

T2

100%

2015

Annual Report



NATIONAL CENTER FOR TELEHEALTH & TECHNOLOGY

a DCoE Center

A Component Center of the Defense Centers of Excellence
for Psychological Health and Traumatic Brain Injury

> slide to unlock

Breathe2Relax mobile app:

“ Outstanding. Use it twice a day for anxiety and stress. Thank you so much. Can't be without it.”

T2 Applications Guide:

“ I am THRILLED with the Clinicians Guide to the website and apps. Thank you for that resource.”

Tactical Breather:

“ Awesome application... REALLY does the job. Thank you!”

Virtual Hope Box mobile app:

“ This is a fantastic app. I shared it with some other people in need--they have found it to be a life saver. There are enough options to be helpful to most people, I think, & have been so thankful for it, I continue to share it, ask those to share with anyone else they know in need. Thank you!!!!”

AfterDeployment website:

“ This was a great reach out tool. Where were you guys when I needed you back in 1997? I almost did myself in because of mounting depression because I got laid off...sharing [this feedback] may help someone.”

T2 Mood Tracker mobile app:

“ Fantastic App. Such a simple interface, yet covers everything required. I have customised both this and my pain tracking app so that they work hand in hand to give a comprehensive record of my life with mental illness and chronic pain.”

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FROM THE DIRECTOR

After seven years of rapid growth, 2015 was an opportunity for reflection, introspection and process improvement while anticipating our transition from our temporary home with the Army to our new home in the Defense Health Agency (DHA). We thank our Army colleagues and their leadership team for their past support, and look forward to forging new partnerships with our DHA colleagues in 2016.

We have made good use of this time of transition to examine our practices, document what works and what doesn't, and build on our niche in leading the development of health technology solutions for psychological health and traumatic brain injury across the services. Our efforts have led us to be better stewards of the clinical technology dollar, focusing on the interrelated processes of project management, sustainment and value:

- **Project management** enables us to improve product flow, identify inefficiencies and enable transparency in value to our development team, leadership and stakeholders.
- Careful resource planning, which includes the culling of outdated products and services, keeps **sustainment** costs predictable and under control, and allows appropriate planning and resource allocation. Ignoring sustainment can unexpectedly overwhelm an organization's resources, and derail the development of new products and services.
- **Value** is added when staff members are well-informed and involved in the process of resource allocation as part of a team. Involving such a multidisciplinary team of psychological health experts, technologists, usability specialists, researchers and administrators in prioritizing potential products and services enhances commitment and ownership.

“...we are eager to find novel ways to connect to and engage both our beneficiaries and providers in prevention, care and resilience.”

As we turn our attention back to meeting needs within the 'white space'—the expanse of time when service members are not physically engaged with the brick-and-mortar health system—we are eager to find novel ways to connect to and engage both our beneficiaries and providers in prevention, care and resilience. We have renewed energy to address growth in synchronous telehealth, as we have seen our colleagues at the VA do. We continue to promote an enterprise telehealth, or perhaps more appropriately, an enterprise-connected health solution.

Moving forward, we want to engage even more closely with the services, to better identify what is needed and continue our history of translating evidence-based clinical practice into technology products and services of unequalled quality. As technology continues to evolve, we need to look for new ways to exploit it in the service of our beneficiaries. We will continue to voice our recommendations and guidance to leadership about the best ways to marry clinical practice and technology at the enterprise level.

We value the continued opportunity to serve DoD personnel, veterans and their families in supporting psychological health.



Brian J. Grady, M.D., M.S.

KEEPING OUR EYES ON THE HEALTH CARE HORIZON

Health care is an ever-changing landscape. At the far edge of that landscape is a horizon, beyond which lies a realm of potential health care innovations. As clinical and technological advances to improve patient care are discovered on an almost-daily basis, they cross that horizon and become part of the landscape. The last year brought advances in areas such as mobile stroke treatment, blood testing, robotic surgery, 3-D printing of implants, and mobile apps for clinical care. With these innovations come new challenges: putting them into practical use, and anticipating and preparing for even greater medical breakthroughs in the future.

T2 has found a niche in the ‘white space’, that time between appointments with a health care provider. As the time spent with providers decreases and the health care needs of the military change, there are greater demands for alternatives to in-person care. T2 incorporates the most recent psychological health care innovations coming over the horizon into technology tools that deliver care and support anytime and anywhere our service members and their families need it. Our psychologists and subject matter experts distill the most valuable information to improve psychological health and brain injury care, and identify the most effective technologies to deliver that information to patients and providers.

In 2015, we focused our sights on increasing awareness of our tools, following our goal of creating a medically ready force by enabling patients and providers to work together to support patient health. Getting our apps, websites and other support tools into the hands of the beneficiaries was a first step. Then we needed to help military care providers not only understand the value of our mobile health tools, but incorporate them into their practice. Plus, that had to be done in a way that didn’t disrupt the rhythm of their practice; prescribing mobile health had to become as easy and integral as prescribing a medication.

Education and understanding are keys to using T2’s products. Not just for the end users of our mobile health tools, but also for the providers who seek to

use them in practice. The multidisciplinary team that runs our education and training program has refined how we train providers on using psychological health technology in clinical practice. After completing the program, they have a strong understanding of, and interest in, how mobile health can improve both the health of their patients and the effectiveness of their practice. These providers are becoming advocates for the use of technology to encourage doctor-patient partnership in improving health.

To prepare to implement innovations to come in the future, our program managers created agile processes for the development of our products. This will enable us to respond to future ever-changing needs from military leaders, patients or providers without disrupting or delaying the development process. T2 developers and technology experts continued to improve their knowledge of cutting-edge technology with the goal of leveraging it into the medical care arena.

The health care landscape continually changes as the military force evolves, and as we understand better the needs of the patients and the needs of the providers. Our work this past year has clarified how we implement health care advances and how we will respond to future innovations to come, which we eagerly anticipate.

With our focus trained on the health care innovation horizon, we are ready to be part of the next advance.

ABOUT T2

The National Center for Telehealth & Technology (T2) is a component center of the Defense Centers of Excellence (DCoE) for Psychological Health and Traumatic Brain Injury. In 2015, DCoE was aligned with the U.S. Army Medical Research and Materiel Command within the Department of Defense (DoD); in the later part of 2015, DCoE and T2 prepared for an upcoming move in February 2016 to within the Defense Health Agency (DHA).

The mission of T2 is to lead the innovation of health technology solutions for psychological health and traumatic brain injury across all the services, and deliver tested, valued health solutions that improve the lives of service members, veterans and their families. Our vision is world-class health care and optimized health in the DoD through effective leveraging of behavioral science and technology.

T2 produces web- and mobile-based psychological health care resources and tools that support the individual whenever and wherever they need help. These resources are based on clinical evidence and developed in collaboration with DCoE, the military services, the Department of Veterans Affairs, academia and other government agencies. T2's products are developed

with multidisciplinary teams of psychologists, software engineers and product managers.

T2 leads the DoD in applying existing and emerging technologies to deliver psychological health care options to the military community. As the benefits of these services grow, the need will continue. T2 supports the DoD's goals of increasing access to care, establishing best practices and quality standards for health technology and telehealth, and reducing both the stigma associated with seeking behavioral health services and military suicide rates.

Since its establishment in 2008, the National Center for Telehealth & Technology has grown from the launch of one website (AfterDeployment) to include six websites, 27 mobile applications, over 100 published studies and over 125 presentations. All have been developed to better support the psychological health of military service members, veterans and their families, and to enhance DoD health programs with innovative technology.

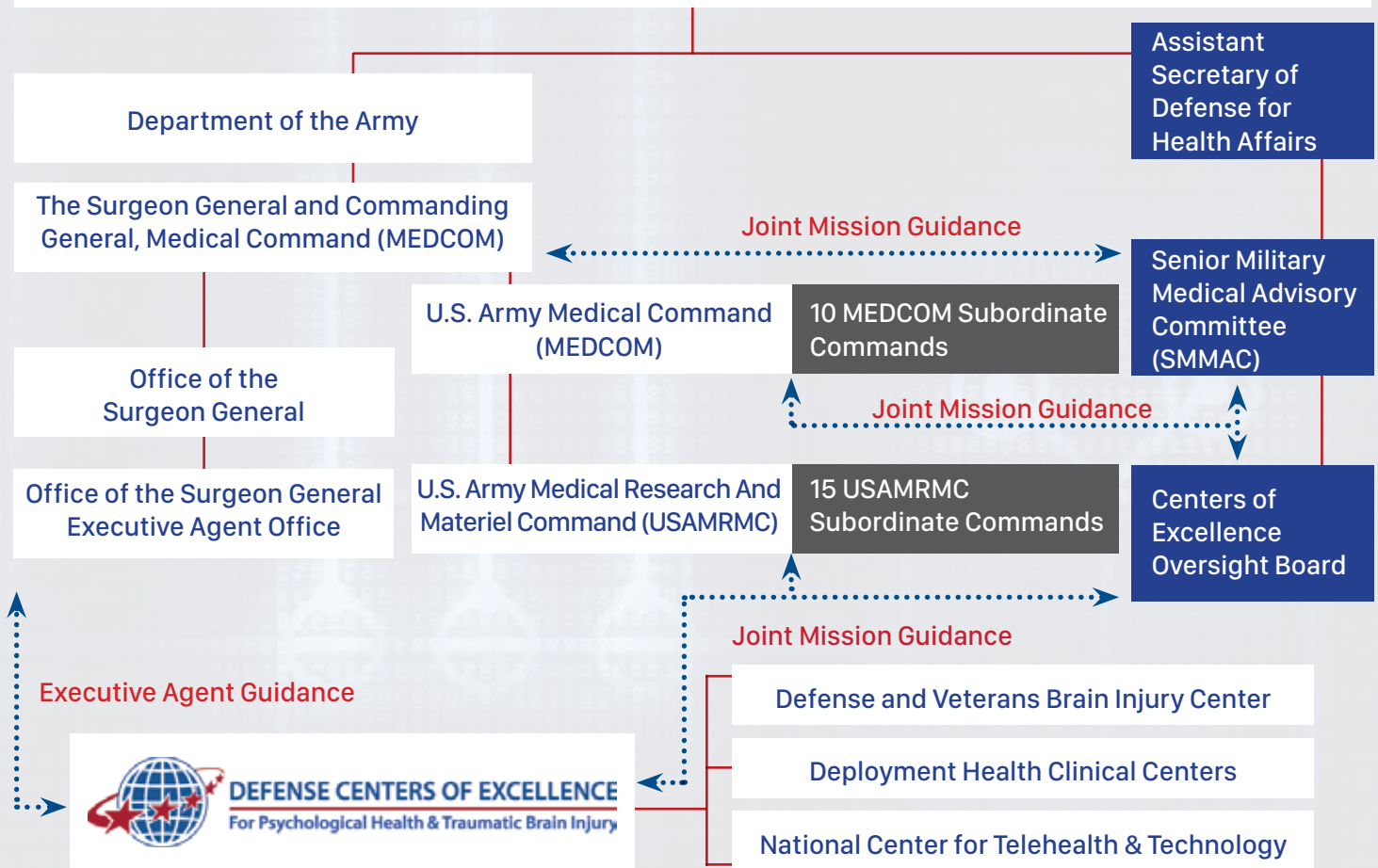
Through T2's eight years supporting a vision of world-class health care and optimized health in the DoD, it expanded from a primary focus of resources for the beneficiary population to also include resources for clinicians and for improving the military's telehealth system.

The DoD Suicide Event Report, known as DoDSER, and the Technology Enhancement Center usability lab are examples of work that supports T2's vision of world-class health care in the DoD.



Chief of Staff Dr. Karl "Skip" Moe directs T2's administrative, personnel and fiscal activities.

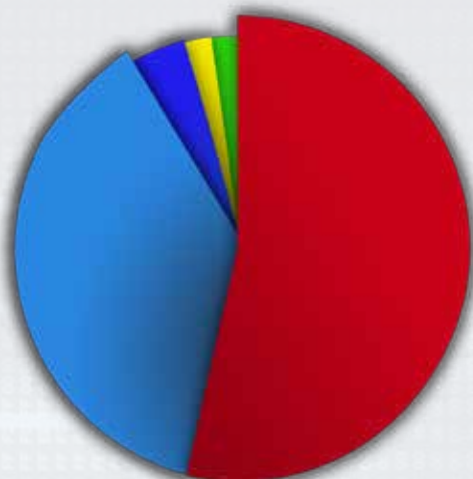
Department of Defense



T2 DIVISIONAL STRUCTURE

T2 is organized into the Mobile Health and Telehealth programs, which are supported by the Technology; Operations; and Research, Outcomes and Investigations divisions. While the majority of the staff is located near Tacoma, Washington on Joint Base Lewis-McChord, T2 also has an office in the National Capital Region (NCR) to facilitate meeting with other government agencies and collaborators.

T2's Staff Distribution



- Contractor (56)
- DoD Civilian (34)
- Grant Projects (4)
- Public Health Service (1)
- Military (1)

LEADERSHIP



**Brian Grady, M.D.,
M.S.**

Interim director, Dr. Grady leads T2 in the development of technology solutions supporting psychological health and traumatic brain injury.



Mark A. Reger, Ph.D.

Deputy director and director of the Research, Outcomes and Investigations division, Dr. Reger drives the psychological health research efforts for the organization.



**Karl O. "Skip" Moe,
Ph.D., ABPP**

Chief of staff, Dr. Moe oversees all administrative, personnel and fiscal activities for T2.



**Capt. Charles M.
Blue, USPHS**

Deputy director, National Capital Region (NCR) Office, Captain Blue manages integration with DCoE and coordination with other DoD organizations.



Robert Ciulla, Ph.D.

Director of the Mobile Health Program and acting deputy director for a portion of 2015, Dr. Ciulla spearheads T2's development of mobile and web applications.



Bob Kayl, MSE, MHR

Director of the Technology division, Mr. Kayl manages all the technical resources and requirements for T2's development programs.



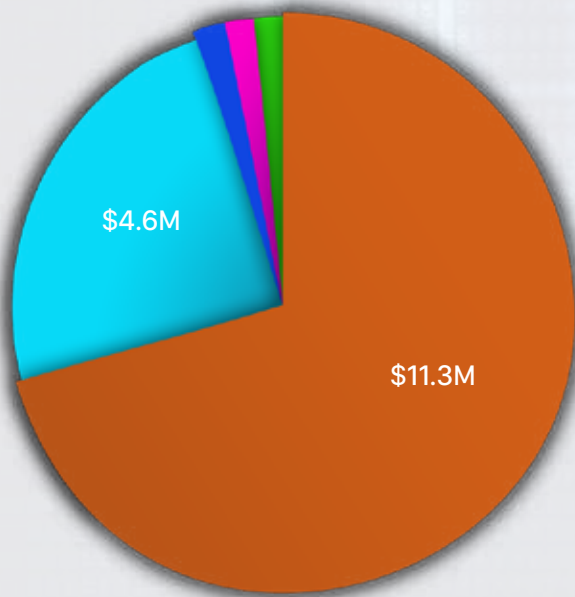
Jamie Adler, Ph.D.

Director of the Telehealth Program, Dr. Adler leads the development of programs, policies and platforms to expand DoD telemental health, and operates out of the NCR office.

FINANCIAL INFORMATION

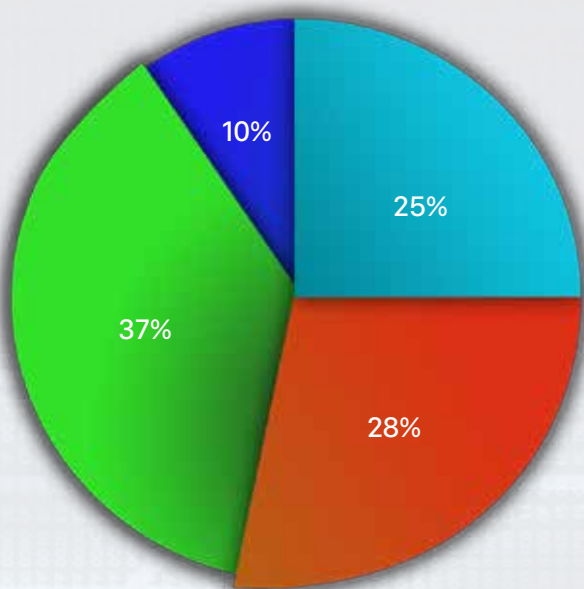
The 2015 fiscal year operating budget was \$16.5 million, which included \$15.5 million for operations and maintenance, and \$1 million for research, development, testing and evaluation.

T2's multidisciplinary approach, which encourages collaboration among integrated teams of psychologists, technology developers and program staff, has improved the efficiency and effectiveness of the research, development and production of health resources.



Fiscal Year 2015 Expenditures

- \$11.3M — Contracts
- \$4.6M — Compensation
- \$165K — Supplies & Equipment
- \$165K — Facilities
- \$165K — Training & Travel



Staff Distribution by Role

- 37% — Technology Developer
- 28% — Program Staff
- 25% — Operations Staff
- 10% — Research

OPERATIONS

The Operations staff provides support across all T2 programs and projects. This support includes assistance in areas including administrative, financial, logistics, human resources, professional development, project management and public affairs.

The administrative staff assists all T2 divisions in the areas of interagency correspondence, meeting resources management and supply coordination.

The finance, logistics and human resources staff maintains and manages T2's budget, facilities and personnel.

The professional development office (PMO) increases staff awareness of professional development and training opportunities, and provides centralized support and assistance.

The project management office (PMO) staff converts concepts into tangible results by ensuring that projects get done on time, comply with the necessary processes and meet high standards.

The public affairs office (PAO) informs those from the military community to the public about T2's resources, and coordinates with other DoD organizations to increase recognition of T2's contributions.



Adora Teranishi, Jennifer Thorne and Emelda Parker ensure the Operations division runs smoothly.

MOBILE HEALTH

Health technologies are revolutionizing health care. Consumers are logging on to websites to learn about their symptoms before their first doctor's appointment. Apps downloaded to a smartphone are enabling in-the-moment assessments and quick access to coping tools. Users are tracking exercise regimens via wearable devices. Patients are checking their social media networks to learn about effective treatments. Plus, in the near future, data will be sent from a mobile device directly to an electronic health record.

T2's mission involves continually evaluating potential health technology solutions, which is consistent with the DoD's long history of leading innovative solutions for the nation and the world. Technologies are particularly qualified to assist with access to health resources. Web and mobile applications can be used privately, from the convenience of one's home or smartphone. Telemedicine supports a continuum of care, offering rapid consultation across vast distances, which is of

particular importance with a highly mobile military. These technologies support a patient-centered health care model and mitigate the potential stigma of face-to-face mental health consultation. Technologies serve the health care consumer in another way: Because of their 24/7/365 availability, they can be used between clinic appointments in a service member's actual lifespace.

WEBSITES

T2 has a portfolio of websites designed to provide prevention services to meet the psychological health needs of the military community. The websites deliver information in many forms including interactive activities, self-assessments, educational and personal story videos, and other resources. In 2015, T2 began transitioning its PC-centric websites to be accessible from all types of mobile devices. The web program has grown its user community through social media efforts that provide up-to-date information of interest and direct users to T2's websites, which include:

AfterDeployment **(<http://afterdeployment.dcoe.mil>)**

AfterDeployment is the DoD's response to a Congressional mandate to provide an online portal to support service members and families with adjustment issues commonly

experienced following a deployment. AfterDeployment provides educational content spanning twenty topics (for example, post-traumatic stress, depression, anger management, substance abuse and relationship issues). The website also includes a section specifically for providers, with continuing education and patient education materials to help both mental health and non-mental health providers).

In 2015, AfterDeployment received 99,739 visits. The website's self-assessments were restored and new training videos and workshops were added to the site's provider section: pain management (for providers) and caring for TBI and PTSD patients (for nurses).

Notably, T2 was awarded a grant, starting in federal fiscal year 2016 (October 1, 2015), to develop and test an innovative method for guiding visitors to the extensive content contained within the site.

Military Kids Connect (<http://militarykidsconnect.dcoe.mil>)

The mission of the Military Kids Connect® (MKC) program is to improve the quality of life for military youth as they face the unique psychological challenges of military life. The MKC program includes an award-winning website created to provide a safe, welcoming place where military children (ages 6 to 17) can support one another, learn coping skills and build resilience as they interact with engaging and age-appropriate content. Sections for parents and educators help these audiences support military youth. In 2015, the website received 60,954 visits.

MKC also hosts youth-facing social media channels on Facebook, YouTube and Twitter, and in 2015 focused on increasing its following among teens. MKC hosted several social media events, including a nationwide Cook-off/Craft-off Competition, and participated in the 2015 Operation Megaphone Worldwide Lock-In. Due to these efforts, the size of MKC's Facebook community grew to 59,000 in 2015.

The MKC website won five awards in 2015 for an animated graphic novel about moving and "Teen Tour" videos of Fort Carson and Joint Base Elmendorf-Richardson.

Sesame Street for Military Families (<http://www.sesamestreetformilitaryfamilies.org/>)

The Military Families Near and Far project got a new name—Sesame Street for Military Families. The project includes a mobile-accessible website developed by Sesame Workshop® and three mobile applications: Feel Electric!, The Big Moving Adventure and Sesame Street for Military Families.

The website features Muppet® characters to help preschool military children coping with frequent moves and the deployment, homecoming, injury or death of a parent. It also offers creative tools to improve parent-child communication by promoting self-expression. For parents, the website includes the highly successful Talk, Listen, Connect resources, which help parents and caregivers face the challenges of deployments, homecomings, changes and grief.



The Military Kids Connect Home page displays a fun bulletin-board background with the entry points to content for three different age groups.

Moving Forward and Parenting for Service Members and Veterans

The Moving Forward and Parenting for Service Members and Veterans websites were developed in collaboration with the Department of Veterans Affairs Mental Health Informatics Section. These sites, along with their companion apps, were created to assist with problem-solving and parenting skills as part of Congress' Integrated Mental Health Strategy, a joint initiative of the departments of Defense and Veterans Affairs:

- Moving Forward (<http://startmovingforward.dcoe.mil/>) is an eight-module online educational and life-coaching program to teach problem-solving and stress-management skills to military and veteran populations.
- Parenting for Service Members and Veterans (<http://militaryparenting.dcoe.mil/>) is a six-module self-help web course addressing both everyday parenting problems and family issues unique to military life.

MOBILE APPLICATIONS

Since 2008, T2 has developed 11 mobile apps in partnership with the VA's National Center for PTSD, has collaborated with Sesame Workshop® on three mobile apps for young children, and produced additional apps on its own. Taken together, these apps have surpassed 2,750,000 downloads from the Apple, Android and Amazon app stores.

Smartphones, tablets and other mobile devices are now as commonly carried as wallets (and are in fact replacing wallets for many people). Pairing the ubiquity of mobile devices with health care information increases access to these vital services for our globally deployed, mobile-friendly service members.

T2 recognizes the importance of mobile technology in our warriors' lives by making our websites readily accessible and usable for any screen size—from a smartphone to a big screen TV. T2 also develops mobile apps that leverage the always-on, always available role that smartphones play in people's lives. While some of these tools can be used on their own, others are designed to complement clinical care and help patients arrive at a doctor's office equipped with medical information and incisive questions.

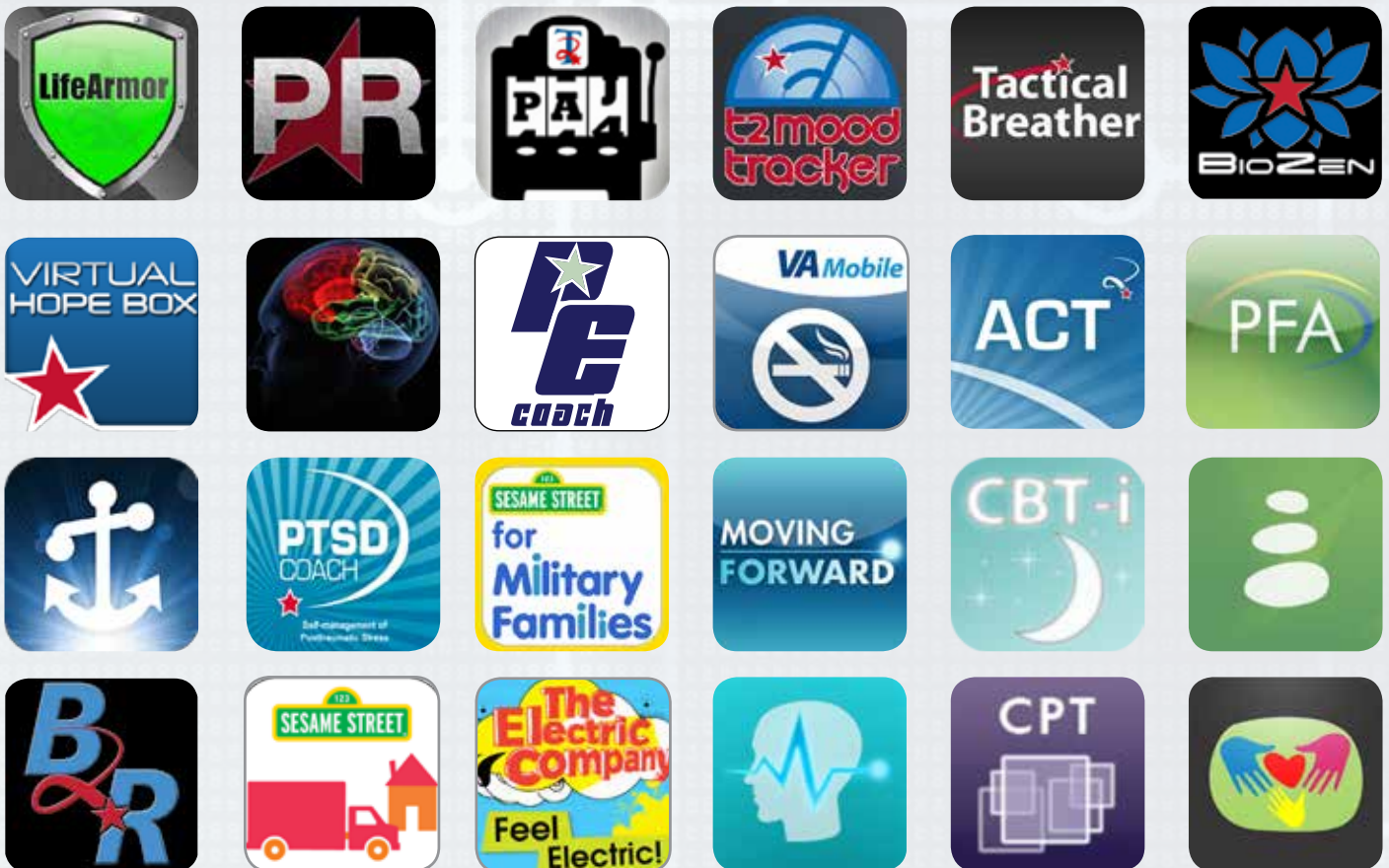
The chart on the following page shows the T2 mobile apps produced through 2015.



Mobile Health Program staffers Andy Watts, Shirley Stargel and Logan Micheel consider the implications of a project update.

T2 MOBILE APPS THROUGH 2015

- ACT Coach: acceptance and commitment therapy (iOS)*
- At Ease Military Kids Connect Game (Android)
- The Big Moving Adventure (Android and iOS)
- BioZen (Android)
- Breathe2Relax (Android and iOS)
- CBT-i Coach: cognitive behavioral therapy for insomnia (Android and iOS)*
- Concussion Coach (iOS, Android pending VA release)*
- CPT Coach: cognitive processing therapy for PTSD (iOS, Android pending VA release)*
- Feel Electric! (Android and iOS)
- Global Gab Military Kids Connect Game (Android and iOS)
- LifeArmor (Android and iOS)
- Mindfulness Coach (iOS)*
- Moving Forward (iOS)**
- mTBI Pocket Guide (Android and iOS)
- Navy Leader's Guide to Managing Sailors in Distress (Android and iOS)
- Operation Care Package Military Kids Connect Game (Android and iOS)
- Parenting2Go (iOS)**
- PE Coach: prolonged exposure treatment for PTSD (Android and iOS)*
- Positive Activity Jackpot (Android)
- Provider Resilience (Android and iOS)
- Psychological First Aid Mobile (Android and iOS)*
- PTSD Coach (Android and iOS)*
- Sesame Street for Military Families (Android and iOS)
- Stay Quit Coach (iOS, Android pending VA release)*
- T2 Mood Tracker (Android and iOS)
- Tactical Breather (Android and iOS)
- Virtual Hope Box (Android and iOS)



* Co-branded with the Department of Veterans Affairs (VA)

** VA/DoD Integrated Mental Health Strategy (IMHS) initiative

EDUCATION AND TRAINING

The Education and Training (E&T) program developed the first standardized, competency-based, comprehensive curriculum to train military providers on the proper integration of behavioral health technology tools into clinical care. Using evidence-based research, the training reviews best practices in the effective use of technology with an emphasis on empirical support, security and privacy, and ethical and cultural issues.

The program offers training in several ways. Interactive one- and two-day face-to-face workshops at military treatment facilities throughout the U.S. take an intensive, hands-on practical approach to learning. Attendees leave feeling competent to use technology tools in their clinical practice, and can receive continuing education credits.

Additional education and discussion opportunities are provided by webinars, a community of practice forum, and LinkedIn groups. Psychologists are required to establish requisite clinical competencies before implementing new interventions with patients; these workshops and other resources provide the means to acquire these competencies.

Program accomplishments in 2015 include training 184 military providers through the in-person workshops, which included psychologists, psychiatrists, social workers, counselors and nurses across the Army, Navy, Air Force, Marines and Coast Guard.

At the end of the workshops, over 81 percent surveyed responded that they would be “Likely” or “Very Likely” to integrate technology tools into clinical care; in post-workshop surveys six months later, results remained high at 75 percent. In addition, the E&T webinars and community-of-practice groups had over 1,800 attendees.



Project manager Suzanne Williams reviews materials for an upcoming training program with presenter Dr. Amanda Stewart.



Drs. Christy Armstrong, Larry Pruitt, Nigel Bush, Kelly Blasko and David Cooper wrap up a T2 face-to-face workshop.

TELEHEALTH

Telehealth is the use of technology to provide health care consultation, education, assessment, treatment, care coordination and support for health care providers and patients separated by distance. Because telehealth can be an important cost-effective tool to address a wide variety of challenges to health care access, supporting the growth of telehealth within the DoD has always been a core objective for T2.

In 2015, T2 completed the first evidence-based study for in-home telehealth delivered to the DoD. This clinical trial demonstrated the efficacy and safety of a novel method for delivering mental health treatment. According to a 2015 report from the RAND Corporation, more than 300,000 U.S. military service members in geographically remote locations may benefit from the increased access to care provided by telehealth services.

T2 continued to support DoD telehealth growth in 2015 by:

- Providing subject matter support and coordinating the interests of operational telemedicine for the MHS Telehealth Working Group.
- Serving as the DoD lead and completing the first joint DoD/VA telemental health pilot under the auspices of the DoD/VA Health Executive Council (HEC).
- Publishing the first study of real-time, in-home, evidence-based telebehavioral health treatment for service members.
- Expanding telehealth consultation support to the Reserve Components and to National Capital Region (NCR) facilities.
- Representing the DoD in inter-agency federal telehealth working groups.
- Consolidating the T2 telehealth team within the NCR to better assist with MHS telehealth planning, analysis and consultation.

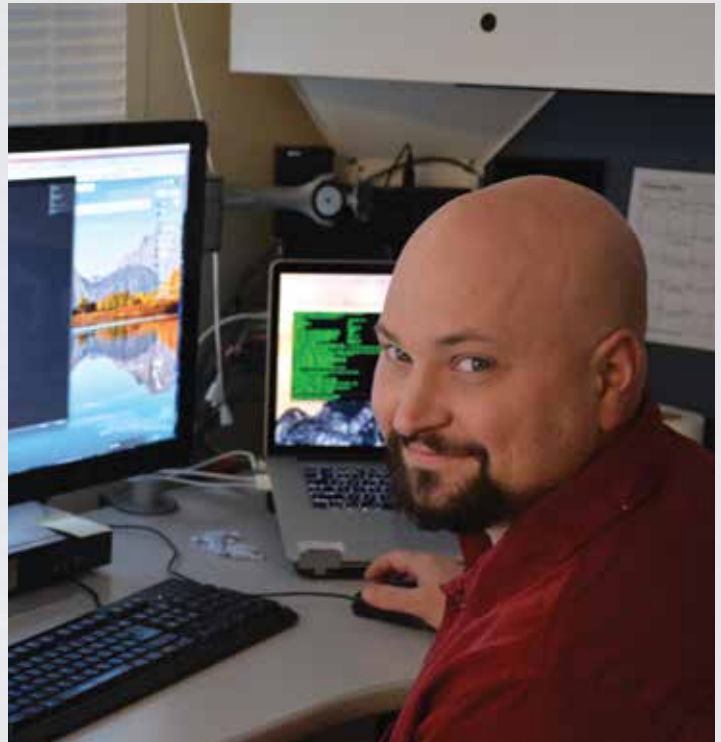


T2 staffer Danny Doughty sets up a telepresentation with interim director Dr. Brian Grady from his office at T2's National Capital Region location.

TECHNOLOGY

The Technology division supplies the developers and programmers who leverage existing and emerging technology to create T2's health technology solutions of mobile apps and web applications. Throughout 2015, T2 made significant headway in securing data on our mobile apps, both when the data is stored on the app itself and as the data moves.

The division also supports network connectivity, information assurance and security, hardware maintenance, software installation and SharePoint design and maintenance.



Daniel Gilfoy takes a quick visual break to rest his eyes while reviewing code.



Designers Marc Wheeler, Roberto Aguilar, Drake Kazmierczak and Alex Roff admire a 3D animation.

RESEARCH, OUTCOMES AND INVESTIGATIONS

The Research, Outcomes and Investigations (ROI) division gathers data and conducts research to support the use of T2 products. It examines the use of technology in the military population, performs gap analyses and systematic reviews, determines best practices and policies, and evaluates technology opportunities for the DoD and military suicide research data.



Dr. Derek Smolenski explains the fine points of running a research study during a presentation.

T2 researchers published a paper in the journal *JAMA Psychiatry* in April 2015 with the results of a study that found that suicide was not associated with deployment to OEF/OIF (the study did not take into account whether the service members actually experienced combat).

The comprehensive study included data from 3.9 million service members, and T2 received many requests for interviews from the national and international press that resulted in more than 150 published articles.

A clinical trial of the effectiveness of T2's Virtual Hope Box mobile app was completed in 2015. This app is used by clinicians with patients who are struggling with coping and negative thoughts, including patients who may be at risk for suicide. Virtual Hope Box has received numerous accolades (including a 2014 DoD Innovation Award) and continually receives many positive comments from users.

In late 2015, T2 received several grants to fund some exciting projects over the next two years. These include designing an advanced type of navigation for the AfterDeployment website and creating a mobile app with TATRC based on the trans-theoretical model (TTM) of behavior change to help users change negative behaviors.

DoDSER

T2 prepared the sixth DoD Suicide Event Report (DoDSER) for the Defense Suicide Prevention Office to improve the military's suicide prevention efforts. The annual DoDSER report is widely used in suicide prevention efforts by leadership, and provides validated data trends to understand suicide risk factors.

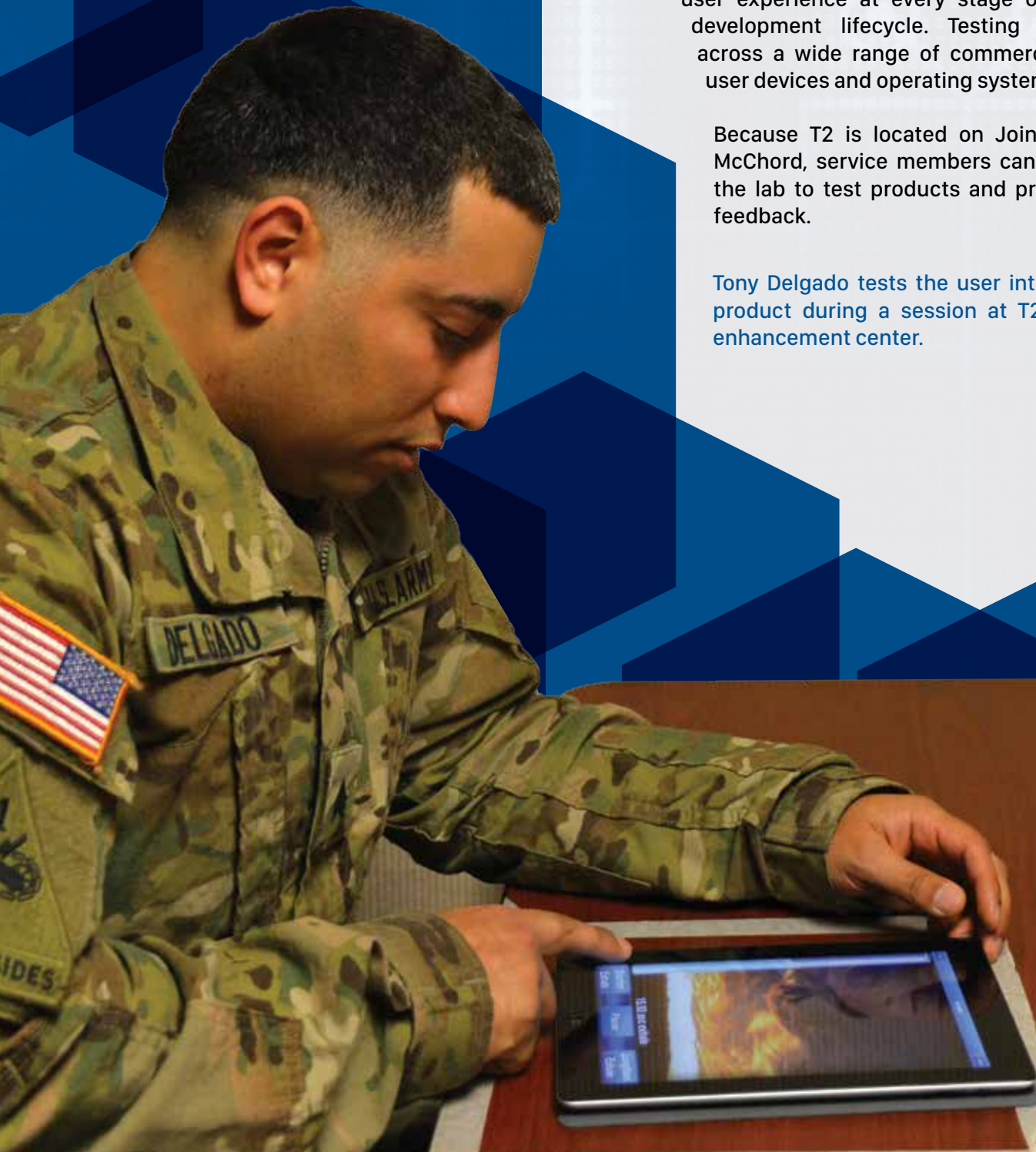
TECHNOLOGY ENHANCEMENT CENTER

Usability testing ensures that when applications reach the hands of the audience, they perform in the most intuitive and effortless way. Also, issues are less expensive and easier to fix in the development phase rather than after product release.

T2's behavioral health usability lab is one-of-a-kind within the Defense Department, and evaluates user experience at every stage of the product development lifecycle. Testing is performed across a wide range of commercially available user devices and operating systems.

Because T2 is located on Joint Base Lewis-McChord, service members can regularly visit the lab to test products and provide valuable feedback.

Tony Delgado tests the user interface of a T2 product during a session at T2's technology enhancement center.



PUBLICATIONS, PRESENTATIONS, PARTNERSHIPS AND COLLABORATIONS

Working collaboratively with other organizations has been a cornerstone of T2's success. In 2015, the organization continued to build upon that work by advancing existing partnerships and collaborations while developing new relationships with government, academic and private sector organizations.

PUBLICATIONS

T2 personnel published 16 peer-reviewed scientific manuscripts on research studies or book chapters in 2015 with additional manuscripts in press awaiting publication or published in early 2016.

Blasko, K. A. (2015). MilitaryKidsConnect: Web-based prevention services for military children. *Psychological Services, 12*(3), 261-266. doi:10.1037/ser0000025

Bush, N. E., Dobscha, S. K., Crumpton, R., Denneson, L. M., Hoffman, J. E., Crain, A.,...Kinn, J. T. (2015). A Virtual Hope Box Smartphone App as an Accessory to Therapy: Proof-of-Concept in a Clinical Sample of Veterans. *Suicide and Life-Threatening Behavior, 45*(1), 1-9. doi:10.1111/sltb.12103

Bush, N. E., & Wheeler, W. M. (2015). Personal Technology Use by U.S. Military Service Members and Veterans: An Update. *Telemedicine and e-Health, 21*(4), 245-258. doi:10.1089/tmj.2014.0100

Jenkins-Guarnieri, M. A., Pruitt, L. D., Luxton, D. D., & Johnson, K. (2015). Patient Perceptions of Telemental Health: Systematic Review of Direct Comparisons to In-Person Psychotherapeutic Treatments. *Telemedicine and eHealth, 21*(8), doi:10.1089/tmj.2014.0165

Kang, H. K., Bullman, T. A., Smolenski, D. J., Skopp, N. A., Gahm, G. A., & Reger, M. A. (2015). Suicide risk among 1.3 million veterans who were on active duty during the Iraq and Afghanistan wars. *Annals of Epidemiology, 25*(2), 96-100. doi:10.1016/j.annepidem.2014.11.020

Kerbrat, A. H., Comtois, K. A., Stiles, B. J., Huh, D., Chalker, S. A., & Luxton, D. D., (2015). Gender Differences in Acquired Capability Among Active-Duty Service Members at High Risk for Suicide. *Military Behavioral Health, 3*(4), 306-315. doi:10.1080/21635781.2015.1093982

Kramer, G. M., Kinn, J. T., & Mishkind M. C. (2015). Legal, Regulatory, and Risk Management Issues in the Use of Technology to Deliver Mental Health Care. *Cognitive and Behavioral Practice, 22*(3), 258-268. doi:10.1016/j.cbpra.2014.04.008

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Gonzalez, O. I., Novaco, R. W., Reger, M. A., & Gahm, G. A. (in press). Anger Intensification with Combat-Related PTSD and Depression Comorbidity. *Psychological Trauma: Theory, Research, Practice, and Policy*, 8(1), 9-16.

Kramer, G. M. & Luxton, D. D. (in press). Telemental Health for Children and Adolescents: An Overview of Legal, Regulatory, and Risk Management Issues. *Journal of Child and Adolescent Psychopharmacology*

Luxton, D. D., Nelson, E., & Maheu, M. (in press). A Practitioner's Guide to Telemental Health: *How to Conduct Legal, Ethical, and Evidence-Based Telepractice*. American Psychological Association Books.

Skopp, N. A., Smolenski, D. J., Sheppard, S. C., Bush, N. E., & Luxton, D. D. (in press). Comparison of Suicide Attempters and Decedents in the U.S. Army: A Latent Class Analysis. *Suicide and Life-Threatening Behavior*.

Vuletic, S., Bell, K. R., Jain, S., Bush, N. E., Temkin, N., Fann, J. R.,...Gahm, G. A. (in press). Telephone problem-solving treatment improves sleep quality in service members with combat-related mild traumatic brain injury: results from a randomized clinical trial. *Journal of Head Trauma Rehabilitation*.

SELECTED PRESENTATIONS

T2 presented research findings at multiple national conferences and webinars. These conferences were opportunities to disseminate relevant findings, engage key stakeholders, and network with existing and new partners. The conferences included the VA/DoD Suicide Prevention Conference, the American Association of Suicidology (AAS) and the Society for Epidemiologic Research (SER).

Blasko, K. A. & Leskin, G. (2015, March). *The Well-Being of Military Children: Augmenting Clinical Care with Web- and Mobile-Based Tools*. Virtual presentation for the DCoE Webinar Series, Crystal City, VA and Joint Base Lewis-McChord, WA.

Bush N. E. & Dobscha S. K. (2015, January). *A Virtual Hope Box Smartphone App: Proof of Concept in a Clinical Sample of Veterans*. Paper presented at the 2015 VA/DoD Suicide Prevention Conference—One Connection, One Conversation, One Small Act—It Matters, Dallas TX.

Cooper, D. (2015, January). *Application of Behavioral Health Technology Tools in the Clinical Care of Mild Traumatic Brain Injury*. Virtual presentation for the DCoE Webinar Series, Falls Church, VA and Joint Base Lewis-McChord, WA.

Denneson, L. M., Dobscha S. K., & Bush N. E. (2015, April). *Design and Early Findings from a Randomized*



Dr. David Bradshaw gives a presentation about T2's AfterDeployment website.



Dr. Julie Kinn describes why mobile apps are a good way to deliver psychological health info.

Controlled Trial of a Smartphone Application for Veterans with Suicidal Ideation. Paper presented at the 48th Annual American Association of Suicidology Conference, Atlanta, GA.

Murphy, P. (2015, February). *Using Technology in Counseling with Children and Families*. Presentation for the Western United States Region Marriage Family Life Counseling (MFLC) group, Joint Base Lewis-McChord, WA.

Pruitt, L. & Woodside, K. (2015, February). *Clinical Benefits of Telehealth Technology in Behavioral Health Care*. Virtual presentation for the DCoE Webinar Series, Crystal City, VA and Joint Base Lewis-McChord, WA.

Reger, G. & Hunt, S. (2015, May). *Practical Application of Behavioral Health Technology Tools in the Clinical Care of PTSD*. Virtual presentation for the DCoE Webinar Series, Crystal City, VA and Joint Base Lewis-McChord, WA.

Skopp, N. A., Smolenski, D. J., Schwesinger, D., Metzger-Abamukang, M. J., & Reger, M. A. (2015, June). *Evaluation of a Methodology to Validate National Death Index (NDI) Retrieval Results Among a Cohort of U.S. Service Members*. Paper presented at the 48th Annual Conference of the Society for Epidemiologic Research (SER), Denver, CO.

PARTNERSHIPS AND COLLABORATIONS

T2's research and development are strengthened by diverse partnerships and collaborations with other individuals and organizations. They provide opportunities to work with colleagues on synergistic ideas, share professional resources, learn from other disciplines and enhance the credibility and validity of the center's programs. Collaborators with the following T2 projects are shown in the following lists.

AfterDeployment

- brainline.org
- Center for the Study of Traumatic Stress
- Clemson University
- Department of Defense, Sexual Assault Prevention and Response Office
- Department of Veterans Affairs, National Center for PTSD
- Department of Veterans Affairs, Office of Mental Health
- Georgetown University
- Harborview Medical Center
- HelpforDepression.com
- Iowa State University
- Madigan Army Medical Center, Integrated Pain Management Center (CPAIN Project)
- Madigan Army Medical Center, Pediatric Clinic
- Military OneSource
- Mothers At War
- Navy Bureau of Medicine
- Northwestern University
- Our Forgotten Warriors
- San Jose State University
- Screening for Mental Health
- Seattle University School of Nursing
- Trauma and Neurosurgery Program, St. Michael's Hospital, Toronto, Canada
- TRICARE Family Advocacy Program
- TRICARE Online
- U.S. Army Telemedicine and Advanced Technology Research Center
- University of Iowa
- University of Kansas Medical Center
- University of Maryland
- University of North Texas
- University of Southern California, Center for Innovation and Research on Veterans & Military Families
- University of Washington
- VA Portland Health Care System
- VA Puget Sound Health Care System

Association between Suicide and OIF/OEF Deployment History: Military Operational Medicine Research Program, Suicide Prevention and Counseling Research Grant

- Office of Public Health, Veterans Health Administration, Washington

Caring Letters for Military Suicide Prevention: A Randomized Controlled Trial

- Landstuhl Regional Medical Center
- Madigan Army Medical Center
- Naval Medical Center San Diego
- Tripler Army Medical Center
- University of Washington
- VA Palo Alto Health Care System
- VA Western New York Healthcare System

Daily Diary Assessment of Post-Traumatic Stress Symptoms in U.S. Military Service Members

- Walter Reed National Military Medical Center

Department of Defense Suicide Event Report (DoDSER)

- Armed Forces Medical Examiner's Office System
- Army, Navy, Air Force and Marine Corps Suicide Prevention Programs
- CDC National Violent Death Reporting System
- Defense Manpower Data Center
- Defense Suicide Prevention Office
- DoD's Suicide Prevention and Risk Reduction Committee
- U.S. Army Public Health Command, Behavioral and Social Health Outcomes Program
- VA Eastern Colorado Health Care System, Mental Illness Research, Education and Clinical Centers
- VA Palo Alto Health Care System

DoDSER - Centers for Disease Control National Violent Death Reporting System (CDC-NVDRS) Collaborative Studies

- CDC-NVDRS

DoDSER Gender Comparison Study

- UC San Francisco, San Francisco VA Medical Center PTSD Program

Education and Training Program

- American Psychological Association (APA), Division 19 – Society for Military Psychology
- Brooke Army Medical Center, Joint Base San Antonio, TX
- Center for Deployment Psychology
- Defense Centers of Excellence for Psychological Health & Traumatic Brain Injury (DCoE)
- Defense and Veterans Brain Injury Center (DVBIC)
- Defense Health Agency (DHA) Education and Training Directorate
- Deployment Health Clinical Center (DHCC)
- Madigan Army Medical Center, Joint Base Lewis-McChord, WA
- Malcolm Grow Medical Clinic, Joint Base Andrews, MD
- Military Family Life Counselors (MFLC)
- National Center for Child Traumatic Stress (NCCTS)
- National Intrepid Center of Excellence (NICoE), Bethesda, MD
- Substance Abuse Mental Health Services Administration (SAMHSA)
- Uniformed Services University of the Health Sciences, Bethesda, MD
- University of California, Los Angeles (UCLA)
- U.S. Navy and Marine Corps Reserves Psychological Health Outreach Program
- VA Greater Los Angeles Healthcare System, West Los Angeles Medical Center
- VA Greater Los Angeles Healthcare System, Sepulveda Ambulatory Care Center,
- VA Portland Health Care System
- VA Puget Sound Health Care System
- Walter Reed National Military Medical Center, Bethesda, MD
- Warrior Resiliency Program, San Antonio, TX
- Wilford Hall Ambulatory Surgical Center, Joint Base San Antonio, TX

Enterprise-wide Environmental Scan and Targeted Survey of Health Technology Needs and Uses in the Military Community

- Rand Corporation Survey Research Group

Examining the Usability, Acceptability, and Effectiveness of the Provider Resilience Application in VA Mental Health Providers

- San Jose State University
- VA National Center for PTSD
- VA Puget Sound Health Care System

Reliability and Initial Validation of the INTRuST Structured Assessment for Evaluation of TBI (SAFE-TBI)

- Dartmouth College
- University of California, San Diego
- University of Washington

mHealth Convergence Feasibility Study: Integration of mCare/Mobile Health Care Environment — Revised and the T2 Mood Tracker Mobile Application

- Telemedicine and Advanced Technology Research Center's Mobile Health Innovation Center

MilitaryKidsConnect

- Center for the Study of Traumatic Stress
- DoD Education Activity
- DoD Military Community and Family Policy
- Joint Base Lewis-McChord Morale Welfare and Recreation
- Joint Base Lewis-McChord Teen and Youth Center
- Madigan Army Medical Center, Department of Adolescent Medicine
- Military Child Education Coalition
- Military OneSource
- Military Student Transition Counselor Program
- National Child Trauma Stress Network
- National Guard Teen Advisory Board
- National Military Family Association
- Project FOCUS (Families Overcoming Under Stress)
- Scottish Centre for Telehealth and Telecare
- Sesame Workshop
- Steilacoom High School Student 2 Student® Program
- University of California at Los Angeles
- University of Minnesota, Family Social Science
- University of Southern California School of Social Work

Military Mental Health Stigma Project

- Clemson University
- Iowa University

Military Suicide Research Consortium — Effectiveness of a Virtual Hope Box Smartphone App in Enhancing Veterans' Coping with Suicidal Ideation: A Randomized Clinical Trial

- Florida State University
- VA Eastern Colorado Health Care System
- VA Portland Health Care System

Mobile Applications

- Center for Deployment Psychology
- Center for the Study of Traumatic Stress
- Defense Health Agency Health Care Information Technology Directorate, Innovations & Advance Technology Development Division
- Defense Health Information Management System
- Healthy Base Initiative
- Military Health System's Innovations Office and Working Group
- Military Suicide Research Consortium, Florida State University
- Naval Center for Combat and Operational Stress Control
- Tripler Army Medical Center
- Uniformed Services University of the Health Services
- U.S. Air Force Medical Systems
- U.S. Army Program Executive Office Soldier
- U.S. Army Telemedicine and Advanced Technology Research Center
- U.S. Navy & Marine Corps Public Health Center
- University of British Columbia
- UCLA Medical Center at Santa Monica
- University of North Dakota
- University of Washington
- VA National Center for PTSD
- VA Office of Mental Health Services
- VA Portland Health Care System
- VA Puget Sound Health Care System, American Lake
- Walter Reed National Military Medical Center

Randomized Control Trial of In-Home Telebehavioral Health Care Utilizing Behavioral Activation for Depression

- University of Washington

Stepped Care for Inpatient Trauma Patients

- University of Washington

A Comparative Effectiveness Trial of Optimal Patient-Centered Care for US Trauma Care Systems

- Harborview Medical Center
- University of Washington

Telehealth

- American Telemedicine Association
- Army, Navy and Air Force Telehealth Offices
- Camp LeJeune Marine Corps Base (Naval Hospital), North Carolina
- Cannon Air Force Base, New Mexico
- Defense and Veterans Brain Injury Center
- Defense Health Agency, Healthcare Operations Directorate
- Defense Health Cost Assessment and Program Evaluation Office
- DoD/VA Health Executive Council Telehealth Work Group
- Department of Veterans Affairs National Telemental Health Center
- Department of Veterans Affairs Telehealth Services Office
- Deployment Health Clinical Center
- Federal Agency Telehealth Consortium
- Indiana National Guard
- Joint Surgeons
- Landstuhl Regional Medical Center
- Madigan Army Medical Center
- Military Health System Telehealth Work Group
- Office of the Assistant Secretary of Defense, Health Affairs
- Office of the Deputy Assistant Secretary of Defense for Health Readiness Policy and Oversight
- Office of Health Services Policy and Oversight
- Philadelphia VA Medical Center
- Puget Sound Enhanced Multi-Service Market
- U.S. Army Medical Information Technology Center
- U.S. Army Telemedicine and Advance Technology Research Center
- VA Connecticut Healthcare System
- VA Puget Sound Health Care System
- Walter Reed National Military Medical Center





Virtual Hope Box mobile app:

“ Wonderful tool! Great incorporation of CBT, mindfulness, and other coping techniques! I work in primary care and this is a much needed and helpful resource. Bravo!”

Provider Resilience mobile app:

“ Love this! Just what I needed! I forwarded it to my whole agency!”

CBT-i Coach mobile app:

“ Very Well Done
Fantastic resource”

T2 Mood Tracker mobile app:

“ Very professional. The muted colors are easy on my eyes (and brain) and the sliders are brilliant. I'm a naturally analytical person so it works. I plan to incorporate this into my treatment plan and show it to my doctors. Dealing with this lifelong becomes survival every waking hour. The resources provided will prove very helpful. Thanks for this app.”

Military Kids Connect website:

“ Fantastic resource. As a prior Air Force member, I didn't see anything such as these videos or even a reference to sites such as this one. I think it's critical kids understand they are not the only ones dealing with the death of a parent.”

Breathe2Relax mobile app:

“ The best app! I downloaded this app so I could have a visual to help me breathe when I start to feel anxious. I suffer from panic attacks and this app is my go to. Love it so much!”



DEFENSE CENTERS OF EXCELLENCE
For Psychological Health & Traumatic Brain Injury

NATIONAL CENTER FOR TELEHEALTH & TECHNOLOGY

9933 West Hayes Street

Joint Base Lewis-McChord, WA 98431

253-968-1914

t2health.dcoe.mil

mrmc.dcoe.t2-contactus@mail.mil

