware VA health care: Staff ideology, sensitivity, and knowledge." American Psychological Association's Enhancing Outcomes in Women's Health conference, Washington, DC, February 2002.

## OTHER

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**Axelrod, S.R.** "Introduction to dialectical behavioral therapy." Clinical In-Service, Clifford Beers Center, New Haven, CT, May 2002.

**Buckley, T.C.** "PTSD and physical health in the military veteran." Prisoners of War Critical Care Needs Conference, San Diego, CA, August 2002.

**Buckley, T.C., & Kimble, M.O.** "Emerging best practices in treatment of trauma survivors: Assessment of trauma and PTSD in clinical settings, part I." South Carolina Department of Mental Health, Eli Lilly, SHARE, State Victims Association, and the Medical University of South Carolina, Charleston, SC, April 2002.

**Chemtob, C.M.** "Child trauma: An overview." Conference on Children and Trauma for Journalists, Casey Foundation Journalism Center, Los Angeles, CA, October 2001.

**Chemtob, C.M.** "Children and trauma post 9/11." Conference on Children and Trauma for Journalists, Casey Foundation Journalism Center, Washington, DC, June 2002.

**Chemtob, C.M.** "Master clinician workshop: Effective child trauma treatment." The Israel Trauma Coalition, Jerusalem, Israel, July 2002.

**Drescher, K.D.** "PTSD symptoms and clinical manifestations." CIT Training Program, San Jose Police Department, San Jose, CA, October 2001 and May 2002.

**Duman, R.S.** "Neurotrophic hypothesis of depression." Frontiers in Neuroscience Seminar, Emory University, Atlanta, GA, January 2002.

**Duman, R.S.** "Neurotrophic hypothesis of depression." Psychiatry Grand Rounds, University of Texas at Southwestern Medical Center, Dallas, TX, January 2002.

**Friedman, M.J.** "Post-traumatic distress: From normal fear to PTSD [Keynote Address]." Annual New York State Office of Mental Health Research Conference, Albany, NY, December 2001.

**Friedman, M.J.** "Early intervention following traumatic events." Hard Embrach Psychiatric Institute, Hard Embrach, Switzerland, June 2002.

**Friedman, M.J.** "National Center for PTSD." International Rehabilitation Center for Torture Victims, Copenhagen, Denmark, June 2002.

**Watson, P.J.** "Early intervention for trauma." NYVA Health Care System, New York, NY, June 2002.

**Watson, P.J.** "Understanding the compensation and pension PTSD examination." Satellite Broadcast Training for the National Veterans Health Care Administrative System, Washington, DC, September 2002.

**Woodward, S.H.** "Sleep disturbance in PTSD: Emergent perspectives." Employee Education Service, Department of Veterans Affairs, Palo Alto, CA, September 2002.

**Friedman, M.J.** "PTSD and physical health." Vietnam Veterans of America Ecological Conference on Consequences of Vietnam War, Yale University, New Haven, CT, September 2002.

**Kimble, M.O., & Buckley, T.C.** "Emerging best practices in treatment of trauma survivors: Assessment of trauma and PTSD in clinical settings, part II." South Carolina Department of Mental Health, Eli Lilly, SHARE, State Victims Association, and the Medical University of South Carolina, Charleston, SC, April 2002.

**Krystal, J.H.** "Ethical and therapeutic implications of the NMDA antagonist model psychosis." Hillside Hospital-LIJ Medical Center, Glen Oaks, NY, October 2001.

**Krystal, J.H.** "GABA dysregulation in mood and anxiety disorders." First U.S.-Israel Symposium on Academic Psychiatry, Jerusalem, Israel, October 2001.

**Krystal, J.H.** "GABA dysregulation in mood and anxiety disorders." Research Seminar, Hillside Hospital-LIJ Medical Center, Glen Oaks, NY, October 2001.

**Krystal, J.H.** "Glutamate and cognition: Implications for neuropsychiatric disorders." NIH Inter-Institute Neuroscience Research Seminar, Bethesda, MD, October 2001.

**Krystal, J.H.,** Co-chair. "13C-MRS applications to neuropsychiatric disorders." 40th Annual Meeting of the American College of Neuropsychopharmacology, Kona, HI, December 2001.

**Krystal, J.H.** "NMDA deficits and glutamatergic disinhibition as complementary contributions to human memory dysfunction." Volen Center for Complex Systems Conference, Brandeis University, Waltham, MA, January 2002.

**Krystal, J.H.** "The evolution of antipsychotics: Treating the individual patients." Psychlink-DME Satellite, Interactive of Antipsychotics. September 18, 2002.

**Krystal, J.H.** "Addiction rationale and discussion." Forest Laboratories: Psychiatric Advisory Board, New York, NY, September 25-26, 2002.

**Krystal, J.H.** "The role of glutamate in psychiatric disorders." Annual Meeting MidAtlantic Pharmacology Society (MAPS) JK Lecture, Astra Zeneca Headquarters, Wilmington, DE, September 30, 2002.



- Lipschitz, D.S.** "Pediatric psychopharmacology." Clifford Beers Clinic, New Haven, CT, January 2002.
- Leskin, G.A.** "Integrating PTSD services into primary care settings." Behavioral Healthcare Tomorrow, Washington, DC, October 2001.
- Leskin, G.A.** "Mental health interventions at the Pentagon Family Assistance Center." The September 11 Terrorist Attacks on the Pentagon: 10<sup>th</sup> Annual Meeting of the Association of Traumatic Stress Specialists, San Diego, CA, February 2002.
- Leskin, G.A.** "Spirituality and PTSD: Reflections from the September 11<sup>th</sup> attack on the Pentagon." Valambrosa Center, Menlo Park, CA, September 2002.
- Loo, C.** "Racism and sexism as traumatic mental health stressors [Keynote Address]." 9<sup>th</sup> Annual Women Coming Together Conference, Columbus, OH, September 2002.
- Morgan, C.A.** "The prosecutor vs. Anto Furunja: PTSD in the War Crimes Tribunal." American Academy of Law and Psychiatry, Boston, MA, October 2001.
- Morgan, C.A.** "NPY in humans exposed to uncontrollable stress." 23<sup>rd</sup> Winter Neuropeptide Conference, Breckenridge, CO, February 2002.
- Morgan, C.A.** "Assessment and treatment of responses to traumatic stress: From acute stress responses to PTSD." Mental Health Division of the 101<sup>st</sup> Airborne Command, Fort Campbell, KY, May 2002.
- Morgan, C.A.** "What do healthy studies of humans experiencing stress tell us about PTSD?" Grand Rounds, Department of Psychiatry and Pediatrics, Children's Hospital, Ohio State University, Cincinnati, OH, May 2002.
- Morgan, C.A.** "Eyewitness identification for persons encountered during exposure to acute uncontrollable stress." Grand Rounds, Connecticut Valley Hospital, Whiting Forensic Division, Middletown, CT, June 2002.
- Pierce, K.S.** "Grief and traumatic loss post-9/11." Mililani Presbyterian Church, Mililani, HI, June 2002.
- Pivar, I., & Ruzek, J.I.** "Understanding grief." Tragedy Assistance Program for Survivors Annual Conference, Washington, DC, May 2002.
- Prigerson, H.G., & Jac, S.** "Grief-symptomatology, psychology and neurobiology." Lecture, PGII Course in Psychopathology, Yale University School of Medicine, New Haven, CT, April 2002.
- Ruzek, J.I.** "Early intervention: Debriefing and alternatives." Mental Health Response to a Critical Event: Psychological First Aid and Early Intervention, Atlanta, GA, March 2002.
- Ruzek, J.I.** "New developments in early intervention to prevent development of PTSD." American Red Cross of Santa Cruz, Santa Cruz, CA, March 2002.
- Ruzek, J.I.** "Survivor education as disaster mental health intervention." Mental Health Response to a Critical Event: Psychological First Aid and Early Intervention, Atlanta, GA, March 2002.
- Ruzek, J.I.** "PTSD and substance abuse: Treatment and diagnostic issues." PTSD: Present and Future Tense—Current Issues and Innovations for a Multidimensional Disorder [Conference], Portland, OR, September 2002.
- Ruzek, J.I., & Gusman, F.D.** "Self-care in relation to the Casualty Assistance Officer role." Pentagon Family Assistance Center, Washington, DC, October 2001.
- Ruzek, J.I., Marshall, R., & Carlson, E.B.** "Trauma reactions to crisis: Assessment and referral." Project Liberty workshop on Supporting the Healing Process: Effective Interventions, Assessment and Referral, New York, NY, December 2001.
- Ruzek, J.I., & Papperman, T.** "September 11, 2001: Reflections and lessons learned one year after." PTSD: Present and Future Tense—Current Issues and Innovations for a Multidimensional Disorder, Portland, Oregon, September 2002.
- Schnurr, P.P.** "Integrating research findings on PTSD into clinical practice: Focus on psychotherapy research." Walter Reed Army Medical Center, Washington, DC, September 2002.
- Shipherd, J.C.** "Borderline personality disorder." Invited presentation, Women's Mental Health in Primary Care Mini-Residency, Boston, MA, September 2002.
- Swales, P.J.** "PTSD and coping in the heart transplant recipient." Kaiser Permanente Hospital, Heart Transplant Program, Santa Theresa, CA, May 2002.
- Swales, P.J.** "Panic attacks and coping in the heart transplant recipient." Kaiser Permanente Hospital, Heart Transplant Program, Santa Theresa, CA, June 2002.
- Tokumine, L., & Whealin, J.M.** "Overview of posttraumatic stress disorder and its impact on the community." Giving Aloha [television program, Channel 52], Honolulu, HI, March 2002.
- Whealin, J.M.** "Multidimensional treatment for acute and chronic trauma reactions." Conceptualization, Assessment, and Treatment for Trauma-Related Disorders; Hawaii Psychological Association Meeting, Honolulu, HI, November 2001.
- Whealin, J.M.** "Dimensions of treatment for traumatic stress disorders." Grand Rounds, University of Hawaii Counseling, Manoa, HI, June 2002.

**TABLE 5**  
**EDITORIAL BOARD MEMBERSHIPS OF NATIONAL CENTER STAFF**  
**FISCAL YEAR 2002**

<i>American Journal of Psychology</i>	Johnson
<i>Assessment</i>	Keane, King L.
<i>Behavior Therapy</i>	Orsillo
<i>Biological Psychiatry</i>	Duman, Krystal, Moghaddam
<i>Clinical Psychology Review</i>	Orsillo
<i>Critical Reviews in Neurobiology</i>	Duman
<i>Death Studies</i>	Prigerson
<i>International Journal of Emergency Mental Health</i>	Keane
<i>Journal of Abnormal Psychology</i>	Keane, Litz, Orsillo
<i>Journal of Aggression, Maltreatment and Trauma</i>	Carlson, Friedman
<i>Journal of Anxiety Disorders</i>	Keane
<i>Journal of Applied Cognition</i>	Johnson
<i>Journal of Dissociation and Trauma</i>	Carlson
<i>Journal of Experimental Psychology: General</i>	Johnson
<i>Journal of Experimental Psychology: Learning, Memory &amp;</i>	Johnson
<i>Journal of General Psychology</i>	Miller
<i>Journal of Interpersonal Violence</i>	Keane
<i>Journal of Mental Health</i>	Ruzek (North American Editor)
<i>Journal of Neurochemistry</i>	Duman (Handling Editor), Moghaddam (Handling Editor)
<i>Journal of Pharmacology and Experimental Therapeutics</i>	Duman (Associate Editor)
<i>Journal of Psychopathology and Behavioral Assessment</i>	King, L., Rosenheck
<i>Journal of Trauma Practice</i>	Keane
<i>Journal of Traumatic Stress</i>	Carlson, Kaloupek, King, D., King, L., Litz, Norris (Associate Editor), Orsillo, Schnurr, (Deputy Editor), Southwick
<i>Molecular Pharmacology</i>	Duman
<i>Neuropsychology</i>	Johnson
<i>Neuropsychopharmacology</i>	Duman (Associate Editor)
<i>Neuroscience and Biobehavioral Reviews</i>	Bracha
<i>Psychiatric Genetics</i>	Gelernter
<i>Psychiatric Services</i>	Rosenheck
<i>Psychological Assessment</i>	King, D., King, L.
<i>Psychological Bulletin</i>	Johnson
<i>Psychological Review</i>	Johnson
<i>Psychopharmacology</i>	Krystal (Field Editor)
<i>Trauma, Abuse &amp; Violence</i>	Keane
<i>Traumatology</i>	Keane, Ruzek, Young

## ABOUT THE NATIONAL CENTER FOR PTSD

The National Center for Post-Traumatic Stress Disorder was created within the Department of Veterans Affairs in 1989, in response to a Congressional mandate to address the needs of veterans with military-related PTSD. Its mission was, and remains:

**To advance the clinical care and social welfare of America's veterans through research, education, and training in the science, diagnosis, and treatment of PTSD and stress-related disorders.**

The VA charged the Center with responsibility for promoting research into the causes and diagnosis of PTSD, for training health care and related personnel in diagnosis and treatment, and for serving as an information resource for PTSD professionals across the United States and, eventually, around the world.

Although initially considered primarily a problem of veterans of the Vietnam War, PTSD is now recognized as a major public and behavioral health problem affecting military veterans, active-duty personnel involved in open conflicts or hazardous peacekeeping operations, and victims of disasters, accidents, and interpersonal violence in the civilian arena. Today, the disorder is estimated to affect more than ten million Americans at some point in their lives, and many times more people around the world.

At the time that the Center was being established, a VA-wide competition was undertaken to decide on a site where the Center would be located. It was quickly determined that no single VA site could adequately serve in this role. As a result, the Center was established as a consortium of five (later expanded to seven) VA centers of excellence in PTSD, each distinguished by a particular area of expertise while also sharing common interests and concerns.

### National Center for PTSD: Organization

#### **Behavioral Science Division**

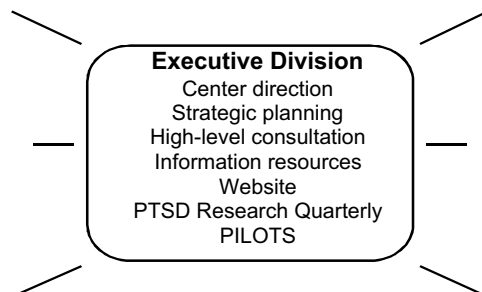
Assessment  
Psychotherapy  
Psychophysiology  
Information processing

#### **Education Division**

Education  
Sleep laboratory  
Clinical laboratory  
Critical incident disaster  
mental health

#### **Evaluation Division**

Clinical program evaluation



#### **Executive Division**

Center direction  
Strategic planning  
High-level consultation  
Information resources  
Website  
PTSD Research Quarterly  
PILOTS

#### **Clinical Neurosciences Division**

Neurobiology  
Pharmacotherapy  
Brain Imaging  
Genetic Epidemiology

#### **Women's Health Science's Division**

Women veterans  
Physical health  
Gulf War veterans

#### **Pacific Islands Division**

Ethnocultural issues  
Active duty personnel

## ABOUT THE DIRECTORS

### Executive Division

**Matthew J. Friedman, M.D., Ph.D.**, a professor of psychiatry and pharmacology at Dartmouth Medical School, is recognized as a world leader in the field of traumatic stress studies. He is the author, co-author, or editor of numerous influential publications, including the most widely cited book on the neurobiology of PTSD, and sits on a number of important scientific review panels, such as the VA/DoD/HHS Persian Gulf Expert Scientific Committee. He was principal investigator of the congressionally mandated Matsunaga Vietnam Veterans Project. At present, he and the deputy director, Dr. Paula Schnurr, are co-principal investigators of the largest PTSD treatment study ever funded by VA. He is a former president of ISTSS and a fellow of the American Psychiatric Association, and has received many awards for research and clinical service, including a Lifetime Achievement Award from the ISTSS.

### Behavioral Science Division

**Terence M. Keane, Ph.D.**, professor and vice-chair of the Department of Psychiatry at Boston University School of Medicine, is also recognized as a world leader in the field of traumatic stress. He developed many of the most widely used PTSD assessment measures and is considered an authority on the behavioral treatment of PTSD. Dr. Keane has participated in many important scientific review panels and was co-chair of the National Institute of Mental Health Consensus Conference that established national standards for the diagnosis and assessment of PTSD. He is a past president of ISTSS, a fellow of the American Psychological Association and the American Psychological Society, and has received many awards, including a Fulbright scholarship.

### Clinical Neurosciences Division

**John H. Krystal, M.D.**, professor and deputy chairman for research for the Department of Psychiatry at the Yale University School of Medicine, is one of the nation's leading investigators on the neurobiology and psychopharmacology of PTSD. Dr. Krystal has published over 200 original scientific articles and chapters and has served on the editorial boards of several journals. He has also served on many national advisory committees, including a DoD-VA collaborative research program initiative on stress, PTSD, and other illnesses related to the 1991 Gulf War; National Institute of Health's Director's Advisory Group on Young Investigators; and the NIMH Board of Scientific Counselors. His work has been honored by numerous awards, including the ISTSS Presidents Award and the ISTSS Danieli Award, both for PTSD research contributions. Currently he also serves as Director of the Alcohol Research Center funded by the Department of Veterans Affairs.

## Education Division

**Fred D. Gusman**, M.S.W., is an internationally recognized expert educator and program administrator who is often called upon to consult on program development, reorganization, and problem-solving. He developed the first and largest PTSD inpatient program in the VA system and the only specialized inpatient PTSD treatment for women veterans. His Clinical Training Program, the Center's mini-residency for PTSD clinicians, attracts national and international attention. Mr. Gusman is a consultant to numerous federal, state, and local programs, including the American Red Cross. He is currently a member of the Under Secretary for Health's Special Committee on PTSD, the Specialized PTSD Program Task Force, the Management Oversight Committee, and the Interdepartmental Task Group on Disaster, Crisis, and Counseling; the latter group includes DoD, Emergency Mental Health Strategic Healthcare Group, Veterans Health Administration, and the American Red Cross.

Mr. Gusman is also serving as Chief Operating Officer of the Pacific Islands Division until a permanent Director is named for that Division.

## Women's Health Sciences Division

**Lynda King**, Ph.D. (Acting Division Director since January, 2000), is a quantitative psychologist with expertise in psychometric theory and techniques. She is the primary author of several published measurement instruments, including the Sex-Role Egalitarianism Scale, a well-regarded device to assess gender-role attitudes. She has published investigations of the psychometric properties of widely used measures of PTSD and combat exposure, and her work has served as a model for the development of new instruments in the field of traumatic stress. She joined the VA in 1995; she also holds the rank of Research Professor of Psychiatry at Boston University School of Medicine.

## Pacific Islands Division

**Fred Gusman** of the Education and Clinical Laboratory Division is serving as Acting Director of the Pacific Islands Division until a replacement is named.

## Evaluation Division

**Robert Rosenheck**, M.D., is a clinical professor of psychiatry and public health at Yale University School of Medicine, where he also is director of the Division of Mental Health Services and Outcomes Research. He is a nationally known mental health services researcher and a leader in cost-effectiveness studies of behavioral health interventions. In addition to monitoring and evaluating VA's specialized PTSD programs, Dr. Rosenheck also monitors VA programs for homeless veterans and veterans who suffer from severe mental illness. He has served as a prime architect of national VA collaborative programs with both the Department of Housing and Urban Development and the Social Security Administration. He also directs the client-level evaluation of the Substance Abuse and Mental Health Services Administration's ACCESS program for homeless mentally ill Americans.

## ACRONYMS USED IN THE TEXT

ACCESS	Access to Community Care and Effective Supportive Services
APA	American Psychiatric Association
CAPS	Clinician-Administered PTSD Scale
CMHS	Center for Mental Health Services
CND	Clinical Neurosciences Division
CSP	Cooperative Studies Program
DoD	Department of Defense
DoJ	Department of Justice
DMH	Disaster Mental Health
EES	Employee Education System
EMPO	Emergency Medical Preparedness Office
FEMA	Federal Emergency Management Administration
FDNY	Fire Department of New York
fMRI	Functional Magnetic Resonance Imaging
HHS	(Department of) Health and Human Services
HIV	Human Immunodeficiency Virus
HPA	Hypothalamic-pituitary-adrenal
IRE	Impact of Race Related Events
ISTSS	International Society for Traumatic Stress Studies
LOSS	Late Onset Stress Symptomatology
MAVERIC	Massachusetts Veterans' Epidemiology Research and Information Center
MIRECC	Mental Illness Research, Education, and Clinical Centers
MRI	Magnetic Resonance Imaging

NAMRL	Naval Aerospace Medical Research Lab
NARSAD	National Alliance for Research in Schizophrenia and Depression
NIAAA	National Institute on Alcohol Abuse and Alcoholism
NIDA	National Institute of Drug Abuse
NIH	National Institutes of Health
NIMH	National Institute of Mental Health
NVVLS	National Vietnam Veteran Longitudinal Study
PILOTS	Published International Literature on Traumatic Stress
PTSD	Post-Traumatic Stress Disorder
RCS	Readjustment Counseling Service
SAMHSA	Substance Abuse and Mental Health Services Administration
UN	United Nations
VA	(Department of) Veterans Affairs
VISN	Veterans Integrated Service Network