



# Letter to Stakeholders



Colleagues,  
We are proud to provide you with our Fiscal Year 2017 (FY 2017) National Intrepid Center of Excellence (NICoE) Annual Report. As you will see, we proudly continue to serve our patients and their families with compassionate and holistic interdisciplinary care. This extraordinary care is supported by a robust clinical research portfolio that affects

change both within and outside the Military Health System's (MHS) traumatic brain injury (TBI) Pathway of Care. As has been the case since we opened our doors in 2010, the NICoE would not be able to achieve its core mission of improving the lives of patients and families impacted by TBI and associated health conditions without the efforts of our valued supporters and collaborators.

As predicted, FY 2017 was a year full of superlative patient care, forward-thinking research, and exciting collaborations with partners in government, non-federal agencies, industries, and academia. Working closely with the Uniformed Services University of the Health Sciences (USUHS), the Center for Neuroscience and Regenerative Medicine (CNRM), as well as the Defense and Veterans Brain Injury Center (DVBIC), NICoE helped advance the science of TBI care. Additionally, NICoE staff subject matter experts worked directly with leaders, medical providers, and researchers throughout a growing Intrepid Spirit Center (ISC) network; with five centers open, one under construction, and the seventh ISC having broken ground last May at Marine Corps Base Camp Pendleton. This collaboration has helped expand knowledge and understanding across a national TBI treatment pathway that provides the best possible care for our incredibly deserving service members, their families, and other military health care beneficiaries.

In FY 2017, NICoE continued to be a valued destination for senior U.S. and foreign civilian, military, and medical leadership. NICoE responded to an ever-increasing demand for experiential learning opportunities from medical specialties interested in exploring the program housed within the purpose-built NICoE facility and other locations within the NICoE Directorate, such as the Brain Fitness Center (BFC) and inpatient consultative services. NICoE clinical and research staff were in high demand for their expertise and leadership in areas such as data collection and sharing, clinical informatics and analytics, and knowledge translation into direct clinical care.

While increasing engagement and supporting excellence throughout the MHS, locally the NICoE Directorate increased access and availability for intensive and routine outpatient and inpatient consultative care. NICoE provided patients and caregivers a balanced portfolio of high-tech service offerings and high-touch care delivered by a committed team of primary and specialty care providers, nurses, Navy Hospital Corpsmen, clinical researchers, and administrative staff. The NICoE Directorate also continued to foster growth and success within itself through increased interaction with our dedicated staff, introducing various initiatives and events designed to recognize and sustain the people that truly make the NICoE what it is.

2018 is shaping up to be monumental as the TBI Pathway of Care opens two new ISCs, and a strategy of physically and virtually networked care and research for traumatic brain injury takes shape and becomes a reality. Through the hard work and dedication of the NICoE team and our many stakeholders, our patients and their families continue to receive the best health care available. This continues to be our purpose, our honor, and our privilege.

Sincerely,

**Captain Walter M. Greenhalgh**

Medical Corps, United States Navy

Director for the National Intrepid Center of Excellence

Walter Reed National Military Medical Center

## MISSION

We improve the lives of patients and families impacted by TBI through excellence and innovation

## VISION

To be a global leader in TBI care, research, and education

## GUIDING PRINCIPLES

Excellence, Innovation, Compassion, Honor, and Collaboration



In a year of change across the Military Health System (MHS), the National Intrepid Center of Excellence (NICoE) at the Walter Reed National Military Medical Center (WRNMMC) continued its mission to improve the lives of patients and families living with traumatic brain injury (TBI) and associated conditions, and to become a global leader in TBI care, research, and education focused on this complex population. In fiscal year (FY) 2017, the NICoE served more than 4,000 active-duty, National Guard and Reserve service members, and adult beneficiaries; and supported the advancement of TBI knowledge and treatment worldwide through research, education, and data-sharing initiatives.

More than 370,000 service members have experienced a TBI since 2001. The NICoE plays a key role within the MHS TBI Pathway of Care, spanning from screening and identification to reintegration. Increased efforts in 2017 to build and share the NICoE model of integrating care and research support quality and access to care for TBI patients and families across the Pathway at Intrepid Spirit Centers (ISCs) and military treatment facilities (MTFs) nationwide.

This year saw expanded collaborations with ISCs and other TBI assets, as well as efforts to standardize processes and metrics to ensure all beneficiaries with TBI receive the diagnosis, care, and education to live a fulfilling life. These expansions will challenge the NICoE in 2018 and beyond to continue meaningful engagement with new partners across an amplified Pathway.

While recognizing the successes from FY 2017, the NICoE must also continue to prepare to meet challenges the MHS faces in the treatment and care of TBI. Through the dedication of the many NICoE providers, researchers, administrators, and volunteers, the NICoE will continue to set goals that meet the mission entrusted to it by those who rely on the care it provides.



CLINICAL



RESEARCH



ADMINISTRATION



EDUCATION



In FY 2017, NICoE patients received care either through the four-week Intensive Outpatient Program (IOP) or TBI Outpatient Services. Patients spend dedicated time with their NICoE health care providers through an integrative health approach that includes traditional medicine and advanced diagnostic techniques.

4,000+

patients received services through the NICoE.



In addition to caring for TBI patients, the **Brain Fitness Center (BFC)** provides treatment for other chronic conditions and diseases, such as cancer.

Additionally, NICoE staff provided consultative TBI care for **100+ WRNMMC inpatients**, including wounded service members directly from the battlefield.



On average, IOP patients experienced a **71% improvement** in quality-of-life symptoms as reported on self-report scales.



115 encounters

Throughout the four-week IOP, each patient has an average of **115 encounters** with NICoE providers as part of a tailored and holistic treatment plan.

Since the integration with WRNMMC in 2015, the NICoE has **expanded feedback** around TBI Outpatient Services and the IOP to standardize and improve processes.

The NICoE collects feedback to gauge program success and effectiveness.



The work of the NICoE would not be possible without the partnerships that exist with MTFs across the MHS and other healthcare providers.

Many patients who come to the NICoE require a more intensive evaluation, diagnosis, or treatment than can be provided at their home facility outside the National Capital Region (NCR).

88+

providers across the country referred patients to the IOP for treatment using the NICoE's integrative health model.

The NICoE continues to improve processes to identify care priorities and **reduce patient wait times** for NICoE referrals.

The **average FY 2017 wait time** from the date an appointment was made to the date the patient walked through the NICoE's doors was 10 days, which is:



In addition to clinical care, the NICoE collaborates with government organizations and private, non-profit, and academic institutions to **advance research** in support of TBI clinical care.

**20+** peer-reviewed journal articles and manuscripts in FY 2017

### RESEARCH SPOTLIGHT: Hypoxia Study



NICoE researchers are working to develop a **brain stress-test** in which traditional concussion assessments would be repeated with and without stress. Early findings suggest concussed individuals, who perform normally under lower-stress testing at sea level, may show **unexpected difficulties when asked to perform the same tasks under stressful conditions** at higher altitudes.

### RESEARCH SPOTLIGHT: 15-Year Studies



The NICoE and WRNMMC serve as the core site for this congressionally-mandated, multi-site 15-year TBI study. **Now at its midpoint**, this DVBIC-supported study submitted the Year 7 Report to Congress in 2017. Research findings indicate that a **range of identified issues complicates TBI recovery, and that caregivers face significant burdens.**

The NICoE continued to leverage enterprise services and data capabilities to enhance the **NICoE Continuity Management Tool (NCMT)** to standardize and accelerate TBI assessment and intervention across the MHS TBI Pathway of Care.



Engagement with ISCs and TBI clinics increased the use of data to understand TBI, with the hopes of expanding to additional locations next FY.

 Additionally, May 2017 saw ground broken for the ISC at **Camp Pendleton**, with projected completion in 2018.

**Creative Forces: National Endowment for the Arts (NEA) Military Healing Arts Network**, a partnership between the NEA and Department of Defense (DoD) that began at the NICoE, announced **nine new clinical sites** to join the network.



**5** sites launched in FY 2017

The NICoE is committed to engaging current and future TBI clinicians, researchers, and healthcare professionals.

Training, development, and social programs/activities were held throughout the year to enhance work-life balance.

**35** new staff joined the NICoE



**44** training, development, and social opportunities held

**21** experiential learners received hands-on practice through internships, fellowships, and young professional programs

**92** participants attended **Didactic Series events** that showcased knowledge and best practices for TBI care and research



**2** Joint Commission mock surveys were conducted to continuously improve health care and ensure patient safety.



The NICoE continued to share and expand a patient-centered, integrative health model locally and around the world. Through education and training of the next generation of TBI providers, hosting of distinguished visitors, and collaboration across the TBI Pathway of Care, the NICoE continues to serve as a global leader in TBI care, research, and education.



<b>NICoE</b> <b>Intrepid Spirit Centers</b> Open or under construction	<b>Intrepid Spirit Centers</b> To be built <b>Provider Orientations</b> participants (U.S.)	<b>Distinguished Visitor Tours</b> participants (U.S.) <b>Distinguished Visitor Tours</b> participants (international)
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**21** countries  
 Distinguished visitors from around the world came to the NICoE in FY 2017. They represented stakeholders across the military, federal government, Congress, and other worldwide academic and research partners, including **166** provider orientation participants.

- 176** **U.S. military visitors**
- 201** **International visitors**
- 100** **Academics and non-profits**
- 114** **Members of Congress and the federal government**

- TOP REASONS** for visits included:
- Knowledge sharing** about TBI recovery and best practices
  - Understanding the NICoE** and our patient offerings
  - Communicating** our model for interdisciplinary approach to care and referral



## **The National Intrepid Center of Excellence**

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For more information on the NICoE, please visit our website:

<http://www.wrnmmc.capmed.mil/NICoE>

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To view the NICoE's past award-winning annual reports,  
visit: <http://www.wrnmmc.capmed.mil/NICoE/about/SitePages/annual-reports.aspx>