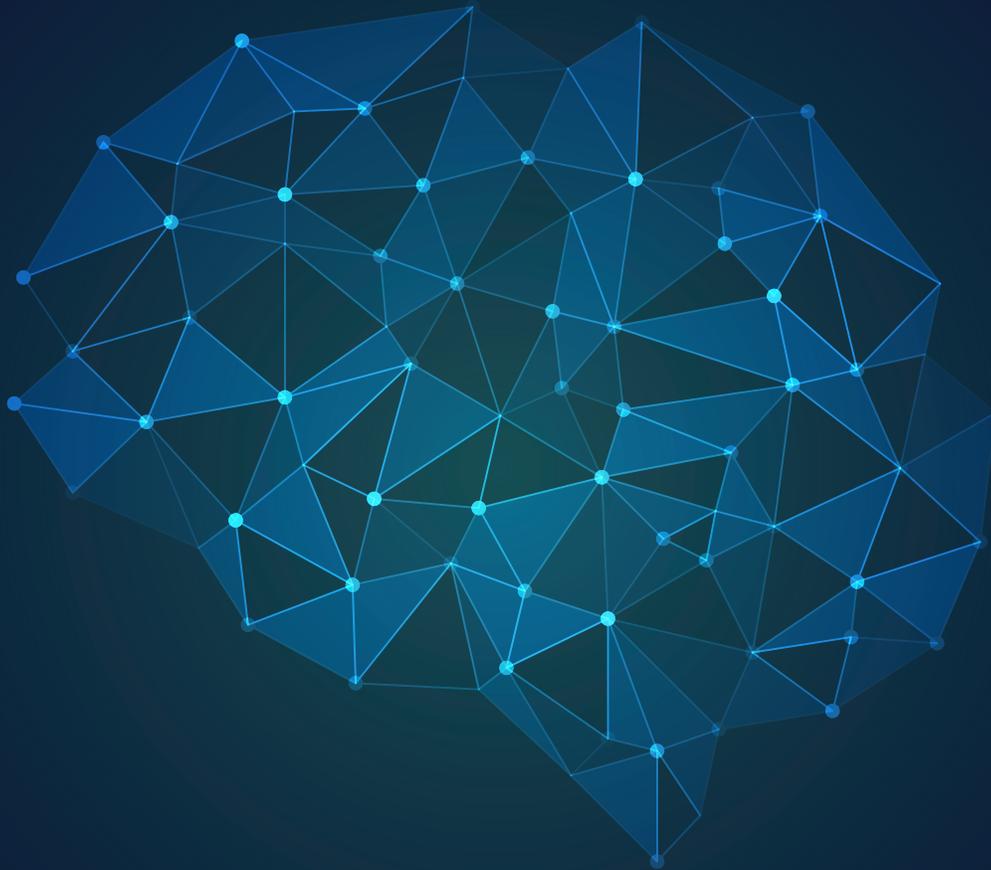


FY19

EPILEPSY

Centers of Excellence



Improving the health and well-being of Veteran patients with epilepsy and other seizure disorders through the integration of clinical care, research, and education www.epilepsy.va.gov

VA



U.S. Department
of Veterans Affairs

Veterans Health
Administration

Epilepsy Centers of Excellence ANNUAL REPORT FISCAL YEAR 2019

October 1, 2018 – September 30, 2019

VA



**U.S. Department
of Veterans Affairs**

Epilepsy Centers
of Excellence

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2019 Annual Report Project Manager:
Pamela Kelly, DHA, MBA/HCM

In addition to the ECoE Directors and staff, special thanks go out to those who went above and beyond to assist in bringing this annual project to fruition: Linda Benson, MPH; Winona Finley; Rizwana Rehman, PhD; Ronda Tschumper, R. EEG/EP T, CLTM; Angela Young, MBA

Mission

Improve the health and well-being of Veteran patients with epilepsy and other seizure disorders through integration of clinical care, outreach, research, and education.

Message from the VA National Program Director, Neurology



The year-end summary for the Epilepsy Centers of Excellence (ECoE) Annual Report provides a moment for reflection and opportunity to review goals, accomplishments, and challenges confronting the program in the context of other Centers, program offices, and the central office. By and large, Fiscal Year 2019 (FY19) could be viewed as a time of abeyance, when progress seemed almost impossible. Many obstacles continued to block efforts, and new challenges emerged. Despite these impediments, exemplary care for Veterans with epilepsy and epileptiform disorders in the ECoEs continued, as did efforts to innovate and improve the care provided. It seems fitting to highlight several accomplishments over the past year from this vantage point stand out.

Providing guidance to programs like the Epilepsy Centers of Excellence requires ready access to data on the target population and the management being provided. The ECoE has been fortunate to have this information available through the dedicated efforts of Dr. Rizwana Rehman. Having these figures through a simple keystroke, rather than in the form of regular reports has been the goal. Dr. Rehman has endeavored to construct a dashboard that will provide real-time access to clinical data. This resource will enhance the ability of ECoE site directors, regional directors and leadership to make informed programmatic decisions. This dashboard will also inform colleagues not affiliated with the ECoE about Veterans with epilepsy at their facility. Recognizing the value of this resource, Dr. Rehman has been collaborating with the MSCoE and PADRECCs to develop a dashboard providing comprehensive information on Veterans with multiple sclerosis and movement disorders.

Access to care is a challenge not just to the Veterans Health Administration but for any healthcare system. The ECoE program has made great strides in facilitating access to specialized epilepsy care by embracing telehealth. One example, a clinical video telehealth collaboration between the Stratton VAMC in Albany, NY and West Haven ECoE, has received rave reviews from Veterans and providers. Hamada Altalib and team have been available and supportive of the needs for sub-specialty epilepsy care in Albany. Another telehealth collaboration (store-and-forward EEG), in this case between Albany and Boston, has helped to ensure timely access to valuable diagnostic testing. The relationship with David McCarthy and team has also introduced ambulatory EEG capability to the Albany facility. These examples of success provide a strong foundation for further growth, including expansion of telehealth to home (VA Video Connect – VVC).

For the past few years we have endeavored to strengthen the relationship between each ECoE program and their host medical center. The ECoE brings value and resources to the medical center and efforts lead by Dr. Pamela Kelly have provided a welcome boost. Care of the Veteran with epilepsy is complex and costly with substantial expense for seizure management as well as medical co-morbidities. Dr. Kelly and her teams' efforts to accurately identify the Veteran population with epilepsy, will help to ensure that the complexity of care is reflected in the VERA reimbursement. In these challenging budgetary times, increase in clinical reimbursement is welcome as is stronger partnering between the ECoE and medical center.

Despite many obstacles, the dedication and hard work of the ECoE has ensured progress and accomplishment. As organizational impediments ease, exciting opportunities for enhancement of epilepsy practice will emerge and this devoted team is uniquely qualified to meet the challenge.

A handwritten signature in black ink that reads "Donald S. Higgins, Jr., MD". The signature is written in a cursive, flowing style.

Donald S. Higgins, Jr., MD
National Director for Neurology
Veterans Health Administration

Message from the Acting National ECoE Director



It is an honor for me to write as the National Director of the Epilepsy Centers of Excellence (ECoE). I greatly value the trust the ECoE directors have placed in me to lead this auspicious group. This year has seen many accomplishments while simultaneously identifying areas of opportunity. The ECoE directors have worked hard to ensure that we continue to accomplish the mission of the ECoE. Support from national Neurology leaders, Drs. Don Higgins and Glen Graham, have been instrumental in accomplishing many of our goals.

The ECoE Directors' meeting this year was held in Houston. The Directors and Drs. Higgins and Graham reviewed our accomplishments for the year and identified goals for the upcoming year. The level of engagement at the national meeting was high, with many workgroup leaders attending via WebEx, and nonprofit and industry partners attending the open part of the meeting in person.

Clinical care, research, and education are at the heart of the ECoE mission. State-of-the-art clinical care continued this year in the ECoE. With an emphasis on leveraging technology to provide epilepsy care, the ECoE has focused on electronic health care delivery. Foremost among these advances are clinical video visits. These allow providers to "see" patients in their homes and avoid having them travel to the specialist site or a regional medical center. Also, more care is being delivered through telephone clinics, store-and-forward EEGs, and e-consults. All these technological advances reduce patient travel, enhance care delivery, and improve patient satisfaction. In the coming year, these advances in patient care will be introduced at ECoE sites not currently using them. We will continue to explore other ways to improve care delivery, using technology where appropriate to meet our needs.

Research is a core mission of the ECoE. In 2019, we continued to see VA research supported by grants from the Department of Defense and other agencies for the study of traumatic brain injury and epilepsy, psychogenic nonepileptic seizures (PNES), and basic science aspects of epilepsy. Clinician scientists met this year to discuss collaborative ways to enhance the basic science research within the ECoE. ECoE investigators published many scientific papers, book chapters, and monographs on the evaluation and treatment of epilepsy. One of the most exciting research accomplishments of this year has been the progress on the PNES VA Collaborative study. This study has received encouraging reviews, and work is under way to evaluate sites where such research could be conducted. I am hopeful that this award will be realized within the upcoming year.

ECoE Directors, staff, and collaborators have all been involved in the education mission. ECoE physicians, advanced practice providers, nurses, technologists, and others have all been involved in educating the next generation of providers, patients, and families. This year has seen another series of educational webinars for providers and patients. A YouTube video about women Veterans with epilepsy was produced and has been extremely popular. I am grateful to the Directors and staff of the ECoE who continue to volunteer for these educational endeavors. I hope to see these continue in the coming year.

Recognizing that a lot of epilepsy care happens beyond the walls of the ECoE, collaborating with ECoE consortium sites has been a key priority. Quarterly calls with leaders from these sites have helped coordinate epilepsy care throughout the VA. At the American Epilepsy Society annual meeting in December, we will host a consortium meeting to discuss topics of mutual interest. Additionally, we have continued collaborations with nonprofit and industry partners to help raise awareness about epilepsy and seizure disorders within the community.

Administratively, the ECoEs have remained stable. The next year will hopefully bring more opportunities to improve and fill existing vacancies so that the ECoEs can function even more efficiently. A reorganization of the administrative structure has been proposed, and hopefully this effort will be realized this year. Also, regional advisory committees are being reconstituted according to guidelines from VACO and will provide additional oversight. We are also excited about the start of a formal review process for all Centers of Excellence, and we look forward to showcasing the work of the ECoE to the reviewers.

The ECoEs have a series of ambitious goals for the upcoming year, as outlined in this annual report. While ambitious, they are achievable. The extraordinary staff of the ECoE are up to the challenge of continuous improvement in the quality of care, research, and education related to epilepsy and seizure disorders.



Aatif M. Husain, MD

Acting National Director
Epilepsy Centers of Excellence

Introduction

In 2008, under Public Law S. 2162, the Department of Veterans Affairs (VA) set out on a mission to revolutionize services for Veterans afflicted by epilepsy and other seizure disorders. The VA founded the Epilepsy Centers of Excellence (ECoE), establishing sixteen sites that are linked to form four regional centers.

The ECoE seeks to provide the best possible epilepsy care to Veterans throughout the United States with state-of-the-art diagnostic and therapeutic services. Our goal is to deliver the highest quality of ongoing medical care to Veterans suffering from epilepsy. We also seek to promote outreach and educational efforts for both patients and their physicians to further the understanding of this chronic condition. The ECoE offers a range of services in both the outpatient and inpatient realms and provides outpatient epilepsy clinics with a staff of neurology sub-specialists. From these clinics, patients can be directed to the most advanced testing methods for the evaluation of epilepsy, including magnetic resonance imaging (MRI), electroencephalography (EEG), and video monitoring. For those patients who require more intensive testing or attention, the ECoE also provides inpatient units for examining certain seizure types more closely, changing medications in a monitored setting, and presurgical evaluation.

The epilepsy centers are also linked with the polytrauma centers to increase the ability to mutually follow Veterans with moderate and severe traumatic brain injury who are at the greatest risk for post-traumatic epilepsy. The sites are developing protocols to identify Veterans with epilepsy and to develop referral networks to enable Veterans to obtain specialized treatment, such as epilepsy surgery and advanced electro-diagnosis, within the Veteran healthcare system.

If you are a Veteran with seizures and are interested in seeking services at one of the Epilepsy Centers, please inquire with your local VA primary care physician. Your doctor will be able to determine if you might benefit from the services provided by ECoE and assist you with scheduling an appointment. You can also contact your local ECoE site directly for assistance in connecting to services. For more information, please visit our website at www.epilepsy.va.gov.

National Program Goals

The goals of the ECoE National Program are as follows:

- Establish a national system of care to all Veterans with epilepsy, to function as a center of excellence in research, education, and clinical care activities in the diagnosis and treatment of epilepsy.
- Collaboratively develop a national consortium of providers with interest in treating epilepsy at VA healthcare facilities lacking an epilepsy center of excellence to ensure better access to state-of-the-art diagnosis, research, clinical care, and education for traumatic brain injury and epilepsy throughout the VA healthcare system.
- Collaborate with the VA Polytrauma/TBI System of Care that provides research, education, and clinical care to Veteran patients with complex multi-trauma associated with combat injuries.
- Use national VA and other databases to inform providers and policymakers in the VA Central Office about healthcare delivery and health policy decisions, conduct state-of-the-art research in epilepsy, and implement an informatics backbone to meet the above objectives.
- Ensure an affiliation with accredited medical schools, provide education and training in neurology, and diagnose and treat epilepsy (including neurosurgery).
- Provide professional health education and training to nursing staff, medical students, house staff, fellows, and referring physicians to deliver the highest quality of standard of care to Veterans with epilepsy.

FY19 National ECoE Goals & Accomplishments

The following goals and accomplishments were outlined in FY18 to serve as a road map for the ECoE in 2019.

Operations

- Hire administrative staff.
- Ensure compliance with VHA Directive 1215, with approval to move forward (self-assessments, MOUs, external reviews):
 - Reestablish a Regional Advisory Committee in accordance with VHA Directive 1215.
 - Review and update Peer Review Committee in alignment with PL.
- Complete administrative updates in compliance with Public Law 118-387.
- Redraw ECoE maps to include new site(s).
- Seek concurrence of an ECoE Operations Handbook through leadership.
- Update the agreement for CBT training for PNES.
- Update travel documents for referral and movement between sites for specialized epilepsy services.
- Enhance consortium collaborations.
- Review and seek updates with VERA allocations.

Clinical

- Increase store-and-forward EEG services.
- Increase home telehealth encounters by 50 percent.
- Establish a standard operating procedure for remote access to EEG and for store-and forward-EEGs.
- Establish a guidelines document for care coordination regarding EMU referrals.
- Incorporate bone-health assessment in clinical practice.

Research/Surveillance

- Finalize application of the VA Cooperative study 2013, "Treatment of Psychogenic Non-Epileptic Seizures in Veterans."
- Continue DoD grants regarding TBI, PNES, and epilepsy.
- Forward two letters of intent for basic science grants.
- Establish a bone-health publication.
- Conduct research on women Veterans.
- Complete a UCB peer-navigation project.
- Conduct a brain sentinel project.
- Write a pharmacy publication.
- Explore partnerships with nonprofit commercial entities.

Education

- Continue building the webinar series and YouTube series, and enhance current webinars and videos.
- Publish a paper about women Veterans in the peer-reviewed clinical journal titled *Federal Practitioner*.
- Explore opportunities with commercial entities for Veteran and provider education.

Outreach

- Increase consortium engagement.
- Enhance and continue to build nonprofit partnerships.
- Enhance and continue to build commercial-entity partnerships.

FY19 National ECoE Goals—Status

The status charts below show progress that has been made on the FY19 National ECoE goals.

FY19 Goals	Met Expectations	In Progress	On hold	Champion/ Comment
Operations				
Hire administrative staff			x	ECoE Leadership, waiting for VACO approval
Ensure compliance with VHA Directive 1215, with approval to move forward (self-assessments, MOUs, external reviews):		x		ECoE Directors
Reestablish a Regional Advisory Committee in accordance with VHA Directive 1215.			x	Regional Directors
Review and update the Peer Review Committee in alignment with PL	x			Rutecki, Husain
Complete administrative updates in compliance with Public Law 118-387.				
Redraw ECoE maps to include new site(s)	x			Kelly
Seek concurrence of an ECoE Operations Handbook through leadership			x	Chen, Husain, Kelly
Update the agreement for CBT training for PNES	x			LaFrance, Husain, Kelly
Update travel documents for referral and movement between sites for specialized epilepsy services		x		Garga, Kelly
Enhance consortium collaborations; include in regional meetings, others		x		ECoE Directors, Kelly
Review and seek updates with VERA allocations	x			Husain, Rehman
Clinical				
Increase store-and-forward EEG services	x			Technology work-group and site directors
Increase home telehealth encounters by 50 percent	x			Site directors
Establish a standard operating procedure for remote access to EEG and for store-and-forward EEG		x		Technology workgroup (McCarthy)
Establish a guidelines document for care coordination regarding EMU referrals		x		Rutecki, Husain
Incorporate bone-health assessment in clinical practice		x		VanCott

FY19 Goals	Met Expectations	In Progress	On hold	Champion/ Comment
Research/Surveillance				
Finalize application of the VA Cooperative study 2013, "Treatment of Psychogenic Non-Epileptic Seizures in Veterans"		x		Salinsky, LaFrance
Continue DoD grants regarding TBI, PNES, and epilepsy		x		Altalib, Towne, Garga, LaFrance
Forward two letters of intent for basic science grants			x	Research workgroup
Establish a bone-health publication		x		VanCott
Conduct research on women Veterans		x		Lopez, VanCott, Garga
Complete a UCB peer-navigation project		x		Hixson, Towne, Tran
Conduct a Brain Sentinel project		x		Towne, D. Chen, Lopez, Husain
Complete an EMU database to include consortium data		x		Towne, Benson
Write a pharmacy publication		x		Tran, Gidal, Rehman
Explore partnerships with nonprofit commercial entities		x		Site directors
Education				
Continue building the webinar series and YouTube series, and enhance current ones		x		Kelly
Publish a paper about women Veterans in the peer-reviewed clinical journal titled <i>Federal Practitioner</i>		x		VanCott
Explore opportunities with commercial entities for Veteran and provider education		x		Directors
Outreach				
Increase consortium engagement.		x		
Enhance and continue to build nonprofit partnerships.		x		
Enhance and continue to build commercial-entity partnerships.		x		

FY20 National ECoE Goals

Operations

- Finalize administrative core with temporary details and/or permanent hires.
- Conduct a quarterly administrative call with the National Coordinator, Regional Directors, and administrators.
- Ensure compliance with assessments per VHA Directive 1215 (self-assessments and MOUs).
- Establish Regional Federal Advisory Sub-Committees in accordance with policy.
- Update Peer Review Committee members.
- Finalize the ECoE Code of Operations.
- Enhance consortium collaboration; include in regional meetings, others.
- Update agreement for CBT training for PNES.
- Review the org chart for region and suggest a “correct staffing” model.
- Investigate the impact of the MISSION Act on ECOE services.
- Fix data tracking at Boston, San Antonio, others.
- Streamline telehealth agreements.
- Promote VA clinical care.

Clinical

- Develop an instructional manual for store-and-forward EEG, home telehealth, CVT, remote access.
- Increase store-and-forward EEG services by 20 percent.
- Increase home telehealth encounters by 20 percent.
- Establish a guidelines document for when to refer to EMU.
- Provide input to development of the Cerner platform.
- Incorporate bone-health and women Veterans’ assessments in clinical practice.
- Establish a Q/I system of EEG reading at ECoE sites and consortium sites; meet ABPN PIP criteria.
- Leverage the MISSION Act for providing extremely subspecialized services at each site (ictal SPECT, etc.).
- Create a convulsive status epilepticus treatment guideline for the VA.
- Fill clinical vacancies on EEG technologist staff.
- Continue to add technology to VA ECoE sites (new diagnostic, treatment modalities).
- Train additional staff in CBT for PNES.

Research/Surveillance

- Continue DoD grants regarding TBI, fMRI, PNES, and others.
- Ensure VA Coop study (PNES) progress and participation.
- Mindfulness and treatment of epilepsy study enrollment to start.
- Obtain IRB approval and enrollment for the VA Epilepsy Surgery study.
- Offer psychiatric treatment of Veterans with epilepsy feasibility.
- Obtain two letters of intent for basic science grants (Basic Science Research workgroup).
- Establish a bone-health publication.
- Establish a women Veterans health publication for federal practitioners.
- Continue progress on the UCB peer-navigation project.
- Complete publication of Brain Sentinel project once closed.
- Incorporate consortium data into the existing EMU database.
- Publish Pharmacy paper.
- Explore partnerships with nonprofit, commercial entities

Education

- Seek volunteer presenters for a practitioner and patient webinar series.
- Develop new content to add to the YouTube Basic Training series.
- Investigate YouTube video display in waiting rooms.
- Initiate a CNP/Epilepsy fellowship program.
- Add epilepsy education classes at more ECoE sites.
- Develop an AAN course on women with epilepsy.
- Offer education seminars to primary care physicians.
- Explore opportunities with commercial entities for Veteran and provider education.

Outreach

- Increase consortium engagement; invite to regional meetings, others.
- Plan at least one epilepsy awareness event at each ECoE site..
- Establish or maintain nonprofit partnerships:
 - Epilepsy Foundation
 - Anita Kaufmann
 - DoD
 - Others
- Establish or maintain commercial-entity partnerships:
 - Research
 - Education

FY20 National ECoE Goals Crosswalk

Goals					
Access		Veteran-Centric Care		Quality/Transparency	
Objective 1A	Cerner project	Objective 1V	Education goals	Objective 1Q	Administrative staff hires
Objective 2A	Telehealth instructional manuals and EMU guidelines	Objective 2V	Continuation of efforts to leverage technology	Objective 2Q	Compliance with OIG
Objective 3A	Enhancement of consortium collaborations	Objective 3V	Research/surveillance goals	Objective 3Q	Regional Advisory Committee
Objective 4A	Nonprofit and commercial-entity partnerships	Objective 4V	Enhancement of webinar and YouTube series	Objective 4Q	Improved data tracking
Objective 5A	Additional trained staff for CBT and PNES	Objective 5V	Sufficient clinical staffing	Objective 5Q	Implementation of a QI system
Crosswalk		My VA Priorities			
1A,2A,3A,4A,5A; 1V,2V, 3V, 4V, 5V; 1Q, 4Q, 5Q		I	Customer Service Our first priority is customer service. That's the prime directive. When Veterans come to the VA, it is not up to them to get us to say yes. It's up to us—you and me—to get Veterans to say yes. That's customer service. We are going to make sure you are trained and equipped to achieve that.		
2A, 3A,4A,5A; 1V, 3V, 5V; 1Q, 3Q, 4Q, 5Q		II	Implementing the MISSION Act Our second priority, implementing the MISSION Act, will fundamentally transform VA healthcare. It will consolidate community care into a single program that's easier for Veterans, families, community providers, and all of you to navigate. The MISSION Act also expands our family caregivers program to provide much-needed assistance to the people caring for some of our most needy Veterans, day in and day out.		
1A,2A, 3A, 5A; 2V, 3V, 5V; 1Q, 2Q, 4Q, 5Q		III	Electronic Health Record Our third priority is replacing our aging electronic health record. The new electronic health record will modernize our appointment system, automate our disability and payment claims systems, and connect the VA to the Department of Defense, private healthcare providers, and private pharmacies. Implementing the electronic health record will be an ongoing, iterative process to build a continuum of care that's organized around Veterans' needs.		
3A,4A, 5A; 1V, 2V, 4V, 5V; 1Q, 2Q, 3Q, 4Q, 5Q		IV	Transforming Our Business Systems Our fourth priority is transforming our business systems. We are modernizing human resource management, finance and acquisition, and our supply chain. It's about giving you more leeway to manage budgets, recruit, retain, and relocate staff you need to serve Veterans. It's also about developing more robust partnerships with state and local communities to address challenges like Veteran homelessness and suicide prevention, our top clinical priority.		

This chart shows alignment of FY19 goals with VA goals and MYVA priorities.

Each of the FY20 goals is categorized as aligning with one of the three major VA Mission goals and then crosswalked to illustrate how each of the ECoE goals supports one or more of the MYVA priorities.

Centers of Excellence

Northeast		
States Covered: Virginia, West Virginia, Ohio, Pennsylvania, Delaware, Massachusetts, New Jersey, New York, Vermont, Maine, Connecticut, Rhode Island, New Hampshire, Massachusetts, Maryland, and District of Columbia		
Linked Polytrauma Site: Richmond		
Baltimore	VA Maryland HCS	(410) 605-7414
Boston	VA Boston HCS	(857) 364--4745
Richmond	Hunter Holmes McGuire VAMC	(804) 675-5000, ext. 3734
West Haven	VA Connecticut HCS	(203) 932-5711, ext. 2420
Northwest		
States Covered: Alaska, Washington, Oregon, Idaho, Montana, Wyoming, North Dakota, South Dakota, Minnesota, Iowa, Illinois, Indiana, Michigan, and Wisconsin.		
Linked Polytrauma Site: Minneapolis		
Madison	William S. Middleton Memorial VA	(608) 256-1901, ext. 17044
Minneapolis	Minneapolis VA HCS	(612) 467-2047
Portland	Portland VA HCS	(503) 220-8262, ext. 58330
Seattle	Puget Sound	(206) 277-4292
Southeast		
States Covered: Florida, Alabama, Georgia, Mississippi, Tennessee, Kentucky, South Carolina, Puerto Rico, Arkansas, Louisiana, North Carolina, and Missouri.		
Linked Polytrauma Site: Tampa		
Durham	Durham VAHCS	(919) 416-5982
Gainesville	Malcom Randall VAMC	(352) 376-1611, ext. 6818
Miami	Miami VAHCS	(305) 575-7000, ext. 3291
Tampa	James A. Haley Veterans' Hospital	(813) 972-7633
Southwest		
States Covered: California, Utah, Colorado, Kansas, Nebraska, Nevada, Hawaii, Arizona, New Mexico, Texas, Oklahoma, and Philippines.		
Linked Polytrauma Sites: Palo Alto and San Antonio		
Albuquerque	New Mexico VAHCS	(505) 256-2752
Houston	Michael E. DeBakey VAMC	(713) 794-8835
San Antonio	Audie L. Murphy Memorial VA Hospital	(210) 617-5161
San Francisco	San Francisco VAMC	(415) 379-5599
West Los Angeles	Greater Los Angeles HCS	(310) 268-3595

Definition of Centers

ECoE sites and Regional Centers will be designated by the ECoE National Program as ECoE program sites or centers.

ECoE Sites

Each ECoE, referred to as an "ECoE site," accomplishes the following:

- Offers weekly specialty Clinics in Epilepsy (not seen within a general neurology clinic).
- Trains providers for these clinics specifically in epilepsy care.
- Provides V-tel epilepsy consultations.
- Provides epilepsy monitoring.
- Has a single director who is an epileptologist.
- Has a designated administrative support person who works within the ECoE and participates on a national level.
- Participates in national ECoE initiatives and workgroups.

ECoE Regional Centers

Each region, referred to as an "ECoE Regional Center," accomplishes the following:

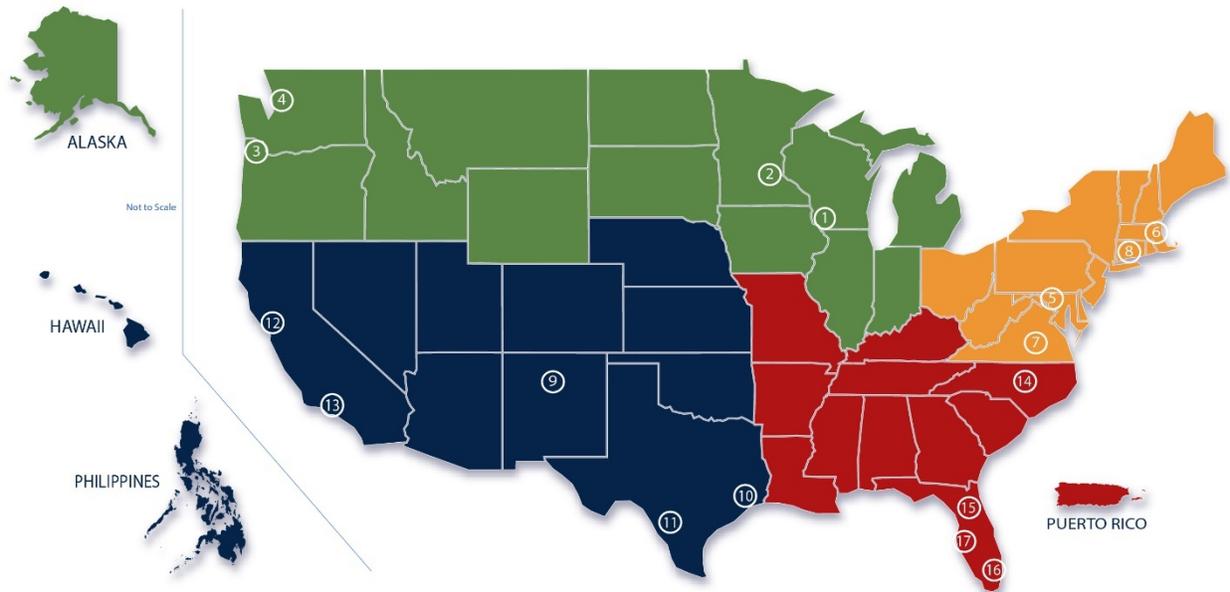
- Composes an established network covering all Veterans in its region, with a specified pathway for referral of Veterans with epilepsy to a surgical center, if needed.
- Sees Veterans in a timely manner, in accordance with VA policy and procedures.
- Has at least one surgical center that is comparable to a NAEC level 4 center, to include:
 1. An interdisciplinary and comprehensive diagnostic team approach
 2. A team that includes epileptologists, neurosurgeons, neuropsychologists, nurse specialists, and EEG technologists
 3. Complete evaluation for epilepsy surgery, including Wada testing
 4. Neuropsychological and psychosocial treatment
 5. Specialized brain imaging
 6. Fixed EMU beds that can provide Video EEG telemetry that includes intracranial electrode, functional cortical mapping, and electrocorticography
 7. A broad range of surgical procedures for epilepsy
- Is involved in clinical trials.
- Has a dedicated full-time epilepsy AO who serves as part of the national team.
- Offers opportunities for specialized education in clinical epilepsy care.

Consortium Sites

Each consortium site accomplishes the following:

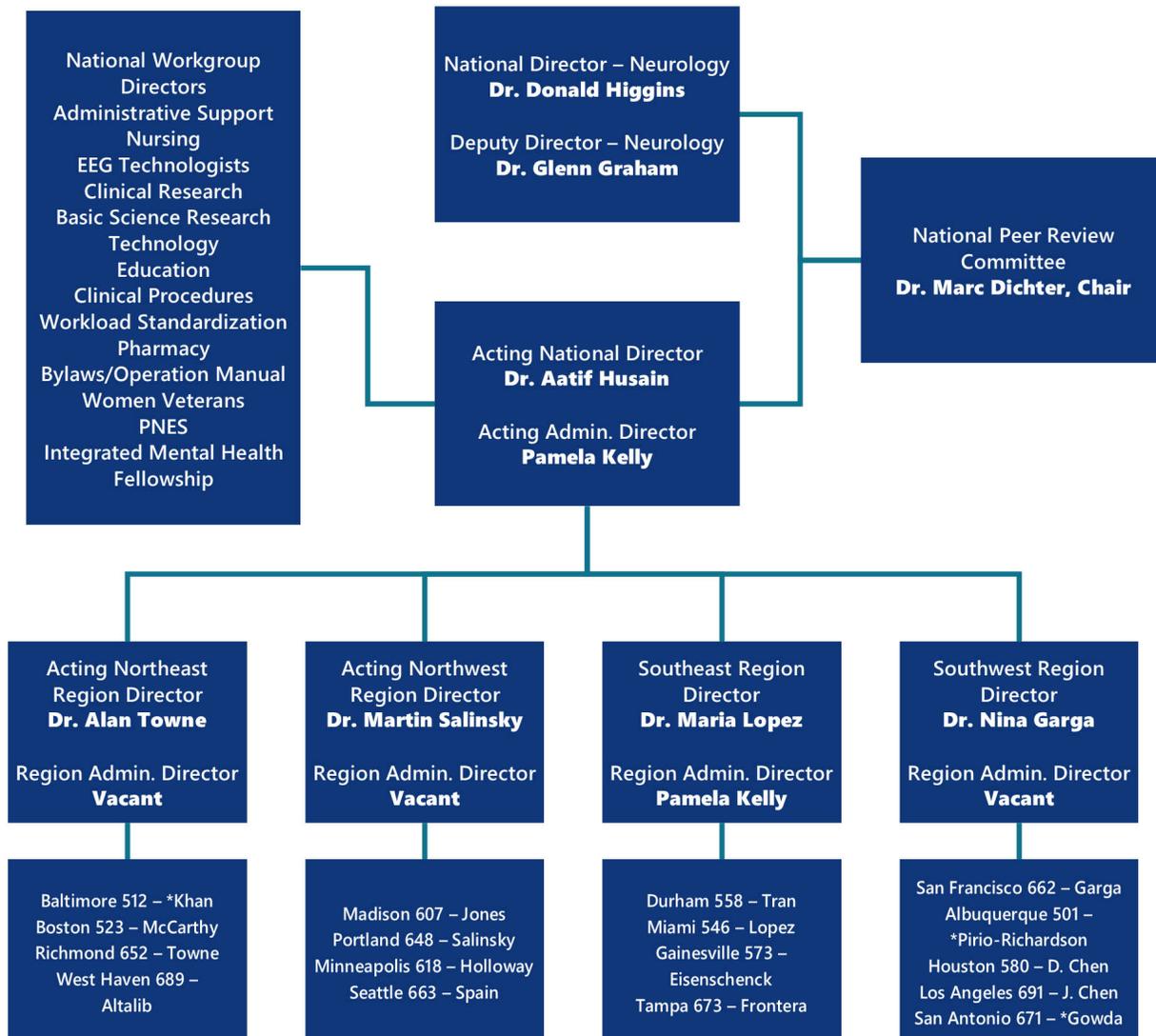
- Applies to the National ECoE for site designation and is recognized locally and nationally as an ECoE consortium site.
- Has a provider specifically trained in treating and managing epilepsy.
- Is linked to the ECoE network and has established an administrative pathway to refer patients to ECoE.
- Provides ECoE epilepsy resources to Veterans.
- Is available to participate in collaborative research projects.
- Participates in ECoE educational programs for clinical epilepsy care.
- Can participate in national ECoE initiatives and workgroups.

Epilepsy Centers of Excellence Regional Map



NORTHWEST	NORTHEAST	SOUTHWEST	SOUTHEAST
<p>1. MADISON William S. Middleton Memorial VA 2500 Overlook Tr. Madison, WI 53705 (608) 256-1901, ext. 17728</p>	<p>5. BALTIMORE VA Maryland HCS 10 North Greene St. Baltimore, MD 21201 (410) 605-7414</p>	<p>9. ALBUQUERQUE New Mexico VA HCS 1501 San Pedro Dr. SE Albuquerque, NM 87108 (505) 265-1711, ext. 2752</p>	<p>14. DURHAM Durham VA HCS 508 Fulton St. Durham, NC 27705 (919) 416-5982</p>
<p>2. MINNEAPOLIS Minneapolis VA HCS One Veterans Dr. Minneapolis, MN 55416 (612) 467-2047</p>	<p>6. BOSTON VA Boston HCS 150 S. Huntington Ave. Boston, MA 02130 (857) 364-4745</p>	<p>10. HOUSTON Michael E. DeBakey VA MC 2002 Holcombe Blvd. Houston, TX 77030 (713) 794-8835</p>	<p>15. GAINESVILLE Malcom Randall VA MC 1601 SW Archer Rd. Gainesville, FL 32608 (800) 324-8387, ext. 4020</p>
<p>3. PORTLAND Portland VA MC 3710 SW U.S. Veterans Hospital Rd. Portland, OR 97239 (503) 220-8262, ext. 58334</p>	<p>7. RICHMOND Hunter Holmes McGuire VA MC 1201 Broad Rock Blvd. Richmond, VA 23249 (804) 675-5000, ext. 3748</p>	<p>11. SAN ANTONIO Audie L. Murphy VA Hospital 7400 Merton Minter San Antonio, TX 78229 (210) 617-5161</p>	<p>16. MIAMI Miami VA HCS 1201 NW 16th St. Miami, FL 33125 (305) 575-7000, ext. 3291</p>
<p>4. SEATTLE Puget Sound HCS 1660 S. Columbian Way Seattle, WA 98108 (206) 764-2021</p>	<p>8. WEST HAVEN VA Connecticut HCS 950 Campbell Ave. West Haven, CT 06516 (203) 932-5711, ext. 4724</p>	<p>12. SAN FRANCISCO San Francisco VA MC 4150 Clement St. San Francisco, CA 94121 (415) 379-5599</p>	<p>17. TAMPA James A. Haley VA MC 13000 Bruce B. Downs Blvd. Tampa, FL 33612 (813) 972-7633</p>
		<p>13. WEST LOS ANGELES VA Greater Los Angeles HCS 11301 Wilshire Blvd. Los Angeles, CA 90073 (310) 268-3595</p>	

Epilepsy Centers of Excellence Organization Chart



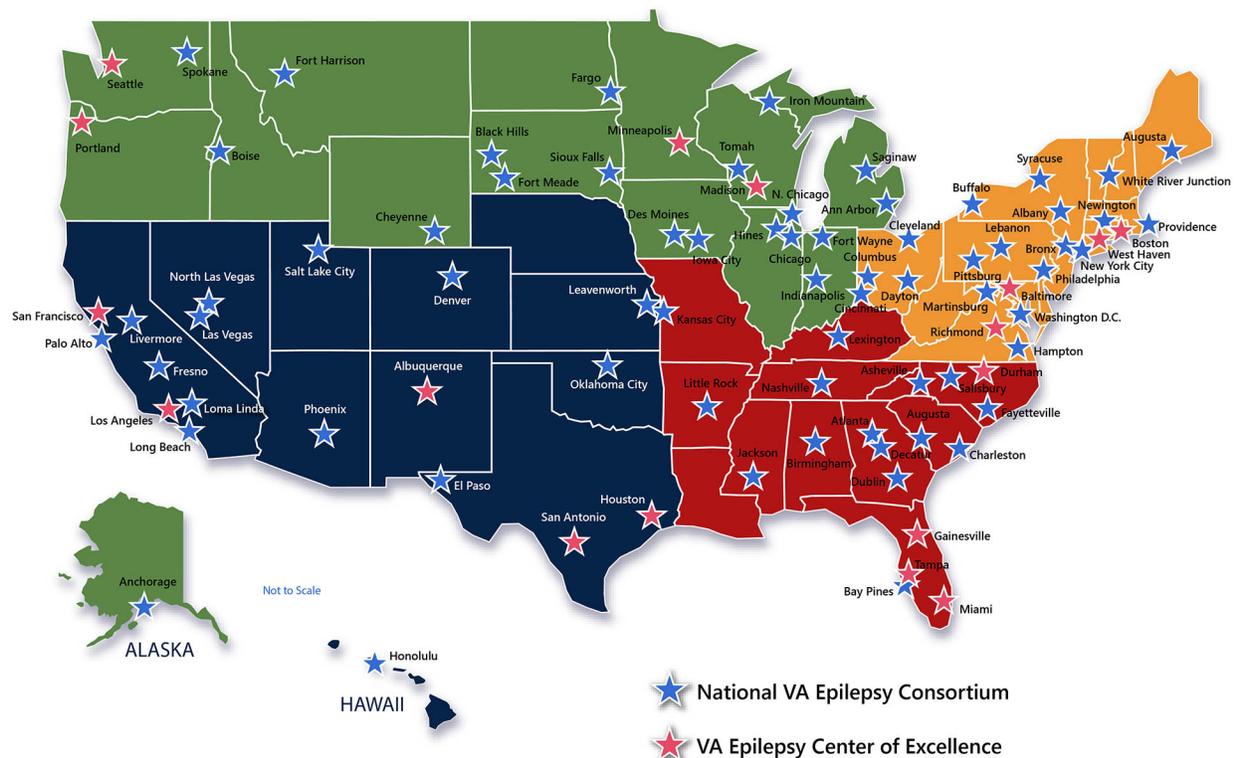
* Effective October 1, 2019

National VA Epilepsy Consortium

The goal of the National VA Epilepsy Consortium is to support the delivery of optimal care for Veterans diagnosed with epilepsy and seizure disorders through professional education, collaboration, and peer support across the collective VA Healthcare System. All interested VA clinicians, including epileptologists, neurologists, gerontologists, general internists, and other allied health professionals who serve Veterans with epilepsy and related seizure disorders (regardless of capacity), are invited to participate.

Together with the Epilepsy Centers of Excellence (ECoE), the National VA Epilepsy Consortium will create a hub-and-spoke model of care across the VA Healthcare System, expanding and streamlining the referral network for specialized epilepsy treatment, advanced neuro-diagnostics, and surgical evaluation. The Epilepsy Consortium will ensure accessibility and continuity of specialized care for Veterans regardless of locality, thus broadening the impact of the ECoE network. The National VA Epilepsy Consortium serves as a direct link to the 16 ECoE sites, which are staffed by epilepsy specialists or neurology clinicians, and provide administrative assistance, professional collaboration, and educational offerings in epilepsy care.

Members of the National VA Epilepsy Consortium will be offered a variety of epilepsy educational resources and updates on state-of-the-art epilepsy care from the ECoE. Also, consortium members who provide more comprehensive epilepsy services to Veterans can engage with the ECoE sites to assist in the development of standardized clinical processes and procedures to ensure consistent quality of care across the VA Healthcare System.



Inventory of Services

In the chart below, an “x” indicates that the service is not offered at that location. A blank box indicates that the service is offered, but it was not offered in FY19. Numbers shown indicate the number of times that service was offered at that location in FY19.

ECoE Inventory of Services FY19	San Francisco, CA	Los Angeles, CA	Houston, TX	San Antonio, TX	Albuquerque, NM	Baltimore, MD	Boston, MA	Richmond, VA	West Haven, CT	Madison, WI	Minneapolis, MN	Portland, OR	Seattle, WA	Durham, NC	Miami, FL	Gainesville, FL	Tampa, FL
Outpatient EEG	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Specialty Epilepsy Clinics	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Epilepsy Inpatient Consultation	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Scalp Video-EEG Telemetry (Phase 1), # of Beds	3	3	4	3		1	5	2	2	3	2	3	2	3	2	4	2
Epilepsy Protocol MRI Imaging	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
PET Scanning	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Magneto encephalography						x											
Radio Surgery (Gamma Knife)			x							x							
Functional MRI (fMRI)			x	x		x	x	x				x					x
Ambulatory EEG		x	x	x		x	x	x	x	x		x	x	x	x	x	x
Epilepsy Video Telehealth Clinics	x	x	x		x	x		x	x	x	x	x	x	x	x	x	x
eConsult	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Telephone Clinics	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
SCAN-ECHO						x	x	x	x	x	x	x	x				
Patient Home Telehealth	x					x	x	x	x	x	x		x	x			
Store-and-Forward Remote EEG Rdg.			x	x			x			x		x	x	x		x	
On-Site Therapy for PNES	x		x			x	x		x			x	x	x	x		
NTMHC Tele-NES Provided	x		x						x	x			x				
Ability to Perform Wada Testing	x		x	x		x				x		x		x			
Ability for Pre-Surgical Neuropsych. Testing	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Resection Surgery	x	x	x	x		x				x		x		x		x	
Intracranial Recordings: Grids/Strips	x	x	x			x				x		x		x			
Intracranial Recordings: Std.Depth	x	x	x			x				x		x		x			
Intraoperative Electro-cortico-graphy (ECoG)	x	x	x			x				x		x		x		x	
Intraoperative Cortical Stimulation/Mapping	x	x	x			x				x		x		x			
Extraoperative Cortical Stimulation/Mapping	x	x	x			x				x		x		x			
Placement of VNS	x	x	x	x		x	x	x		x	x	x		x		x	x
Placement of Neuropace		x				x		x		x							
Programming Neuropace	x	x	x			x		x		x							
Deep Brain Stimulation	x	x		x				x				x		x			
Primary ECoE Contact Phone Number	415.379.5599	310.268.3595	713.794.8835	210.617.5161	505-265.1711 x2752	410.605.7414	857-364-4745	804.675.5000 x3734	203-932-5711 x4724	608.256.1901 x17044	612.467.4236	503.220.8262 x58330	206-277-1449	919.416.5982	305.575.7000 x3192	352-376-1611 x6082	813.972.7633

ECoE Workload

FY19 Clinical Workload

Facility	Outpatient Clinic		EEG		LTM	
	Unique Patients	Unduplicated Encounters	Unique Patients	Unduplicated Encounters	Unique Patients	Unduplicated Encounters
¹ (1V01) (523) Boston, MA HCS	388	698	353	365	109	304
(1V01) (689) Connecticut HCS	199	415	119	130	44	91
(1V05) (512) Baltimore, MD HCS	355	586	87	107	11	58
(1V06) (558) Durham, NC HCS	575	913	218	233	30	128
(1V06) (652) Richmond, VA HCS	541	929	303	460	37	123
(2V08) (546) Miami, FL HCS	300	648	352	410	67	120
(2V08) (573) Gainesville, FL HCS	588	943	282	307	75	215
(2V08) (673) Tampa, FL HCS	282	433	659	714	75	263
(3V12) (607) Madison, WI HCS	273	502	184	197	62	268
3V23) (618) Minneapolis, MN HCS	390	698	301	328	32	142
(4V16) (580) Houston, TX HCS	759	1,336	699	804	129	275
(4V17) (671) San Antonio, TX HCS	1,056	1,435	669	761	2	2
(5V20) (648) Portland, OR HCS	553	1,083	280	328	70	247
(5V20) (663) Puget Sound, WA HCS	582	941	331	355	34	125
(5V21) (662) San Francisco, CA HCS	244	590	105	106	80	247
(5V22) (501) New Mexico HCS	274	431	156	171		
(5V22) (691) Greater Los Angeles, CA HCS	304	562	539	618	156	461
Total	7,663	13,143	5,637	6,394	1,013	3,069

Data source: VSSC Encounter Cube. Data were collected using ECoE stop code 345 (in the primary or credit-stop code position).

¹Self-reported data.

Psychogenic Non-Epileptic Seizure Workload

Facility	Unique Patients	Encounters
(1V01) (523) Boston, MA HSC	28	110
(1V05) (512) Baltimore, MD HCS	9	85
(1V01) (689) VA Connecticut, RI HCS	5	60
(1V06) (558) Durham, NC HCS	5	15
(5V20) (663) Puget Sound, WA HCS	3	20
(1V01) (650) Providence, RI HCS	25	71
(5V21) (662) San Francisco, CA HCS	18	116
(2V08) (546) Miami, FL HCS	9	51
Total	102	528

Data source: The sites self-reported their data.

“Unduplicated encounters”: A count of clinic stops made by patients at which duplicates have been removed. A duplicate clinic stop occurs when a patient makes more than one of the same type of *primary* clinic stop at the same station on the same day. An *encounter* is a professional contact between a patient and a practitioner vested with primary responsibility for diagnosing, evaluating, and/or treating the patient’s condition.

FY19 Telehealth Workload

Facility	Video TeleHealth Clinic Local Station		Video TeleHealth Clinic Different Station		Home Video TeleHealth	
	Unique Patients	Unduplicated Encounters	Unique Patients	Unduplicated Encounters	Unique Patients	Unduplicated Encounters
¹ (1V01) (523) Boston, MA HCS					3	3
(1V01) (689) Connecticut HCS	6	6	17	22	2	2
(1V05) (512) Baltimore, MD HCS					1	1
(1V06) (558) Durham, NC HCS	62	80	21	30	24	38
(1V06) (652) Richmond, VA HCS	67	85	43	61	5	6
(2V08) (546) Miami, FL HCS	57	92				
(2V08) (573) Gainesville, FL HCS	22	30				
(2V08) (673) Tampa, FL HCS						
(3V12) (607) Madison, WI HCS	44	64	15	23	4	6
(3V23) (618) Minneapolis, MN HCS	41	61	17	25	3	3
(4V16) (580) Houston, TX HCS	33	45			3	3
(4V17) (671) San Antonio, TX HCS						
(5V20) (648) Portland, OR HCS	8	9	76	113	3	3
(5V20) (663) Puget Sound, WA HCS			29	38	1	2
(5V21) (662) San Francisco, CA HCS	50	72	6	11	35	79
(5V22) (501) New Mexico HCS	26	30	1	1		
(5V22) (691) Greater Los Angeles, CA HCS						
Total	419	574	225	324	84	143

Data source: VSSC Encounter Cube. Data were collected using the appropriate credit stop code with primary stop code 345.

¹Site-reported data.

Facility	Telephone Clinic		eConsults		Store-and-Forward EEG*	
	Unique Patients	Unduplicated Encounters	Unique Patients	Unduplicated Encounters	Unique Patients	Unduplicated Encounters
(1V01) (523) Boston, MA HCS	300	1,009	41	41	117	192
(1V01) (689) Connecticut HCS	4	4				
(1V05) (512) Baltimore, MD HCS	120	221	8	9		
(1V06) (558) Durham, NC HCS	25	36	2	2	192	194
(1V06) (652) Richmond, VA HCS	62	80	13	13		
(2V08) (546) Miami, FL HCS	49	57				
(2V08) (573) Gainesville, FL HCS	45	55				
(2V08) (673) Tampa, FL HCS	26	67				
(3V12) (607) Madison, WI HCS	82	151	2	2		
(3V23) (618) Minneapolis, MN HCS	2	2	6	6		
(4V16) (580) Houston, TX HCS	22	28				
(4V17) (671) San Antonio, TX HCS	24	49				
(5V20) (648) Portland, OR HCS	159	407	51	52	99	101
(5V20) (663) Puget Sound, WA HCS	117	180	47	47		
(5V21) (662) San Francisco, CA HCS	88	197	4	4		
(5V22) (501) New Mexico HCS	5	9				
(5V22) (691) Greater Los Angeles, CA HCS	70	84	66	68		
Total	1200	2,636	240	244	408	487

**For Store-and-Forward EEG, local station and different station data are combined.*

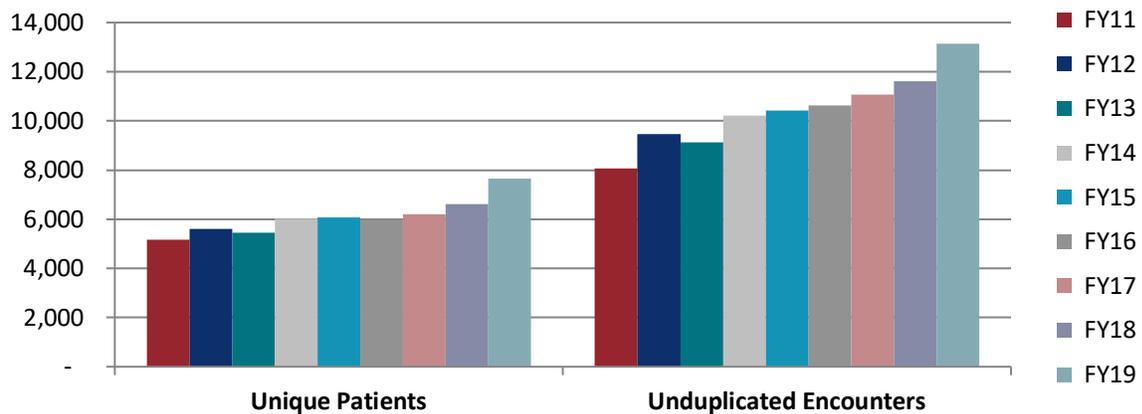
ECoE Surgery Workload

ECoE Surgery Workload FY18 to FY19	Resection Surgery		Intracranial Recordings - Grid Strip		Intracranial Recordings: Standard Depth (Free Hand and Neuro - Navigation)		Intracranial Recordings: StereoEEG Depths- Stereotactic Frame		Intraoperative Electrocoigraphy (ECoG)		Intraoperative Cortical Stimulation/Mapping		Extraoperative Cortical Stimulation/Mapping		VNS		Neurosace Implantation		DBS Implantation		Foramen ovale electrode implantation	
	18	19	18	19	18	19	18	19	18	19	18	19	18	19	18	19	18	19	18	19	18	19
(V01) (689) VA Connecticut HCS, CT																						
(V05) (512) Baltimore HCS, MD																						
(V01) (523) Boston HCS, MA																						
(V06) (558) Durham, NC														1								
(V06) (652) Richmond, VA														1								
(V08) (546) Miami, FL																						
(V08) (573) Gainesville, FL																						
(V08) (673) Tampa, FL																						
(V12) (607) Madison, WI	3	1		1			1	3						1	2		1					
(V16) (580) Houston, TX	2		1		1				2								1					
(V17) (671) San Antonio, TX																						
(V18) (501) Albuquerque, NM																						
(V20) (648) Portland, OR														1								
(V20) (663) VA Puget Sound, WA																						
(V21) (662) San Francisco, CA		1							1					1								
(V22) (691) West Los Angeles, CA		3					2	2	5	2			2	2			5	1			1	1
(V23) (618) Minneapolis, MN																						
Total	5	5	1	1	1	0	3	5	7	3	0	0	2	2	5	2	5	2	0	0	1	1

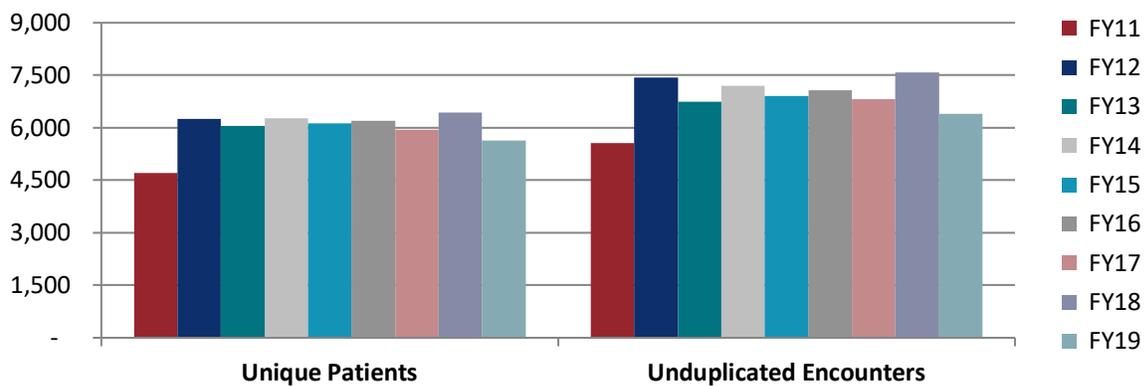
ECoE Workload Trends

Facility Clinic Visits

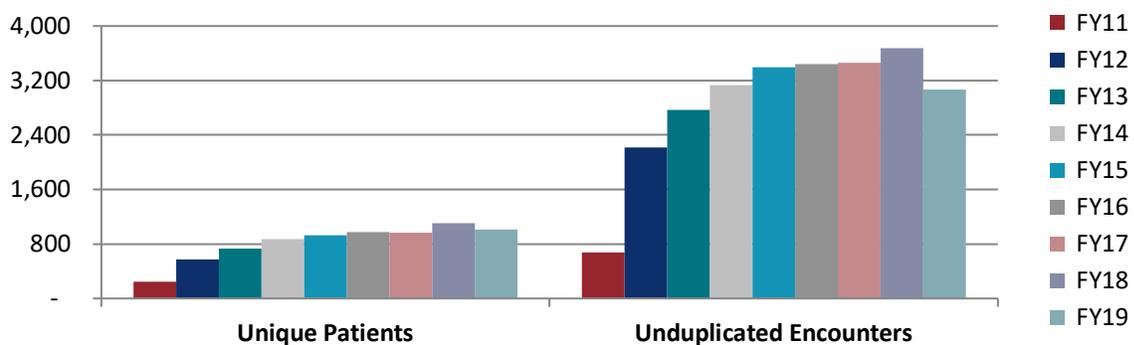
Epilepsy Clinic



Electroencephalogram (EEG)



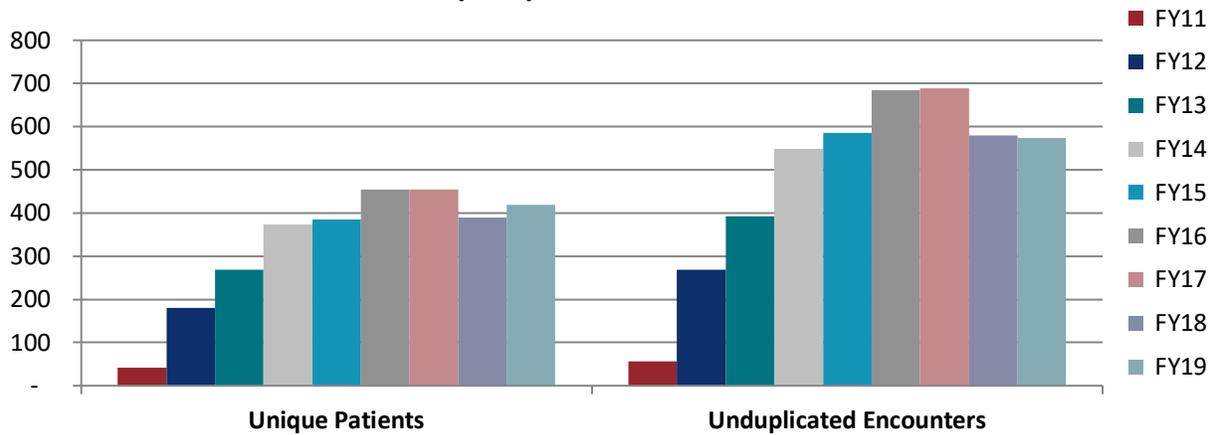
Long-Term Video EEG Monitoring (LTM)



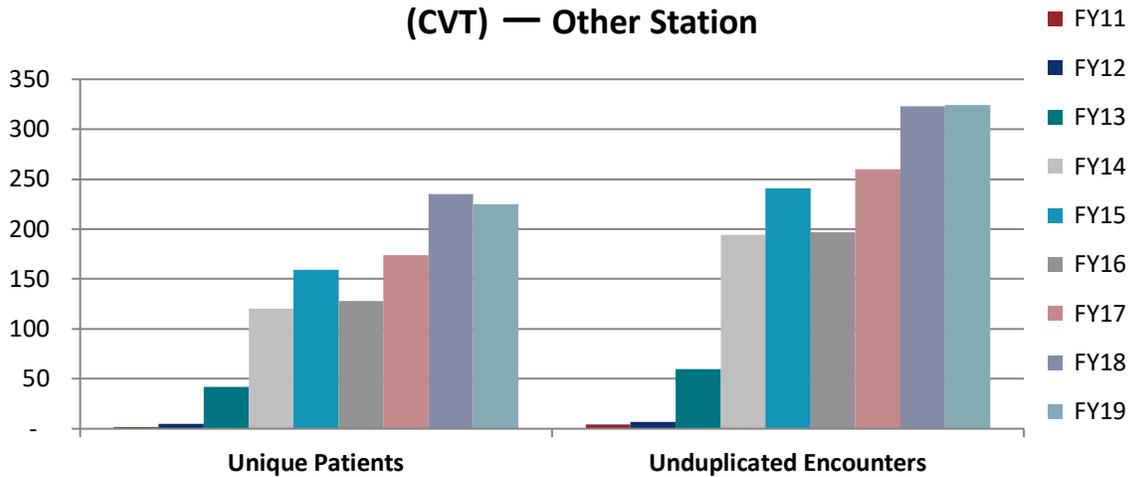
Data source: VSSC Encounter Cube. Numbers for FY11–FY12 may be underreported due to workload capture issues. FY18, FY19 data include self-reported workload from Boston VAMC.

Outreach: Tele-Epilepsy

Clinical Video Teleconference (CVT) — Same Station

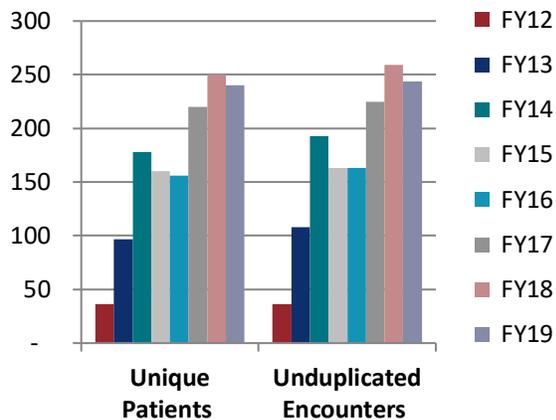


Clinical Video Teleconference (CVT) — Other Station

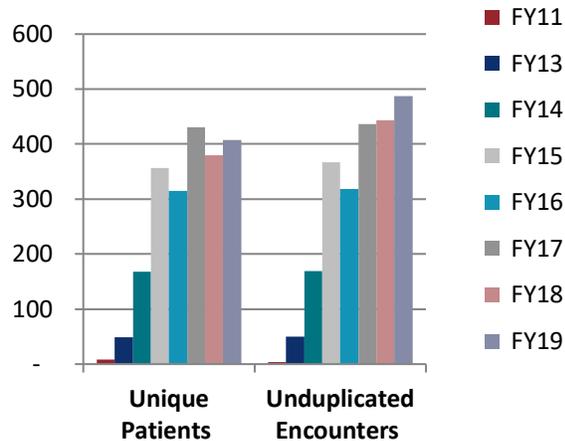


Data source: VSSC Encounter Cube. Numbers for FY11–FY12 may be underreported due to workload capture issues.

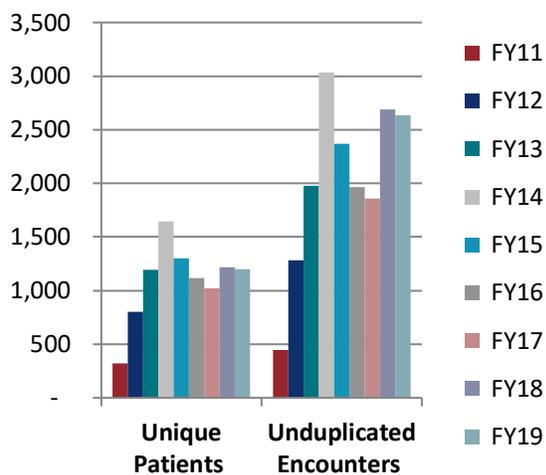
Epilepsy Chart Consults (e-consults)



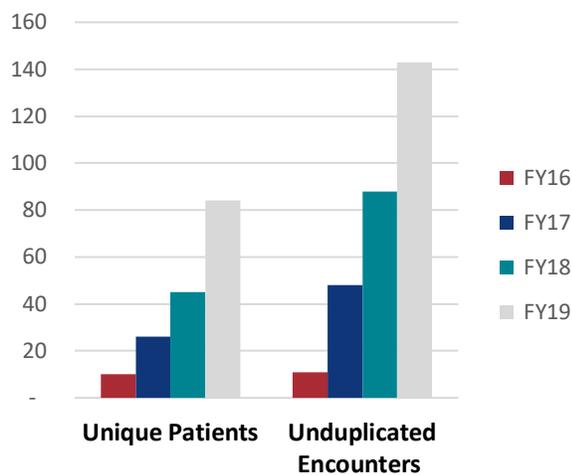
Store & Forward EEG



Telephone



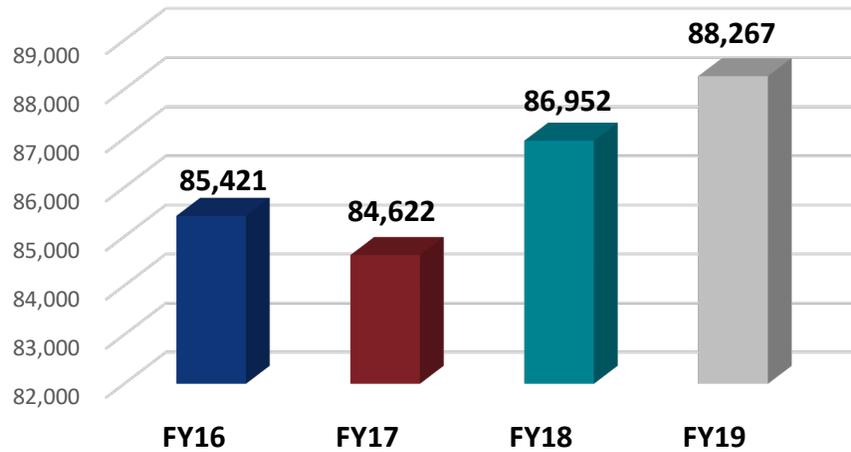
Home Video Telehealth



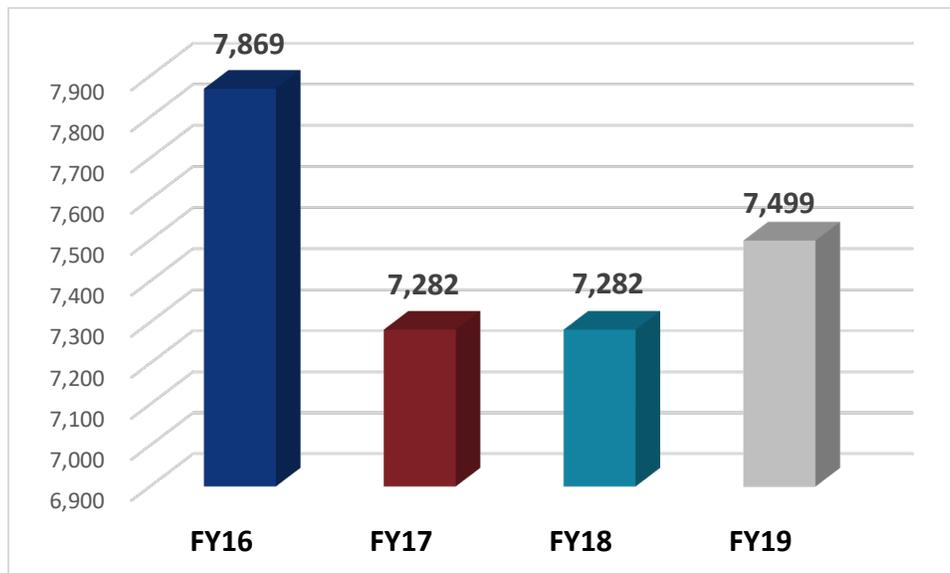
Data source: VSSC Encounter Cube. Numbers for FY11–FY12 may be underreported due to workload capture issues. FY18, FY19 data include self-reported workload from Boston VAMC.

VHA Seizure, Epilepsy, and Other Events—Unique Patient Counts

¹Seizure, Epilepsy, Transient Alteration of Awareness



²Conversion Disorder with Seizures or Convulsions



Algorithm: Data collected using ICD-10-CM codes:

¹G40.xx Epilepsy, R56.9 Unspecified Convulsion, R40.4 Transient Alteration of Awareness, R56.1 post-traumatic seizures.

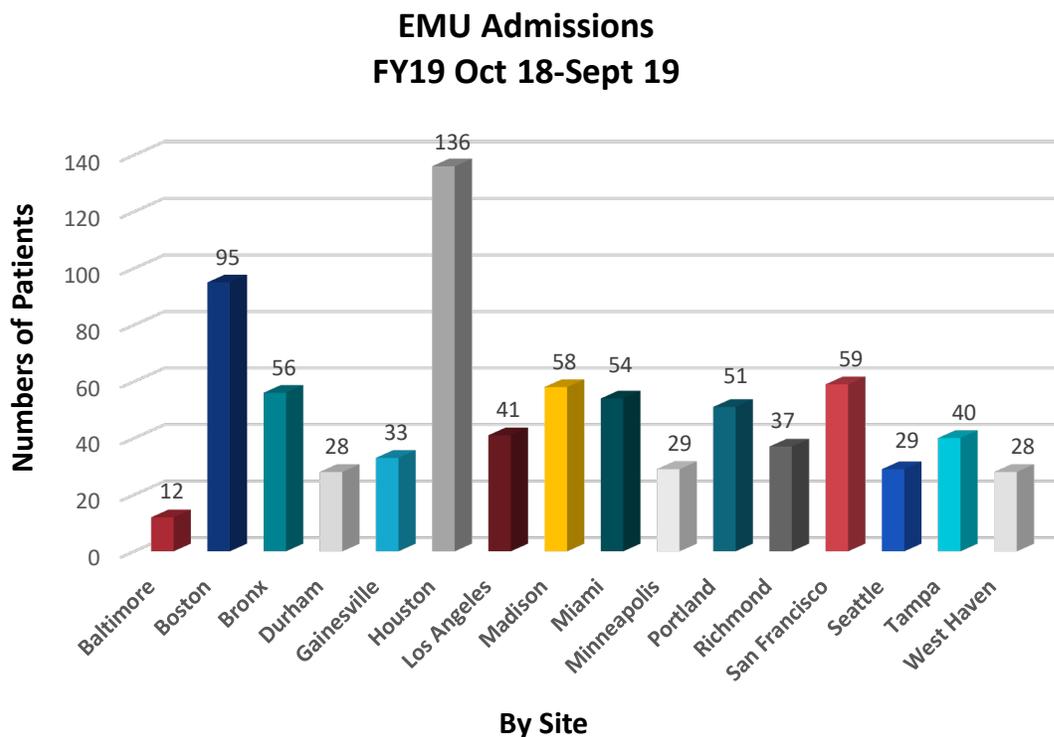
²F44.5 Conversion disorder with seizures or convulsions.

Data source: VSSC Diagnosis Cube: VA patients.

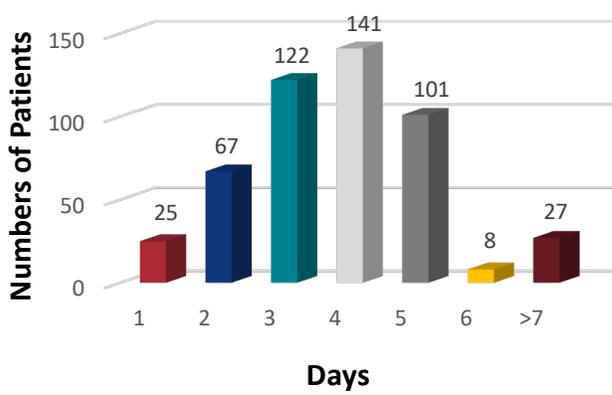
Epilepsy Monitoring Unit Database

The aim of the FY19 EMU database collection is to assess elements of care and utilization provided through the network of ECoEs. The elements include age, gender, length of stay, along with monitoring classifications for each visit and cumulative visits (if appropriate), primary and secondary diagnoses and traumatic brain injury information. There are no mandatory fields.

The EMU database was available to all ECoE and consortium sites. Sixteen sites self-reported information for the requested variables on epilepsy monitoring unit admissions. The following graphs are based on cumulative information reported by sites. Data for variables such as EMU number of admissions, age, TBI, etc., may contrast with diagnostic reports. The total number of reported encounters for long-term monitoring was 1,014 over all sites, with 786 being EMU patient admissions.

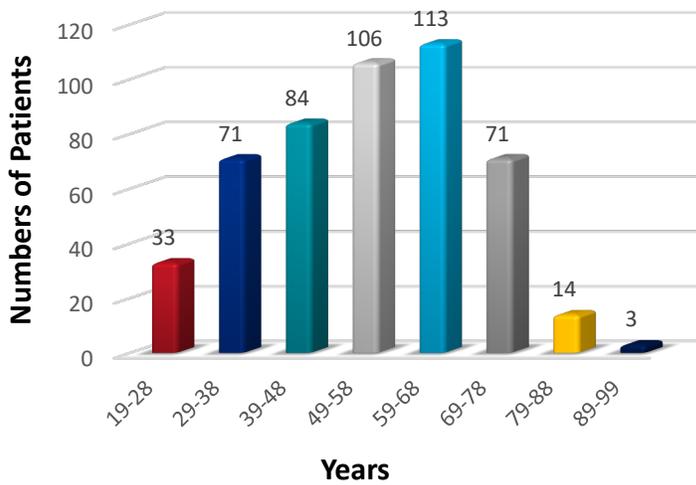


EMU Days per Admission



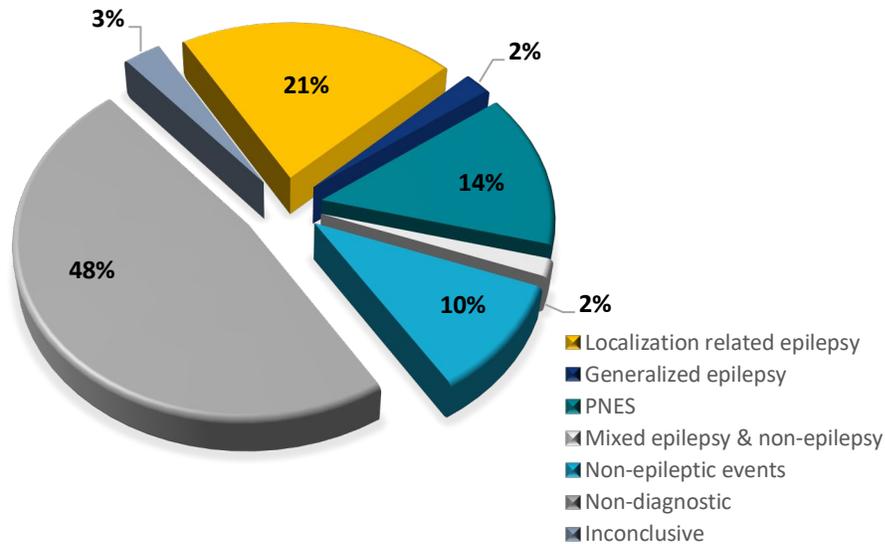
The median length of stay was 4 days, with a maximum of 11 days. Overall reported site admissions totaled 1,867 days.

Admissions by Age



EMU admission ages ranged from 19 to 94 years, with median ages between 59 and 68. The majority (79%) of known gender patients were male.

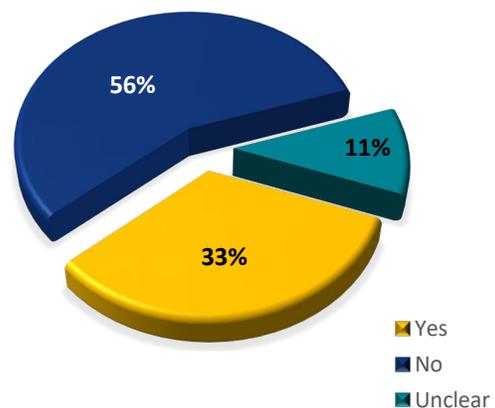
EMU DIAGNOSTIC CLASSIFICATIONS



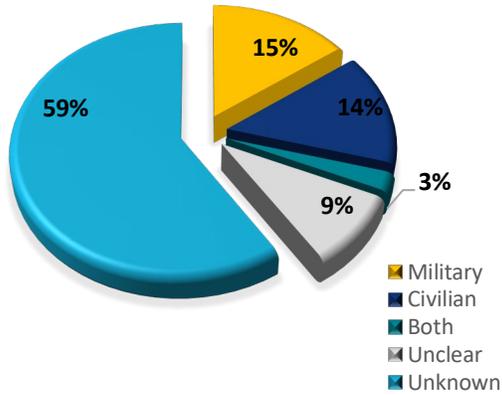
This chart highlights the seizure classifications most encountered in the EMUs. Classification categories most observed were location-related epilepsy with ictal EEG changes, which accounted for 17 percent in that category; PNES with 14 percent; and 41 percent of the non-diagnostic category included subjective events felt to represent abnormalities with indefinite electrographic evidence. The inconclusive group (3 percent) could not be confidently classified in any of the listed categories.

Of the reported TBI demographics, approximately 35 percent of patients admitted to the EMU had a described traumatic brain injury in the medical record. In 11 percent of admissions, it was not possible to determine if the patients had suffered a TBI.

TBI HISTORY



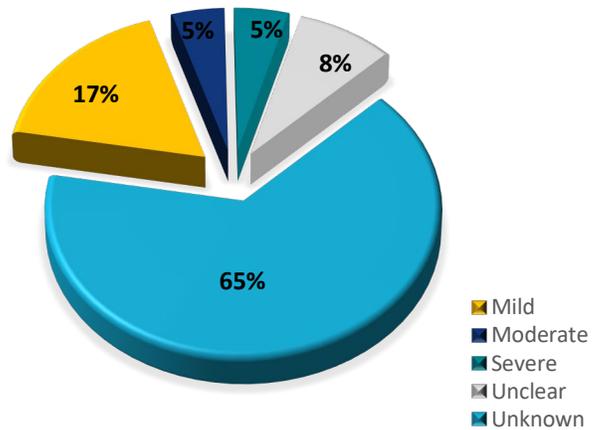
TBI SOURCE



Military trauma was the largest source of brain injury in patients, at 15 percent, followed by civilian TBI at 14 percent. In 69 percent of cases, the source of brain injury was either undetermined or unknown.*

The percentage of EMU admissions classified by the severity of a traumatic brain injury is shown in this chart. For 73 percent of patients, it was not possible to determine the severity of the traumatic brain injury.*

TBI SEVERITY



**Of the reported TBI data*

VHA FY18 Patient Counts

Cohort	Epilepsy Patients, %		All VA Patients, %	
All Patients	76,509		6,239,899	
Age <45	11,031	14.4%	1,177,397	18.9%
45 ≤ Age <65	27,111	35.4%	1,840,310	29.5%
Age ≥ 65	38,367	50.1%	3,222,192	51.6%
Males	69,762		5,572,608	
Age <45	8,911	12.8%	897,331	16.1%
45 ≤ Age <65	23,551	33.8%	1,540,703	27.6%
Age ≥ 65	37,300	53.5%	3,134,574	56.2%
Females	6,747		667,291	
Age <45	2,120	31.4%	280,066	42.0%
45 ≤ Age <65	3,560	52.8%	299,607	44.9%
Age ≥ 65	1,067	15.8%	87,618	13.1%
Epilepsy: Males 91.2%, Females 8.8% All VA: Males 89.3%, Females 10.7%				

OEF/OIF/OND Patient Counts				
All Patients	5,516		641,846	
Age <45	4,255	77.1%	458,899	71.5%
45 ≤ Age <65	1,220	22.1%	175,202	27.3%
Age ≥ 65	41	0.7%	7745	1.2%
Males	4,938		566,943	
Age <45	3,808	77.1%	403,959	71.3%
45 ≤ Age <65	1093	22.1%	155,801	27.5%
Age ≥ 65	37	0.7%	7,183	1.3%
Females	578		74,903	
Age <45	447	77.3%	54,940	73.3%
45 ≤ Age <65	127	22.0%	19,401	25.9%
Age ≥ 65	4	0.7%	562	0.8%
Epilepsy: Males 89.5%, Females 10.5% All VA: Males 88.3%, Females 11.7%				

Algorithm: Patients prescribed at least 30 days' worth of anti-epileptic drugs in FY18 were cross-matched with seizure diagnosis (ICD-10-CM G40.xxx, R40.4, R56.1, R56.9) during FY16-FY18. Diagnoses data from EEG and LTM clinics were excluded. Estimated positive predictive value of 85.1% from chart review of 625 patients (95% confidence interval: 82.1% to 87.8%).

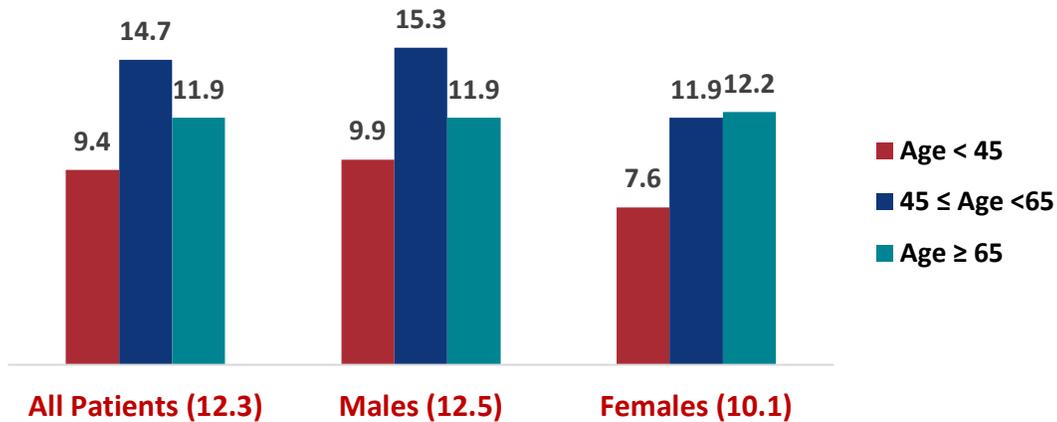
Data sources: CDW (inpatient and/or outpatient encounters), VSSC Unique Patients Cube (inpatient and/or outpatient encounters), and Pharmacy Benefit Management (PBM).

Numbers have been rounded to the nearest one decimal digit for percentages. Unknowns have been excluded from the analysis.

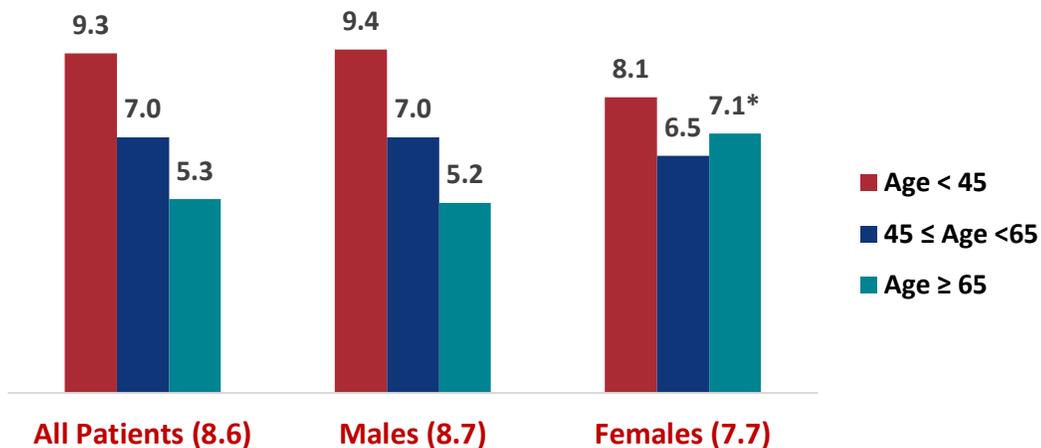
VHA FY18 Epilepsy Prevalence Estimates

In this section, all prevalence estimates reported are for FY18 because at the time of publication, the FY19 prevalence data were not yet available.

A. Prevalence per 1,000 Patients



B. OEF/OIF/OND Prevalence



Algorithm: Patients prescribed at least 30 days' worth of anti-epileptic drugs in FY18 were cross-matched with seizure diagnosis (ICD-10-CM G40.xxx, R40.4, R56.1, R56.9) during FY16–FY18. Diagnosis data from EEG and LTM clinics were excluded. Estimated positive predictive value of 85.1% from chart review of 625 patients (95% confidence interval: 82.1% to 87.8%).

*Estimate is unstable due to low count ($n = 4$).

Data sources: CDW (inpatient and/or outpatient encounters), VSSC Unique Patients Cube (inpatient and/or outpatient encounters), and Pharmacy Benefit Management (PBM).

Numbers have been rounded to the nearest one decimal digit for percentages. Unknowns have been excluded from the analysis.

Outreach

Operations

- Expansion of telehealth services nationally; Epilepsy Clinic, EEG, LTM, CVT—Same Station, CVT—Other Station
- PNES services were provided by VA ECoE-trained professional in all four regions; two additional professionals were trained in FY19.

Social Media

- Website updates are ongoing at www.epilepsy.va.gov.
- VHA ECoE was recognized on the National Association of Epilepsy Centers website.
- The VA Caregiver website includes a link for the epilepsy website.



ECoE exhibits annually at the American Epilepsy Society Technologist Conference. Pictured here are two ECoE staff members who worked at the booth during the March 2019 conference.

Partnerships

- ECoE is partnering with the Epilepsy Foundation on activities associated with the Connectors Provider Outreach Program.
- The ECoE Consortium has an open membership.
- ECoE is a member of the Epilepsy Leadership Council (American Epilepsy Society).
- ECoE partners with the Center for SUDEP Research (CSR).
- ECoE participates in Nonprofit Education and Training Sponsorships for-Brain Sentinel, Eisai, LivaNova, Natus, Sunovion, UCB, andUpsher-Smith.
- ECoE hosted Purple Day events with Anita Kaufman and the Epilepsy Foundation.



ECoE is an annual exhibitor at the American Epilepsy Society Conference. This is the booth that ECoE staff worked from during the December 2018 conference.

IRB-Sponsored Studies

- Detecting PNES—Brain Sentinel
- Neuropace

Education

- Epilepsy Basic Training Series for patients and caregivers.
- CME Provider series.
- AED Physician Pocket Card revision (women’s focus addendum) available since FY18, still being distributed on request.
- *Epilepsy Manual*, second edition, was printed, and copies were distributed widely to ECoE sites, affiliates, and consortium sites. It is also available electronically on the website.
- The PNES brochure was completed and is available in print and on the website.

Awareness Issues

- ECoE was represented on National Epilepsy Awareness Day.
- Purple Day events were held at all sites (information tables, silent auctions, and an open house).
- Multiple patient-education events were held.
- The ECoE/Duke Patient Education Symposium was held.
- Collaborative meetings were held with the Epilepsy Foundation and ECoE.
- ECoE was represented at an Anita Kaufman-sponsored event at the Houston Space Center in collaboration with Astronaut Ricky Arnold.



Two ECoE staff members are shown at their information table at the “Purple Day 2019” event in Boston, Massachusetts, an annual epilepsy awareness event.



ECoE offered this gift basket as a prize at the Silent Auction for an epilepsy awareness event in Durham, North Carolina.

VHA Policy

**Department of Veterans Affairs
Veterans Health Administration
Washington, DC 20420**

VHA DIRECTIVE 1215
Transmittal Sheet, February 14, 2017

Standards for Veterans Health Administration Centers of Excellence

1. **Reason for Issue:** This Veterans Health Administration (VHA) directive provides policy and direction for establishing standards and guidelines for VHA Centers of Excellence (COE) and ensures that VHA COE meets those standards.
2. **Summary of Content:** This directive establishes standards for the creation and continuation of VHA COE.
3. **Related Issues:** None.
4. **Responsible Office:** The VHA Chief of Staff (10B) is responsible for content of this VHA directive. Questions should be addressed to the Office of the Chief of Staff at 202-461-7016.
5. **Recertification:** This VHA directive is scheduled for recertification on or before the last working day of February 2022. This VHA directive will continue to serve as national VHA policy until it is recertified or rescinded.

David Shulkin, MD

Under Secretary for Health

Distribution: Emailed to the VHA Publications Distribution List on February 23, 2017.

Efforts to Meet VHA Directive 1215

I. VACO COE Task Force (June 2018) Recommendations to Meet Expectations for New Policy

- Funding:
 - The Task Force recommends that funds supporting the Mental Health, Neurology, and Polytrauma CoEs continue.
- Oversight:
 - The Task Force recommends a vigorous and transparent review process for CoEs, made up of both subject-matter experts and field representation. This review process should include input from the local host site and network with oversight for the review process managed by the National Program Office.
- VERA Modification:
 - For the CoEs with a primary mission of providing direct clinical care, the Task Force recommends that the responsible VACO program office(s) ensure that VERA funding directly supports services where they are provided.
- Program Office Review:
 - The Task Force recommends that each responsible National Program Office conduct a review of all CoEs under its purview by June 2019, to be repeated no less than every five years.
- Establishing New CoEs:
 - The Task Force recommends creation of a process for the establishment of new CoEs that spells out clear standards for the funding model, goals, and objectives of the new CoE; performance reviews and oversight; scope; and sustainment expectations (i.e., what the source of sustainment funds will be: research funding, VERA, etc.) and which criteria for success will be measured.
- Communication Plan:
 - The Task Force recommends that the responsible National Program Offices, in coordination with individual CoEs and field host sites, undertake a concerted communication effort to raise the profile of all CoEs nationally and to better publicize their accomplishments and value generated.

Scoring of Performance Standards

This section of our annual report shows the metrics that are used to measure performance and progress in each region. The assessment of each region is an important part of this report.

All four ECoE sites met or exceeded Target for 2019, as shown in the following pages.



Administrative Standards (Remediation plan required if MOU, Self -Assessment, and Advisory Committee standards are not attained.)				
	Description	Scoring	Target	Max
MOU	Negotiate Memorandum of Understanding by no later than October 15, 2019, signed by CoE Director, VAMC Director, VISN Director, and Neurology National Director. MOU specifies expectations for the coming year. This will include how the CoE, through research and educational and clinical innovation/demonstration activities, will address one or more of the VA strategic priorities during FY2019 and specify the resources that will be provided by the host VAMC to the CoE.	Yes = 1	1	1
Self-Assessment	Per VHA Directive 1215 COE Standards, the CoE will submit an annual self-assessment no later than 30 days after the end of the fiscal year.	Yes = 1	1	1
Advisory Committee	Per Public Law, each CoE will meet with the Local Advisory Committee at least annually.	Yes = 1	1	1
Collaborations/ Partnerships/ Workgroups	Engagement with VA and non-VA stakeholders in regional/national efforts to improve the specialized care available to Veterans.	Yes = 1	1	1
		Max = 4	Target = 4	Subtotal = 4

Research Standards				
	Description	Scoring	Target	Max
Research Projects	IRB- and/or IACUC-approved protocols	1=1 2=2 3=3 ≥4 =4	≥1	4
Research Projects	Collaborative Multi-Site Research Projects	1=1 2=2 3=3 ≥4 =4	≥1	4
Research Papers	Paper(s) authored/co-authored by a CoE investigator for COE-related research in a peer-reviewed publication	1=1 2=2 3=3 ≥4 =4	≥1	4
Research Posters	Poster presentation(s) concerning a topic relevant to the research mission of the CoE during the reporting year	1=1 2=2 3=3 ≥4 =4	≥2	4
		Max = 16	Target = ≥6	Subtotal = 16

Education Standards: Professional				
	Description	Scoring	Target	Max
Grand Round Presentations	Grand Round presentation(s) at a VA/non-VA facility related to CoE activity	1=1 2=2 3=3 ≥4 =4	≥1	4
Invited Lectures	Presentation(s) at conference/ symposium related to CoE activity	1=1 2=2 3=3 ≥4 =4	≥2	4
Conferences	Conference(s), webinar(s), and other educational sessions with CoE consortium sites	1=1 ≥3=2 ≥5=3 ≥10 =4	≥2	4
Fellowship Program	Clinical Fellows in CoE	1=1 2=2 3=3 ≥4 =4	≥1	4
Other Trainee Programs	<ul style="list-style-type: none"> • Medical Students • Residents • Allied (nurses, psychology, etc.) 	Yes = 1 Yes = 1 Yes = 1	≥1	3
		Max = 19	Target = ≥7	Subtotal = 19

Education Standards: Patient/Caregiver				
	Description	Scoring	Target	Max
Patient/Caregiver Programs	Educational program(s) for patients and caregivers	1=1 ≥3=2 ≥5=3 ≥10 =4	≥2	4
VA Support Groups	Support groups for Veterans and Veteran's caregivers	1=1 ≥3=2 ≥5=3 ≥10 =4	≥2	4
Community Engagement	Participation in local community programs(s) such as support groups	1=1 ≥3=2 ≥5=3 ≥10 =4	≥2	4
		Max = 12	Target = ≥6	Subtotal = 12

Clinical Standards				
	Description	Scoring	Target	Max
Improve Timeliness of Services	CoE will see consults within 30 day of the provider/patient indicated date	100% = 1	1	1
Quality Improvement	Chart reviews Review of 10 randomly selected charts for each provider and evaluated by accepted disease-specific quality care standards	≥95% Level 1 = 1	1	1
Overall Clinical Productivity	Unique patient encounters during the reporting period. Please provide raw data for following categories: VAMC (care for Veterans assigned to medical center) VISN (care for Veterans receiving care at other sites in VISN) Extra-VISN (care for Veterans from outside VISN)	≥100 = 1 ≥250 = 2 ≥500 = 3 ≥1000 = 4		
Specialist Clinical Services	Chemodenervation Infusion Services Inpatient epilepsy monitoring Functional neurosurgery (DBS, VNS, RNS, etc.)	Present at CoE = 1 Present at CoE = 1 Present at CoE = 1 Present at CoE = 1		
Virtual Care	Proportion of encounters performed using virtual modalities. Please provide raw data for the following categories: Electronic Consultation Store-and-Forward Telehealth Clinical Video Telehealth CBOC Interfacility Home	≥2% = 1 ≥5% = 2 ≥10% = 3 ≥20% = 4		

Innovative Clinical Demonstration Developed	Clinical demonstration project(s), improving care of Veterans, initiated during the report year	≥1 = 1		
Innovative Clinical Demonstration Evaluated	Clinical demonstration project(s), improving care of Veterans, evaluated during the report year	≥1 = 1		
Innovative Clinical Demonstration Disseminated	Clinical demonstration project(s), improving care of Veterans, disseminated during the report year	≥1 = 1		
		Max= 17		Sub = 9
Total Max = 68			Total Target = 32	

Review of the Four ECoE Regions

The following is a review of the four Regional Centers of Excellence. Staffing is funded at various levels of FTE with specialty-care funds and is supported by the local fiscal departments at the individual sites.



Northeast Region

Northeast ECoE Regional Director
Alan Towne, MD

Northeast ECoE Regional Administrative Director
Vacant



Northeast



VA Maryland Health Care System

VA Maryland Health Care System (127)
 10 N. Greene St, Baltimore, MD 21201
 410-605-7414 | 410-605-7906
www.maryland.va.gov

Name	Position	Email	Phone
Khan, Omar	Director	Omar.khan2@va.gov	410-605-7417
Barry, Elizabeth	Associate Director	ebarry@som.umaryland.edu	410-605-7417
McGuire, Regina	Nurse Practitioner	Regina.mcguire@va.gov	410-605-7417
Rimmel, K.	EEG Technologist 1	Position Accepted (Start date 10/15/2019)	410-605-7417
Pending	EEG Technologist 1	Position Advertised	410-605-7417
Vacant	Nurse Case Manager	Vacant	Vacant
Physician	Epileptologist	Vacant	Vacant
Program Assistant	Program Assistant	Vacant	Vacant
Kabir, Arif	Physician	Arif.kabir2@va.gov	410-605-7417
Pritchard, Jennifer	Physician	jpritchard@som.umaryland.edu	410-605-7417
Konikkara, John	Physician	John.konikkara@va.gov	410-605-7417
Tang, Cha Min	Physician	Ctang@som.umaryland.edu	410-605-7417
EEG (VAMHCS)	EEG Technologist 1	Vacant	
Kurtz-Nunn, Elizabeth	Social Worker (Neurology)	Elizabeth.Kurtz-Nunn@va.gov	410-605-7000, ext. 57293
Young, Angela	Program Specialist	Angela.young4@va.gov	410-605-7417
Krumholz, Allan	Advisor/Prof Emeritus	AKrumholz@som.umaryland.edu	410-605-7417

VA Boston Healthcare System

JPVA Medical Center, Dept. Neurology (127)
 150 S. Huntington Ave., Boston, MA 02130-4817
 857-364-4745
<https://vaww.visn1.portal.va.gov/intranet/boston>

Name	Position	Email	Phone
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Aneeta Saxena	Epileptologist	Aneeta.Saxena@va.gov	857-364-4745
Cookie Riley	REEGT, Technical Director	Carol.Riley2@va.gov	857-364-4744
Greg Head RN	Nurse, Epilepsy Clinic Coordinator	Greg.Head@va.gov	857-364-4745
Roberta Sauseville	REEGT	Roberta.Sauseville@va.gov	857-364-4798
Adele Mirabella	REEGT	Adele.Mirabella@va.gov	857-203-6803

Hunter Holmes McGuire VA Medical Center

1201 Broad Rock Blvd., Richmond, VA 23249
 804-675-5000, ext. 3734 | Fax: 804.675.5939
www.richmond.va.gov

Name	Position	Email	Phone
Alan Towne, MD	Director	Alan.Towne@va.gov	804-675-5127
Elizabeth Waterhouse, MD	Associate Director	Elizabeth.Waterhouse@va.gov	804-675-5127
Kenichiro Ono, DO	Director, Epilepsy Monitoring Unit	Kenichiro.Ono@va.gov	804-675-5127
Linda L. Benson, MPH	Statistician	Linda.Benson4@va.gov	804-675-5000, ext. 3734
Rachel Van Aken, CNIM	Intraoperative Monitoring & EEG Technologist	Rachel.VanAken@va.gov	804-675-5000, ext. 4149
Brenda Robertson-Wilson	EMG and EEG Technologist	Brenda.Robertson-Wilson@va.gov	804-675-5000, ext. 5414
Natacha Jean-Noel, NP	Telehealth Nurse Practitioner	Natacha.Jean-Noel@va.gov	804-675-5000, ext. 3508
Kathy Browning, BSN	Telehealth Nurse	Kathy.Browning@va.gov	804-675-5000, ext. 3946

VA Connecticut Healthcare System

950 Campbell Ave., West Haven, CT 06516
203-932-5711, ext. 4724 | Fax: 203-937-3464
www.connecticut.va.gov

Name	Position	Email	Phone
Huned Patwa	Director	Huned.Patwa@va.gov	203-932-5711, ext. 2420
Altalib, Hamada	Co-Director	Hamid.Altalib@va.gov	203-932-5711, ext. 2420
Tolchin, Ben	Epileptologist	Benjamin.Tolchin@va.gov	203-932-5711, ext. 2420
Bottomley, Sharon	Nurse Practitioner	Sharon.Bottomley@va.gov	203-932-5711, ext. 2420
Vacant	AO		
James Vera	EEG Tech	James.Vera@va.gov	203-932-5711, ext. 2420
Dominica Rodriguez	EEG Tech	Dominica.Rodriguez@va.gov	203*932-5711, ext. 2420
Phyllis Laryea	Administrative Support Asst.	Phyllis.Laryea@va.gov	203-932-5711, ext. 2420

Northeast Region Self-Assessment Results, Accomplishments, and Future Initiatives

Regional Director: Alan Towne, MD
Regional Administrative Officer: Vacant

FY19 Self-Assessment Results

- Final score: The region's 2019 Self-Assessment met or exceeded the target score.
- Highlights: The region was able to fill the vacant ECoE director position at Baltimore. Efforts to continue to leverage technology led to improved access and national recognition.
- Concerns/issues: Due to delayed feedback on critical vacancies, several MOUs were not negotiated. A Federal Advisory Committee cease and desist was not lifted in time to schedule a sub-committee meeting prior to the end of FY19. Both issues expected to be resolved in FY20. Additional administrative support is needed.

FY19 Accomplishments

- The Baltimore VA recruited and hired a new Site Director.
- Baltimore recruited and hired an EEG Tech and obtained approval for a second recruitment.
- Upgrade of EEG equipment was approved in Baltimore, with plans for installation in early 2020.
- Patient access to the NE Region EMUs was increased.

- PNES Clinic and Neuropsychology support was integrated in Baltimore.
- Epileptologist-based continuity clinics were expanded in Baltimore.
- A strategic partnership was formed with the Epilepsy Foundation in Maryland.
- Boston expanded the ACGME Epilepsy Fellowship (combined VABHS and Brigham and Women's Hospital) from three to four fellows, to include both ABPN Epilepsy and Neurophysiology Fellowships.
- Boston received its second VA Innovation award for Tele-EEG (ICU) with updates for its automated EEG teaching program for residents.
- Boston upgraded its Natus EEG equipment and Citrix server with increased EEG server and Tele-EEG server capacity.
- Boston opened new EP clinics with IOM support of TCAR carotid surgeries.
- ACGME Visiting Epilepsy Lectures were revised and approved in Boston.
- Boston collaborated in DoD research from October 1, 2018, through September 1, 2018. The Region received the Idea Development Award for a device to detect and quantify seizures using noncerebral sensor modalities, a collaborative study with the Geisel School of Medicine at Dartmouth College.
- A PNES/PTSD fMRI collaborative study with VABHS and BWH is near completion.
- Epilepsy and PNES Clinical rotations were expanded to BU Neurology Residency, Harvard South Shore Psychiatry training programs, and a VA Memory/Cognition fellowship.
- Clinical and research collaboration continued with the Richmond Polytrauma Program.
- Neuro-volumetric studies continued in Richmond.
- Increased referrals were received from Polytrauma, and the CVT program was expanded.
- Richmond hosted Hans Berger & VCU Acute Care Nurse Lectures.
- RNS device implantation with programming was completed in Richmond.

Future Initiatives, Goals, and Outreach

Services

- Restart routine EMU services, outpatient EEG services, and ambulatory EEG services with updated and revised policies and protocols.
- Start an ICU EEG service in Baltimore and Richmond.
- Establish telehealth services. Run routine weekly telehealth clinics for at least 50 percent of the follow-ups.
- Increase support-group access for patients and caregivers with epilepsy.
- Increase Neuropsychology and cognitive training resources for patients with PNES.
- Establish a new epilepsy cognitive health and wellness group.
- Focus on "same provider care" to establish continuity and trust.

Patient Access

- Expand CVT patient sites with store-and-forward capabilities and Video on Demand in the NE Region.
- Continue routine weekly telehealth clinics, with a target for at least 50 percent of the follow-ups to be completed via telehealth.

- Start a First Seizure Clinic with less than a one-week wait time in Baltimore.
- Integrate mental health and epilepsy patient/clinics in Richmond.
- Continue to expand VA Boston Tele EEG Network; add two to three new sites for FY20.
- Optimize the Tele-EEG Model in the Northeast Region.
- Expand PNES clinic services.
- Run a trial of Video Ambulatory EEG in Boston.
- Establish collaboration between the Headache Center of Excellence and ECoE.

Quality Improvement

- Start a weekly multidisciplinary Epilepsy Conference with video conference ability.
- Help with National EHR/Cerner integration for epilepsy point-of-care inpatient and outpatient templates; integrate EEG/EMU images and video into the EHR.
- Develop a Baltimore site with emergency status epilepticus care inpatient protocol.
- Set up remote EEG reading for more timely reads at all sites.
- Develop plans for a future NE ECoE Regional Advisory Group consistent with VA standards.
- Strengthen and expand collaboration with NE Region VA Consortium Facilities.

Research

- Measure the impact of peer support in epilepsy patient satisfaction, quality of life, seizure rates, and compliance.
- Conduct EEG signal analysis in patients with refractory epilepsy, especially with TBI. Focus on microstate analysis.
- Expand the epilepsy research portfolio at the Richmond VAMC.

Clinical Education

- Expand the curriculum for a Polytrauma/TBI fellowship and epilepsy at all sites.
- Provide Baltimore VA nursing education for routine and emergent seizure care.
- Establish Clinical Neurophysiology and Clinical Polytrauma/Epilepsy fellowships in Boston.
- Open a new Stress Management and Resiliency Training (SMART) clinic for PNES and epilepsy patients in Boston.
- Establish a new mindfulness-based CBT training program for PNES (BWH).

Patient Education

- Establish a monthly patient/caregiver support group and a topics-of-discussion calendar.
- Increase support-group access for patients and caregivers with epilepsy.

Northeast Region Fellowships

Baltimore Fellowships

Name	Fellowship	ACGME	VA FTE	Start Date	End Date
Miguel Melo-Bicchi	Polytrauma/TBI VA Advanced Fellowship	No	1.0	June 27, 2018	June 27, 2019

Boston Fellowships

Name	Fellowship	ACGME	VA FTE	Start Date	End Date
Mauricio Villamar	Neurophysiology	Yes	0.33	7/1/2019	6/30/2020
Julius Danesh	Neurophysiology	Yes	0.33	7/1/2018	6/30/2020
Souzana Obretenova	Epilepsy	Yes	0.33	7/1/2018	6/30/2020
Steven Tobochnik	Epilepsy	Yes	0.33	7/1/2019	6/30/2020

Richmond Fellowships

Name	Fellowship	ACGME	VA FTE	Start Date	End Date
Diana Oyoung-Oliver, DO	Epilepsy	Yes	0.30	6/2018	8/2019
LaTangela Smith, DO	Epilepsy	Yes	0.15	7/2019	8/2020

Northeast Region Publications and Presentations

Baltimore

PUBLICATIONS/MANUSCRIPTS/CHAPTERS

Konikkara, John, PI.¹ Evaluation of an epilepsy peer support program in the US Veterans Affairs Epilepsy Centers of Excellence: A pilot study.

Boston

PUBLICATIONS/MANUSCRIPTS/CHAPTERS

Weber D, **McCarthy D**, Pathmanathan J. An effective automatic method for teaching EEG interpretation to neurology residents. *Seizure*. 2016 Aug 40:10–12.

Riley, C. Fact or Artifact. 3rd Edition. *The Neurodiagnostic Journal*. Sept. 2018.

ABSTRACTS/POSTERS/PRESENTATIONS

McCarthy David C. The treatment of epilepsy and non-epileptic seizures in Veterans. Medical Grand Rounds Togus VA Medical Center, 2/6/2019.

McCarthy David C. BWH Neuroscience Nursing Conference Fenway Park, 5/24/2019. The diagnosis and treatment of post-traumatic epilepsy in Veterans: Lessons learned and new directions in optimizing care.

McCarthy, DC, Saxena A, Sauseville R, Head G, Riley C. Home-based continuous tele-EEG in Veterans: Effectiveness and cost savings of EEG monitoring delivered through a VA network. American Epilepsy Society, New Orleans LA, 12/1/2019.

Saxena, A. When to refer patients for cognitive or mindfulness-based therapy for neurological disorders: Expanding the neurologist toolbox. American Academy of Neurology Meeting, Philadelphia, PA, 5/8/2019.

McCarthy, DC, Saxena, A, Riley, C. There's no place like home. The Boston VA Tele-Ambulatory EEG Initiative. VA Innovation Summit Meeting, Marlboro, MA, 9/5/2018.

McCarthy, DC, Saxena, A, Riley, C. The Boston VA tele-ambulatory EEG initiative. National VA Innovation Meeting. Washington, DC, Aug. 29–30, 2018.

Saxena, A. Establishing a mind–body clinic at VA Boston Healthcare System. Section Meeting, Neuro Health and Integrative Neurology. American Academy of Neurology Meeting, 2018.

Riley, C. Fact or artifact: Back by popular demand, 4th edition. American Epilepsy Society Annual Meeting, 12/2018.

1. Throughout this report, in lists of publications, presentations, etc., the names of ECoE staff members are presented in bold type.

Weber, D, **McCarthy, D**, Pathmanathan, J. Quantification of EEG interpretation improvements with use of the computer-based Modular Real-time EEG education Guide (MR EEG). American Epilepsy Society Annual Meeting, 12/2016.

Pathmanathan J, Weber D, **McCarthy D**. Modular real-time electroencephalogram education guide: An automated method of teaching EEG interpretation. American Epilepsy Society Annual Meeting, 12/2016

Weber, D, **McCarthy D**, Pathmanathan, J. Objective Measurement of resident EEG interpretation. American Epilepsy Society Annual Meeting, 12/2015.

McCarthy, D, Mernoff, S, Berger, J, Pathmanathan J. Cost-effectiveness of tele-ambulatory EEG testing in a VA hospital local network. American Epilepsy Society Annual Meeting, 12/2015.

Richmond

PUBLICATIONS/MANUSCRIPTS/CHAPTERS

Waterhouse, E. Section Editor (Epilepsy), *Current treatment options in neurology*, volume 21, 2019.

Ryan MS, Bradner M, Rigby F, Lee B, **Waterhouse E**, Grossman C. Improving passage rate on USMLE step 2 clinical skills: Results from a pilot program, *Medical Science Educator* (2019) 29:709–714.

Vossler MD, Bainbridge Pharm D, Boggs MD, Novotny MD, Loddenkemper MD, Fischer Pharm D, Olson MD, Naritoku MD, **Towne MD**, Welty Pharm D. Consensus statement. Treatment of refractory status epilepticus: Report of the Treatments Committee of the American Epilepsy Society. Submitted.

Joshi CN, Vossler DG, Spanaki M, DraszowskiJF, **Towne AR**. Chance takers are accident makers: Are patients with epilepsy really taking a chance when they drive? Submitted.

ABSTRACTS/POSTERS/PRESENTATIONS

Jean-Noel, N, Browning, K, & Ono, K (2018, December). Outpatient epilepsy telehealth coverage for Virginia's Veterans. American Epilepsy Society (AES) 72nd Annual Meeting, New Orleans, LA.

Let's talk about women living with epilepsy: Challenges & triumphs. American Association of Neuroscience Nursing (AANN) 51st Annual Education Meeting, March 2019, Denver, CO.

Towne AR. Clinical research opportunities for epilepsy. American Epilepsy Society Annual Meeting, New Orleans, LA 2018.

Towne AR: Migralepsy, Pellock Symposium, Richmond, VA, 2019.

West Haven

PUBLICATIONS/MANUSCRIPTS/CHAPTERS

Tolchin B, Martino S, Hirsch LJ. Treatment of patients with psychogenic nonepileptic attacks. *JAMA*. 2019;321(20):1967–1968.

Tolchin B, Baslet G, Suzkuki J, Martino S, Blumenfeld H, Hirsch HJ, Altalib H, Dworetzky BA. Randomized controlled trial of motivational interviewing for psychogenic nonepileptic seizures. *Epilepsia* 2019;60(5):986–995.

Tolchin B, Dworetzky BA, Martino S, Blumenfeld H, Hirsch HJ, Baslet G. Adherence with psychotherapy and treatment outcomes for psychogenic nonepileptic seizures. *Neurology* 2019;92(7):e675–e679.

Peng TJ, Kimbrough T, **Tolchin B**. Clinical Reasoning: a 71-year-old man receiving treatment for cryptococcal meningitis, developing new onset lethargy. *Neurology*. 2019;92(17):815–820.

Hermann B, **Tolchin B**. Editorial: Naming things: Its importance in youth with epilepsy. *Neurology*. *Neurology* 2019;92(1):13–14.

Traner CB, Tolchin DW, **Tolchin B**. Medical ethics education for neurology residents: Where do we go from here? *Seminars in Neurology* 2018;38(5):497–504.

Tolchin B, Baslet G, Martino S, Suzkuki J, Blumenfeld H, Hirsch HJ, Altalib H, Dworetzky BA. Lessons from a randomized trial of motivational interviewing for psychogenic nonepileptic seizures. *J Neuropsychiatry Clin Neurosci*. E-published ahead of press.

Tolchin B, Dworetzky BA, Baslet G. Long-term adherence with psychiatric treatment among patients with psychogenic nonepileptic seizures. *Epilepsia* 2018; 59(1):e18–22.

Tolchin B. Audio Interview: Treatment of patients with psychogenic nonepileptic attacks. *JAMA Author Interviews*. April 2019. Available at <https://edhub.ama-assn.org/jn-learning/audio-player/17548551>.

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ABSTRACTS/POSTERS/PRESENTATIONS

Hamada Altalib. Chair of Epilepsy Special Interest Group, American Neuropsychiatry Association. Psychiatric aspects of epilepsy. 7th Qatar International Mental Health Conference, 2019.

Ben Tolchin. Diagnosing seizures and epilepsy. Department of Veterans Affairs Specialty Care Access Network, 2019.

Ben Tolchin. Improving treatment for patients with psychogenic nonepileptic attacks. Columbia University Medical Center Epilepsy Research Conference, New York, NY, 2019.

Ben Tolchin. Epilepsy surgery and psychogenic nonepileptic attacks. International League Against Epilepsy/International Bureau for Epilepsy Joint Symposium, Kingston, Jamaica, 2019.

Ben Tolchin. Indeterminate admission to the Epilepsy Monitoring Unit (EMU). Department of Veterans Affairs Specialty Care Access Network, 2018.

Ben Tolchin. Seizures and seizure-like events. Department of Veterans Affairs Specialty Care Access Network, 2018.

Ben Tolchin. Lessons from a randomized trial of motivational interviewing for psychogenic nonepileptic seizures. American Epilepsy Society Annual Meeting, Washington, DC, 2018, 2018.

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Hamada Altalib. Integrating behavioral health in epilepsy care. American Epilepsy Society Annual Meeting Behavioral and Cognitive Special Interest Group, 2018.

Northeast Region Research Grants

Boston

Principal Investigator Last, First, MI	Grant/Study Title	Project Start Date mm/dd/yyyy	Project End Date mm/dd/yyyy	Name of Funding Source
Kobylarz, Erik McCarthy, David (Co-PI)	A Device to Detect and Quantify Seizures Using Non-Cerebral Sensor Modalities	10/01/2018	09/30/2021	DoD
Stern, Emily McCarthy, David (VA Site PI)	PTSD Severity and Imaging Biomarkers in Veterans with PNES: A Pilot	100/1/2017	09/30/2019	Epilepsy Foundation
Steven Shirk, PhD	The Use of qEEG in Predicting Relapse Among AUD Veterans and Its Neuropsychological and Clinical Correlates	11/2017	11/2019	Bedford VA

Richmond

Principal Investigator Last, First, MI	Grant/Study Title	Project Start Date mm/dd/yyyy	Project End Date mm/dd/yyyy	Name of Funding Source
Towne, Alan R. (Sub I)	Chronic Effects of Neurotrauma Consortium (CENC) Award. Study 1. Longitudinal Case-Controlled Cohort Study of OEF-OIF Veterans to Evaluate for the Late Effects of Combat-Related mTBI.	10/01/14	10/01/19	DoD
Towne, Alan R. (Site PI)	Epidemiology of Epilepsy and Traumatic Brain Injury: Severity, Mechanism, and Outcomes	07/2017	Ongoing	DoD
Towne, Alan R. (Site PI)	Detecting PNES with Single- Channel sEMG	10/01/17	06/17/19	Brain Sentinel, Inc.
Towne, Alan R. (Site PI)	Evaluation of an Epilepsy Peer Support Program in the US Veterans Affairs' Epilepsy Centers of Excellence (ECoE): A Pilot Study	03/20/19	Ongoing	UCB
Towne, Alan (Collaborator)	Posttraumatic Epileptogenesis: Role of Neocortical-Hippocampal Interactions, U.S. Department of Veterans Affairs	01/01/2020	Pending	Department of Veterans Affairs

Waterhouse, Elizabeth (Site PI)	XENON XPF-008-201: A Randomized, Double-Blind, Placebo-Controlled, Multicenter Study to Evaluate the Safety, Tolerability, and Efficacy of XEN1101 as Adjunctive Therapy in Focal-Onset Epilepsy	7/2019	Ongoing	Xenon Pharmaceuticals Inc.
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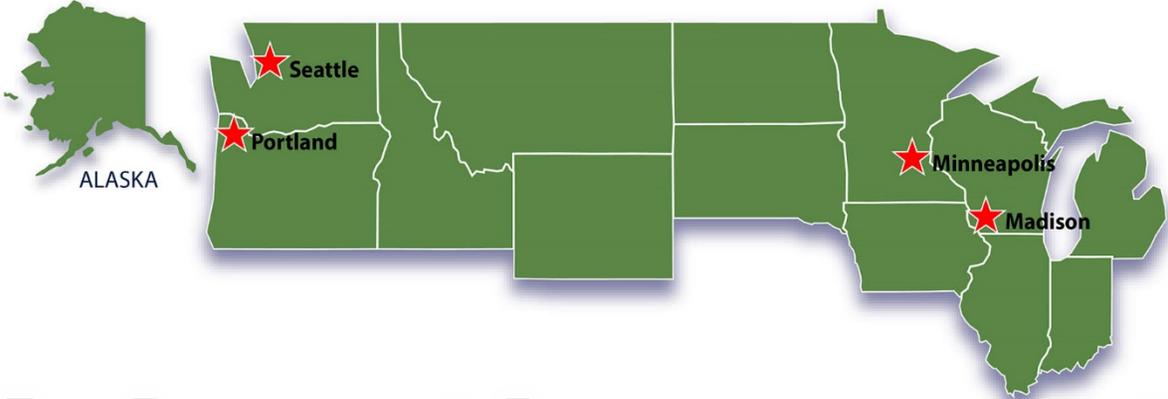
West Haven

Principal Investigator Last, First, MI	Grant/Study Title	Project Start Date mm/dd/yyyy	Project End Date mm/dd/yyyy	Name of Funding Source
Tolchin, Benjamin	Automated Cognitive Behavioral Therapy for Veterans with Psychogenic Nonepileptic Seizures: Development and Feasibility Testing	10/01/18	09/30/20	VISN1 Career Development Award
Tolchin, Benjamin	Automated Electronic Motivational Interviewing to Improve Treatment Adherence and Outcomes Among Patients with Psychogenic Nonepileptic Seizures	04/01/18	04/01/20	VA Pain Research, Informatics, Multimorbidities, Education (PRIME) Center of Innovation (VA HSR&D CIN 13-407)
Tolchin, Benjamin	Wearable Devices for Seizure Detection and Quantification in Epileptic and Psychogenic Seizures	05/01/19	04/30/20	C. G. Swebilius Trust
Altalib, Hamada	Post-Traumatic Psychogenic Seizure & Epilepsy Project	07/01/17	06/30/20	DoD Congressionally Directed Medical Research Programs Epilepsy Research Program
Altalib, Hamada	Understanding Treatment Patterns for Epilepsy Patients in VA and Expanding Antiepileptic Drug (AED) Database Project to Veteran Healthcare System	07/01/2018	06/30/20	Sunovion Pharmaceuticals

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Northwest Region Self-Assessment Results, Accomplishments, and Future Initiatives

Regional Director
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FY19 Self-Assessment Results

- Final score: The Region's self- assessment score met or exceeded the target score.
- Highlights: The expansion of telehealth continued. A VA co-op study was approved.
- Concerns/Issues: Due to delayed feedback on critical vacancies, several MOUs were not negotiated. A Federal Advisory Committee cease and desist was not lifted in time to schedule a sub-committee meeting prior to end of FY19. Both issues are expected to be resolved in FY20.

FY19 Accomplishments

- Program/Operational
 - Expansion of CVT to Spokane (Seattle), White City and Bend (Portland)
 - Expansion of store-and-forward EEG –to James Lovell (Madison); Seattle (Portland)
- Clinical Care
 - Expansion of RNS placement to Madison
 - Standardized EMU questionnaire evaluation program; completion of the first 100 admissions (including QOLIE, PCL, BDI-II, PSEQ, PSQI)
 - Startup of home CVT (three centers)
 - Expansion of Veterans support group (PDX)
 - Brain Sentinel (Madison)
 - Seattle's opening of a new campus in Tacoma
- Research/Surveillance
 - Analysis of patient satisfaction
 - Funded grants: RO1 NINDS (Seattle), NIHSS (Seattle) Merit review (Seattle); participation in DoD-funded research (Seattle, Portland); NIH translational medicine (Seattle), CDA (Madison), Foundation (Madison)
 - Road map for basic science (Seattle, Madison)
 - 14 publications
 - Progress toward VA co-op study 2013
 - Education
 - Ongoing Scan-Echo
 - Epilepsy awareness event (Minneapolis)

- Outreach
 - Manned ECoE platform at ASET meeting
 - Epilepsy awareness community event

Future Initiatives

- **Program**
 - AA for NW region
 - Recruitment of epileptologist (Minneapolis)
 - Recruitment of an additional EEG technologist (Seattle)
- Clinical
 - Expansion of the telehealth (CVT) program (one additional site each for Portland and Seattle)
 - Tele-mental health treatment for PNES from Seattle
 - RNS placement and programming at one additional site (currently available at Madison)
 - Expansion of VVC program (all sites)
- Research
 - Continued participation in VA cooperative study
 - Collaboration with other VA centers on TBI research (Seattle).
- Education
 - Addition of a fellowship program in Seattle
- Outreach
 - Expansion of the epilepsy awareness event (Minneapolis)

Other Future Initiatives

- Bring availability of Neuropace into all regional ECoE centers (Madison has recently initiated).
- Integrate whole-health treatment with ECoE treatment.
- Improve adherence to quality improvement measures.
- Improve consistent monitoring for mental health issues and pathways for assessment and treatment (OPC screening, inpatient EMU screening).

Northwest Region Fellowships

Madison Fellowships

Name	Fellowship	ACGME	VA FTE	Start Date	End Date
Josh Pankratz	Epilepsy	Yes	0.25	7/1/2018	6/30/2019
Mohammad Kabir	Clinical Neurophysiology	Yes	0.25	7/1/2018	6/30/2019
Zsofia Szabo	Clinical Neurophysiology	Yes	0.25	7/1/2019	6/30/2020

Portland Fellowships

Name	Fellowship	ACGME	VA FTE	Start Date	End Date
Kathryn Hagen	Epilepsy	Yes	1.0	7/1/2019	7/1/2020
Eric Valente	Epilepsy	No	0.5	7/1/2019	7/1/2020

Seattle Fellowships

Name	Fellowship	ACGME	VA FTE	Start Date	End Date
Alejandro Parga, MD, PhD	Senior Fellow in Neurology		1.0 (VA Merit Review – C. Ransom PI)	6/2016	

Northwest Region Publications/Presentations

Madison

PUBLICATIONS/MANUSCRIPTS/CHAPTERS

River Bonet CN, Hermann B, Coo CJ, Hwang G, Dabbs K, Nair V, Forseth C, Mathis J, Allen L, Almane DN, Arkush K, Birn R, Conant LL, DeYoe EA, Felton E, Humphries CJ, Kragel P, Maganti R, Nencka A, Nwoke O, Raghavan, Rozman M, Shah U, Sosa VN, **Struck AF**, Tellapragada N, Ustine C, Ward BD, Prabhakaran V, Binder JR, Meyerand MR. Neuroanatomical correlates of personality traits in temporal epilepsy: Findings from the Epilepsy Connectome Project, *Epilepsy Behav* 98 (Pt A):220–227, 2019.

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ABSTRACTS/POSTERS/PRESENTATIONS

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Struck, AF. Critical care EEG monitoring. Grand Rounds, Addis Ababa University. Addis Ababa, Ethiopia.

Struck, AF. 2HELPS2B. In Best of EEG Platform Session, American Academy of Neurology Annual Meeting. Los Angeles, CA.

Struck, AF. Continuous EEG monitoring from seizure forecast to the ictal-interictal continuum. Invited Talk, Massachusetts General Hospital. Boston, MA.

Correa, D., **Kwon, C.S.**, Moshé, S., Jetté, N., EpiBioS4Rx public engagement core. Listening to the community voice in a traumatic brain injury study to prevent post-traumatic epilepsy: Preliminary findings of the EpiBioS4Rx Public Engagement Core. Poster presented at American Epilepsy Society Meeting. New Orleans, LA, December 2018.

Kotloski, R.J., Rutecki, P.A., Sutula, T.P. Genetic background in rats influences gene expression in response to TBI. Poster presented at: American Epilepsy Society Meeting. New Orleans, LA, December 2018.

Portland

PUBLICATIONS/MANUSCRIPTS/CHAPTERS

Salinsky M, Rutecki P, Parko K, Goy E, Storzbach D, O'Neil M, Binder L, **Joos S.** Psychiatric comorbidity and TBI attribution of patients with psychogenic non-epileptic or epileptic seizures: A multicenter study in U.S. Veterans. *Epilepsia* 10/18. PMID 30144027.

Salinsky M, Rutecki P, Parko K, Goy E, Markwardt S, Binder L, **Joos S.** Health-related quality of life in Veterans with epileptic and psychogenic nonepileptic seizures. *Epilepsy and Behavior* 5/19. PMID 30893618.

Ernst LD, Krause MA, Raslan AM, **Spencer DC.** Novel use of responsive neurostimulation in the treatment of super refractory status epilepticus. *J Clin Neurophysiol.* 5/19. PMID 30531428.

Ernst LD. Let's talk about sex: integrating sex as a biological variable in epilepsy research. *Epilepsy Curr.* 10/18. PMID: 3046725.

Kellogg M, Mack J, Parko K, **Rutecki P, Salinsky M.** Suicidal ideation in Veterans with psychogenic non-epileptic or epileptic seizures. Manuscript in review 2019.

Seattle

PUBLICATIONS/MANUSCRIPTS/CHAPTERS

Doud, AJ, Julius, AD, **Ransom, CB.** "It's beautiful!" Visual phenomena in occipital lobe epilepsy. *JAMA Neurology* 75(9):1146–1147, 2018.

Ozuna, J, Kelly, P, Towne, **Hixson, J.** Self-management in epilepsy care: Untapped opportunities. *Fed Pract.* 35(3):S10–S16, 2018.

ABSTRACTS/POSTERS/PRESENTATIONS

Parga, A, **Ransom, CB.** Modulation of extrasynaptic GABA_A receptors in dentate gyrus granule cells by GABA_B receptors and severe TBI. *Soc Neurosci Abstr.* 42, 2018.

Kalmbach, B, de Frates, R, Graybuck, L, Daigle, T, Chong, P, Opitz-Araya, X, Walker, M, Sorensen, S, Berg, J, **Dembrow, N, Spain, W,** Horwitz, G, Tasic, B, Lein, E, Ting J. Intrinsic membrane properties, morphology and transcriptomic profile of a rare human L5-projection neuron type. Accepted *Soc Neurosci Abstr* for meeting in Chicago, October 2019.

Guan, D, **Spain, WJ,** Foehring, RC. Layer 5 pyramidal neuron subtypes differ in plasticity in response to conditioning with repeated action potentials. Accepted *Soc Neurosci Abstr* for meeting in Chicago, October 2019.

Spain, W. Dendritic high pass filtering and gain control. Invited seminar at Centre National de la Recherche Scientifique, France, June 14, 2019.

Northwest Region Research/Grants

Madison

Principal Investigator Last, First, MI	Grant/Study Title	Project Start Date mm/dd/yyyy	Project End Date mm/dd/yyyy	Name of Funding Source
Rutecki, Paul	Mechanisms of 2DG Anti-epileptic Effects	10/01/2014	9/30/2018	VA BLR&D
Kotloski, Robert	RCDA: TBI and posttraumatic epilepsy in plasticity susceptible and resistant rats	04/01/2016	03/30/2021	VA BLR&D
Struck, Aaron	[18F]-FEPPA post-ictal inflammatory biomarker in epilepsy	07/01/2019	06/30/2021	Lily's Fund

Portland

Principal Investigator Last, First, MI	Grant/Study Title	Project Start Date mm/dd/yyyy	Project End Date mm/dd/yyyy	Name of Funding Source
Salinsky, Martin (co-principal proponent)	Treatment of psychogenic non-epileptic seizures in Veterans (CSP2013)	Proposed 2020		VA Cooperative Studies

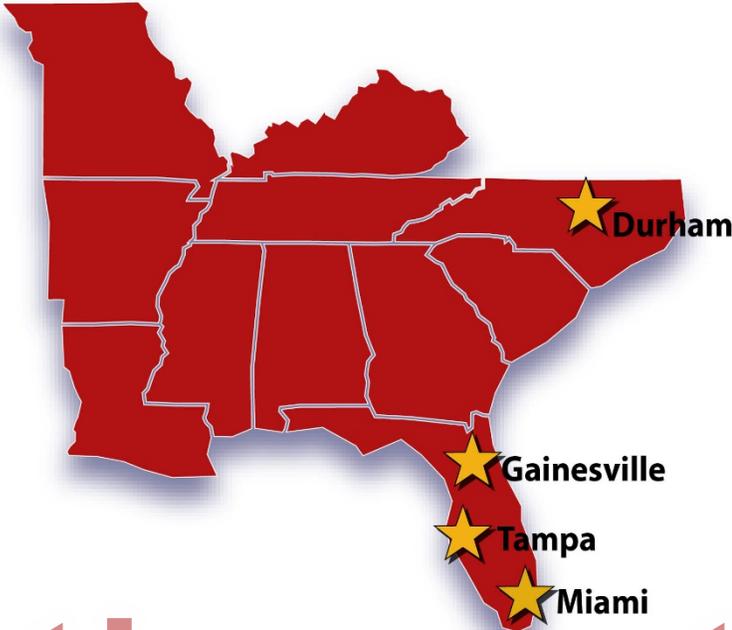
Seattle

Principal Investigator Last, First, MI	Grant/Study Title	Project Start Date mm/dd/yyyy	Project End Date mm/dd/yyyy	Name of Funding Source
Spain, William	Mechanisms of synaptic integration in central neurons.	11/1/2013	10/30/2019 (no-cost extension)	Veterans Administration Merit Review
Spain, William	Dynamics of Kv channel function in identified populations of pyramidal neurons in neocortex	02/01/2018	1/31/2023	NIH (NINDS) RO1
Ransom, Christopher	Regulation of extrasynaptic GABA _A receptors in health and disease	10/1/2015	09/30/2019 (no-cost extension)	Veterans Administration Merit Review
Robert Fraser, PhD (Ransom, Co-Investigator)	MEW Collaborating Center: PACES replication (Veteran's RCT)	09/30/2015	9/29/2019 (no-cost extension)	DoD

Southeast Region

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Maria Lopez, MD

Regional Administrative Director
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Southeast



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Southeast Region Self-Assessment Results, Accomplishments, and Future Initiatives

Regional Director: **Maria Lopez, MD**

Regional Administrative Officer: **Pamela Kelly, DHA, MBA/HCM**

FY19 Self-Assessment Results

- Final Score: Pass
- Highlights: Continues to leverage technology. Maintain gains with Tele-EEG. Growth in CVT – Home (approximately doubled for second consecutive year).
- Concerns/Issues: Dips in Tele-Health in general (requires significant administrative help).

FY19 Accomplishments

- Program/Operational
 - A CBT treatment for PNES training course was completed in Durham.
 - Funding for a 0.5 program support specialist (Tampa) was secured.
- Clinical Care
 - Access/wait-time targets for ECOE Epilepsy Clinics/EEG were met at all centers.
 - Increased Tele-Health/Home CVT Workload (Durham).
 - Increased SF Telehealth EEG (Durham).
 - Maintained EMU volume (in setting of the MISSION Act).
 - Obtained 24/7 EEG tech coverage/access (Tampa and Miami).
 - Secured access to the SPEAC system to supplement EMU/ambulatory EEG monitoring (All centers)
 - EMU was granted in all sites, some of them with a designated Neurology Nurse.
 - Secured rapid access to Epilepsy clinics, EMU, and Ambulatory EEGs.
 - Secured access to new technologies such as the SPEAC system.
- Research/ Surveillance
 - Participated in the Brain Sentinel project.
 - Participated in the UCB Peer Support project.
 - Presented an AES poster.
 - Presented an AAN platform.
- Education
 - Led an AAN course on women with epilepsy.
 - Added a clinical Neurophysiology fellowship position (Gainesville).
- Outreach
 - Participated in interdepartmental Grand Rounds (all sites).
 - Partnered with the Anita Kaufman Foundation and the Epilepsy Foundation.
 - Made community presentations (TGH and South Florida).

Future Initiatives:

- Increase telehealth availability and CBT treatment for PNES (Durham).
- Provide home video telehealth (Tampa).
- Establish V-Tel for CBT for PNES.
- Educate Veterans about the use of My Healthy Vet and telephone clinics to ensure timely access to health care providers.
- Increase education of women with epilepsy management via presentations to primary care, psychiatry, and nursing in South Florida.
- Increase MICU/SICU and IOM monitoring (Gainesville).

Other Future Initiatives

- Program/Operational
 - Add Telehealth site (Tampa).
 - Add SFT (Gainesville).
- Clinical Care
 - Increase Home Telehealth.
 - Add remote EEG Capability (Tampa, Durham).
- Research/Surveillance
 - Finalize research on (“Optimizing Treatment of Psychiatric Comorbidities in Veterans with Epilepsy” (Miami).
 - Finalize protocol and start recruitment for a study on mindfulness in the treatment of epilepsy.
 - Publish a paper on interactions between AEDs and psychiatric medications.
 - Gain IRB approval for Epilepsy Surgery Outcomes in the Veteran Population (Gainesville).
- Education
 - Complete an international course titled “Women with Epilepsy” at AAN 2020 in Toronto, Canada.
 - Educate health care providers in identification and treatment of PNES through an annual course on neurology and stroke at UM–Miami in January 2020.

Outreach Activities

- Educate health providers on the identification and treatment of seizure disorders (Grand Rounds, patient and provider seminars).

Southeast Region Fellowships

Durham Fellowships

Name	Fellowship	ACGME	VA FTE	Start Date	End Date
Waqas Gilani	Clinical Neurophysiology	Yes	0.25	7/1/2019	6/30/2020
Senyene Hunter	Clinical Neurophysiology	Yes	0.25	7/1/2019	6/30/2020
Vishal Mandge	Clinical Neurophysiology	Yes	0.25	7/1/2019	6/30/2020
Shareena Rahman	Clinical Neurophysiology	Yes	0.25	7/1/2019	6/30/2020

Gainesville Fellowships

Name	Fellowship	ACGME	VA FTE	Start Date	End Date
Nathan L	Clinical Neurophysiology	Yes	0.5	7/1/2019	6/30/2020
Jose Velez-Velez	Clinical Neurophysiology	Yes	0.5	7/1/2019	6/30/2020

Miami Fellowships

Name	Fellowship	ACGME	VA FTE	Start Date	End Date
Manuel Melo-Bicchi	Clinical Neurophysiology	Yes	0.25	7/1/2019	6/30/2020
Angel Claudio	Clinical Neurophysiology	Yes	0.25	7/1/2019	6/30/2020
Misbba Khan	Epilepsy	Yes	0.25	7/1/2019	6/30/2020
Christopher Jimenez	Clinical Neurophysiology	Yes	0.25	7/1/2019	6/30/2020

Tampa Fellowships

Name	Fellowship	ACGME	VA FTE	Start Date	End Date
Mark Armanious	Clinical Neurophysiology	Yes	0.5	7/1/2019	6/30/2020
Zafar Kaleem	Clinical Neurophysiology	Yes	0.5	7/1/2019	6/30/2020

Southeast Region Publications/Presentations

Durham

PUBLICATIONS/MANUSCRIPTS/CHAPTERS

Kang, Jennifer H., G Clay Sherill, **Saurabh R. Sinha**, Christa B. Swisher. A trial of real-time electrographic seizure detection by Neuro-ICU nurses using a panel of quantitative EEG trends. *Neurocrit Care* 31, no. 2 (October 2019):312–320. <https://doi.org/10.1007/s12028-019-00673-z>.

Luedke, Matthew W., Dan V. Blalock, Karen M. Goldstein, Andrzej S. Kosinski, **Saurabh R. Sinha**, Connor Drake, Jeffrey D. Lewis, et al. Self-management of epilepsy: A systematic review. *Ann Intern Med* 171, no. 2 (July 16, 2019):117–126. <https://doi.org/10.7326/M19-0458>.

Chung, Steve, **Saurabh R. Sinha**, Aashit Shah, John M. Stern, Hailong Cheng, JungAh Jung, Todd Grinnell, David Blum. "Long-term safety and efficacy following conversion to eslicarbazepine acetate monotherapy in adults with focal seizures.. *Epilepsy Res* 153 (July 2019):59–65. <https://doi.org/10.1016/j.eplepsyres.2019.03.018>.

Loochtan, Aaron I., Andrew R. Spector, **Saurabh R. Sinha**, David P. Lerner. Emergency neurology oral cases for trainee assessment and education.. *Neurologist* 24, no. 2 (March 2019):53–55. <https://doi.org/10.1097/NRL.0000000000000217>.

Luedke, Matthew W., Dan V. Blalock, Karen M. Goldstein, Andrzej S. Kosinski, **Saurabh R. Sinha**, Connor Drake, Jeffrey D. Lewis, et al. Self-management of epilepsy: A systematic review. *Ann Intern Med* 171, no. 2 (July 16, 2019):117–126. <https://doi.org/10.7326/M19-0458>. (Husain, Tran and Sinha; cited above).

Albassam, Omar T., Robert J. Redelmeier, Steven Shadowitz, **Aatif M. Husain**, David Simel, Edward E. Etchells. Did this patient have cardiac syncope?: The rational clinical examination systematic review." *JAMA* 321, no. 24 (June 25, 2019): 2448–2457. <https://doi.org/10.1001/jama.2019.8001>.

Kang, Jennifer H., **Aatif M. Husain**, Joel C. Morgenlander. Loss of vestibular ocular reflex in nonconvulsive status epilepticus.. *Neurocrit Care* 30, no. 3 (June 2019):675–680. <https://doi.org/10.1007/s12028-018-0567-z>.

Husain, Aatif M. Continuous EEG monitoring: The neurologist's crystal ball.. *Epilepsy Curr.* 19, no. 1 (January 2019):24–26. <https://doi.org/10.1177/1535759718822037>.

Husain, Aatif M. Raw versus processed EEG: Which one is better?. *Epilepsy Curr.* 18, no. 6 (November 2018):375–377. <https://doi.org/10.5698/1535-7597.18.6.375>.

Luedke, Matthew W., Dan V. Blalock, Karen M. Goldstein, Andrzej S. Kosinski, **Saurabh R. Sinha**, Connor Drake, Jeffrey D. Lewis, et al. Self-management of epilepsy: A systematic review.. *Ann Intern Med.* 171, no. 2 (July 16, 2019):117–126. <https://doi.org/10.7326/M19-0458>. (Husain, Tran and Sinha, cited above).

Kolls, Brad J., Shelly Sapp, Frank W. Rockhold, J Dedrick Jordan, **Keith E. Dombrowski**, F Gerry R. Fowkes, Kenneth W. Mahaffey, et al. Stroke in patients with peripheral artery disease.. *Stroke* 50, no. 6 (June 2019):1356–1363. <https://doi.org/10.1161/STROKEAHA.118.023534>.

Roses, Stephanie M., Thomas Christianson, **Keith Dombrowski**. Acute respiratory distress syndrome associated with Clopidogrel in a young male patient.." *Front Med. (Lausanne)* 6 (2019). <https://doi.org/10.3389/fmed.2019.00038>.

Hernandez, Adrian F., Jennifer B. Green, Salim Janmohamed, Ralph B. D'Agostino, **Christopher B. Granger**, Nigel P. Jones, Lawrence A. Leiter, et al. Albiglutide and cardiovascular outcomes in patients with type 2 diabetes and cardiovascular disease (Harmony Outcomes): A double-blind, randomised placebo-controlled trial." *Lancet* 392, no. 10157 (October 27, 2018):1519–1529. [https://doi.org/10.1016/S0140-6736\(18\)32261-X](https://doi.org/10.1016/S0140-6736(18)32261-X).

Wechsler, Robert T., **Rodney A. Radtke**, Michael Smith, David G. Vossler, Laura Strom, Eugen Trinka, Hailong Cheng, et al. Serum sodium levels and related treatment-emergent adverse events during eslicarbazepine acetate use in adults with epilepsy. *Epilepsia* 60, no. 7 (July 2019):1341–1352. <https://doi.org/10.1111/epi.16069>.

International League Against Epilepsy Consortium on Complex Epilepsies, Arun J. Genome-wide mega-analysis identifies 16 loci and highlights diverse biological mechanisms in the common epilepsies.. *Nat Commun.* 9, no. 1 (December 10, 2018). <https://doi.org/10.1038/s41467-018-07524-z>.

ABSTRACTS/POSTERS/PRESENTATIONS

Trends in epilepsy surgery at Duke University Medical Center. **Saurabh R. Sinha**, Jasmine Allen, Matthew W. Luedke. 2018 Annual American Epilepsy Society Meeting; New Orleans. (Abst. 2.336)

Estimating epilepsy prevalence in the Veterans Health Administration after implementation of ICD-10. **Rizwana Rehman**, Durham VA Health Care System Epilepsy Center of Excellence, Durham, NC; **Stephen Eisenschenk**, North Florida/South Georgia VA Health Care System Epilepsy Center of Excellence; **Alfred Frontera**, James A. Haley Veterans' Hospital Epilepsy Center of Excellence; **Aatif M. Husain**, Durham VA Health Care System Epilepsy Center of Excellence; **Pamela Kelly**, Durham VA Health Care System Epilepsy Center of Excellence; **Allan Krumholz**, The Veterans Affairs Maryland Health Care System Epilepsy Centers of Excellence; **Maria Lopez**, Bruce W. Carter Veteran Medical Center; University of Miami Miller School of Medicine; **Sheela Sajan**, Durham VA Health Care System Epilepsy Center of Excellence, Durham, NC; **Tung Tran**, Durham VA Health Care System Epilepsy Center of Excellence; and **Paul Rutecki**, William Middleton Memorial VA Hospital Epilepsy Center of Excellence. (Abst. 1.431), 2018.

Mirna and cytokine profiles in cryptogenic, focal epilepsy: A pilot study. Timothy Veldman, Vaishnavi Venkat, **Rodney Radtke**, and **Saurabh R. Sinha**, Duke University Medical Center. (Abst. 3.096), 2018.

Gainesville

PUBLICATIONS/MANUSCRIPTS/CHAPTERS

Eisenschenk S, Wang Y, **Surabhi S**. Seizures associated with non-neurological medical conditions. In: *The Treatment of Epilepsy: Principles and Practice*, 4th ed., Elaine Wyllie, ed. Lippincott Williams and Wilkins Co., 2019.

ABSTRACTS/POSTERS/PRESENTATIONS

Rehman R, **Eisenschenk S**, **Fontera A**, et al. Estimating epilepsy prevalence in Veterans Health Administration after implementation of ICD-1. 2018 Annual American Epilepsy Society Meeting; New Orleans.

Kaye L, Hella M, Almeida L, Newcomer Z, **Eisenschenk S**. EEG predictors of post-stroke seizure. American Academy of Neurology 70th Annual Meeting, Los Angeles, CA.

Miami

PUBLICATIONS/MANUSCRIPTS/CHAPTERS

Lopez MR, Schachter SC, Kanner AM. Psychiatric comorbidities go unrecognized in patients with epilepsy: You see what you know. *Epilepsy & Behavior*. 2019 Apr 23.

ABSTRACTS/POSTERS/PRESENTATIONS

Rehman R, Frontera AT, Kelly PR, Lopez MR et al. Estimating epilepsy prevalence in the Veterans Health Administration after implementation of ICD-10.AES. New Orleans, 2018.

Tampa

PUBLICATIONS/MANUSCRIPTS/CHAPTERS

Benbadis S, Klein P, Schiemann J, Diaz A, Elmoufti S, Whitesides J. Efficacy, safety, and tolerability of brivaracetam with concomitant lamotrigine or topiramate in pooled Phase III randomized, double-blind trials: A post-hoc analysis. *Epilepsy Behav*. 23, no. 80 (2018):129–134.

Amin U, Sullivan L, Trudeau P, **Benbadis SR**. Association between positive occipital sharp transients of sleep and lambda waves. *Clinical EEG and Neurosciences* 2018 Nov 14:1550059418813020. doi: 10.1177/1550059418813020.

Syed TU, **LaFrance WC, Benbadis S**, et al. Outcome of ambulatory video-EEG monitoring in a ~10,000 patient nationwide cohort. *Seizure* 66 (2018):104–111.

Murray K, Amin U, Maclver S, **Benbadis S**. EEG findings in PRES. *Clin EEG Neurosci*. 2019 Jun 19:1550059419856968. doi: 10.1177/1550059419856968.

Benbadis SR, Geller E, Ryvlin P, Schachter S, Wheless J, Doyle W, Vale FL. Putting it all together. Options for intractable epilepsy: An updated algorithm on the use of epilepsy surgery and neurostimulation. *Epilepsy Behav*. 2018 88S:33–38. doi: 10.1016/j.yebeh.2018.05.030.

Mora Rodríguez KA, **Benbadis SR**. Managing antiepileptic medication in dialysis patients. *Curr Treat Options Neurol*. 2018 Sep 27:20–45.doi:10.1007/s11940-018-0530-5.

Benbadis SR. Psychogenic nonepileptic seizures, conversion disorder, somatic symptom disorders. *Neurology* 92 (2018):311–312.

Amin U, **Benbadis SR**. The role of EEG in the erroneous diagnosis of epilepsy. *J Clin Neurophysiol*:36, no. 4 (2019):294–297.

Benbadis SR, Kaplan PW. The dangers of over-reading an EEG. *J Clin Neurophysiol* 36, no. 4 (2019):249.

Luders H, **Benbadis SR**, Kahane P. Classification of paroxysmal events in the four-dimensional epilepsy classification system. *Epileptic Disorders* 21, no. 1 (2019):1–29.

Luders H, Akamatsu N, Amina S, **Benbadis SR**, et al. Critique of the 2017 epileptic seizure and epilepsy classifications. *Epilepsia* 2019 Mar 28. doi: 10.1111/epi.14699.

Benbadis SR, LaFrance Jr WC. Chapter 4. Clinical features and the role of video-EEG monitoring. In: Schachter SC, LaFrance Jr WC, editors. *Gates and Rowan's Nonepileptic Seizures*. 3rd ed. Cambridge; New York: Cambridge University Press; 2018, pp. 44–57.

Khan T, **Benbadis SR.** Psychogenic nonepileptic attacks. In: **Husain AM** and **Tran TT** (eds.). *Department of Veterans Affairs Epilepsy Manual*, 2nd edition. Department of Veterans Affairs, 2018, pp. 238–244.

ABSTRACTS/POSTERS/PRESENTATIONS

Savani C, Kumar V, Richardson C, Amin S, MacIver S, **Frontera A, Benbadis S.** Predictors of 30-day readmission after ondex hospitalization for epilepsy: A 5-year national estimate using the Nationwide Readmission Database (NRD). Poster presented at the American Academy of Neurology Annual Meeting, April 2019, Philadelphia, PA.

Amin S, Savani C, Richardson C, Kumar V, MacIver S, **Frontera A, Benbadis S.** Incidence and predictors of in-hospital mortality associated with status epilepticus: An estimate using the Nationwide Inpatient Sample (NIS) Database 2011–14. Poster presented and selected as a Platform Presentation at American Academy of Neurology Annual Meeting, April 2019, Philadelphia, PA.

Southeast Region Research/Grants

Durham

Principal Investigator Last, First, MI	Grant/Study Title	Project Start Date mm/dd/yyyy	Project End Date mm/dd/yyyy	Name of Funding Source
Husain, Aatif (Site PI)	Detecting psychogenic nonepileptic seizures with single-channel SEMG	12/04/2017	06/17/2019 (enrollment stopped, still waiting for study closure)	Brain Sentinel
Tran, Tung (Site PI)	Evaluation of an Epilepsy Peer support program in the US Veteran Affairs Epilepsy Centers of Excellence (ECoE): A Pilot Study	03/01/2019	Ongoing	UCB

Gainesville

Principal Investigator Last, First, MI	Grant/Study Title	Project Start Date mm/dd/yyyy	Project End Date mm/dd/yyyy	Name of Funding Source
PI: Bashir Shihabuddin, MD Site: Stephan Eisenschenk, MD	Impact of SPEAC® System data on therapeutic decisions related to convulsive seizure patients with a new diagnosis (Protocol Identifying Number: CPT-03-2018)	Undetermined	Undetermined	Brain Sentinel®, Inc.
Stephan Eisenschenk, MD	Predictors of post-stroke epilepsy	07/26/2017	06/12/2022	Densch Epilepsy Research Fund
Peggy Borum, PhD	Precision ketogenic therapy effects on electrical and metabolic abnormalities in epilepsy	10/19/18	10/18/19	CTSI

Miami

Principal Investigator Last, First, MI	Grant/Study Title	Project Start Date mm/dd/yyyy	Project End Date mm/dd/yyyy	Name of Funding Source
Maria Raquel Lopez	The impact of mindfulness meditation in veterans with epilepsy. Can seizure and psychiatric comorbidities improve?	Expected 9/2019	9/2021	None
Maria Raquel Lopez	Impact of SPEAC System data on therapeutic decisions related to convulsive seizure patients with recent non-diagnostic EMU visit	7/2019	7/2010	Sentinel

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Southwest Region Self-Assessment Results, Accomplishments, and Future Initiatives

Regional Director: **Nina I. Garga, MD**

Regional Administrative Officer: **Vacant**

FY19 Self-Assessment Results

- Final score: Pass
- Highlights: Outstanding clinical productivity with the highest volume of epilepsy monitoring unit admissions and surgery within the region. Heavy investment in educating medical students, neurology residents, epilepsy and EEG fellows, pharmacists, nurses, and psychologists. Active participation in DoD, NIH, and VA-funded research projects with substantial publications in the field.
- Concerns/Issues: Clearance to move forward with advisory board regulations not received in time to schedule meeting in FY19.

FY19 Accomplishments

Program/Operational

- Leveraged the MISSION Act to get pre-surgical studies at university affiliates (Houston—MEG, San Francisco—ictal SPECT, and RNS implantation).
- Two sites have purchased and/or upgraded EMU servers and acquisition units.
- Several critical vacancies were filled via facility funds (Social Worker—SF, Second epileptologist—SA).
- Melissa Fadipe was awarded the American Nurse Credential Center's (ANCC) 2019 Magnet Nurse of the Year Award for Transformational Leadership. The award recognizes outstanding contributions of clinical nurses to innovation, consultation, leadership, and professional risk taking.

Clinical Care

- Comprehensive inpatient and outpatient services were maintained at three sites.
- Outpatient and e-consult volume at San Antonio continued to grow and was stabilized at Albuquerque.
- Video-to-home telehealth is now available at two sites and is robust at one site.
- CBT-informed psychotherapy for PNES is available at three sites.
- Epilepsy pharmacy clinics have opened at two sites.
- Store-and-forward EEG reading is in use at one site.
- Epilepsy surgery evaluations, intracranial implantations, and cortical mapping continue at three sites.
- RNS device implantation is robust at one site, with better response rates than reported in clinical trials, and programming is available at three sites.

Research/Surveillance

- A group CBT study (SF, Houston, Durham) abstract was accepted to AES.
- There is ongoing recruitment into the UCB peer-support study.
- There is ongoing recruitment into PNES imaging biomarker DoD.

Education

- ACGME Epilepsy and/or Neurophysiology fellowship training continues at three sites.
- Neuro-pharmacy fellowship training continues at one site.
- EEG technologist clinical site training was established at one site.
- The curriculum was developed and training commenced for the first UCSF neurology-psychiatry joint program resident in CBT-informed therapy for PNES at the San Francisco VA.
- RN annual skills refresher training programs for EMU care continue at two sites.

Future Initiatives

Program/Operational

- Establish a regional advisory committee and identify a designated federal official.
- Critical hires:
 - Health System Specialist and Administrative Officer for the SW and NE regions
 - Permanent Site Directors at San Antonio and Albuquerque
 - Nurse Practitioner/ECOE Program Coordinator at San Antonio
 - Additional Monitoring EEG Technologists at San Antonio (nights/weekends), mandatory to open EMU
 - Full-time EEG Technologist at San Francisco to backfill vacancy
- Install new equipment at SF, Houston.
- Complete equipment upgrades in progress at GLAVA and SA, and upgrade to WiFi connectivity for real-time remote EEG review from any ICU bed at GLAVA.
- Accurately capture store-and-forward EEG workload at San Antonio.

Clinical Care

- Maintain comprehensive outpatient, inpatient, and telehealth services across the region.
- Reach staffing needs to open EMU at San Antonio.
- Continue to provide surgical treatment of epilepsy, including invasive monitoring using intracranial electrodes, resection surgery, RNS, DBS and VNS, and respective programming of the stimulators.
- Expand surgical therapy to include Visualase therapy at GLAVA and RNS implantation at Houston.
- Grow video to home at least 20 percent at SF and Houston; establish video at WLA.

Research/Surveillance

- Continue recruitment fMRI PNES and UCB peer-support studies.
- Ensure that all sites submit letters of support for the co-op study application for PNES the treatment.

Education

- Continue training residents, fellows, pharmacists, and technologists at multiple sites.
- Establish a patient education class on seizure safety at San Antonio.

Outreach Activities

- Houston partnered with a local EF chapter to incorporate a “You Are Not Alone” initiative to veterans in support groups.
- Houston expanded its PNES Support group to include home video conferencing participation.
- WLA MD/RN/Pharmacists attended the annual three-day Epilepsy Expo (Epilepsyawarenessday.org) at the Disneyland Resort, representing the national ECoE program.

Other Future Initiatives

- Establish clinical video telehealth Epilepsy clinics from San Antonio to Victoria and Kerrville.
- Establish an epilepsy diet clinic at San Antonio.
- Apply for and obtain funding from OAA for San Antonio to serve as an affiliate site for epilepsy fellowship training (UTHCSA program).
- Add/implement Ceribell Rapid Response EEG at Houston and WLAVA.
- Strengthen partnership with EFA for patient support programs.

Southwest Region Fellowships

Houston Fellowships

Name	Fellowship	ACGME	VA FTE	Start Date	End Date
LaTanya Agurs	Epilepsy/ Clinical Neurophysiology	Yes	0.33	7/1/2018	6/30/2019
Nitish Chourasia	Clinical Neurophysiology	Yes	0.33	7/1/2018	6/30/2019
Cemal Karakas	Clinical Neurophysiology	Yes	0.33	7/1/2018	6/30/2019
Audrey Nath	Clinical Neurophysiology	Yes	0.33	7/1/2018	6/30/2019
Sonali Sen	Clinical Neurophysiology	Yes	0.33	7/1/2018	6/30/2019

San Francisco Fellowships

Name	Fellowship	ACGME	VA FTE	Start Date	End Date
Jon Kleen, MD, PhD	Epilepsy	Yes	0.5	07/01/18	06/30/19
Patrick Hullett, MD, PhD	Epilepsy	Yes	0.25	07/01/19	06/30/20
Joline Fan, MD	Epilepsy	Yes	0.25	07/01/19	06/30/20
Brandy Ma, MD	Polytrauma Epilepsy	No	0.5	07/01/18	06/30/19

WLA Fellowships

Name	Fellowship	ACGME	VA FTE	Start Date	End Date
Naomi Wu	PGY-2 Neurology Specialty Pharmacy Resident	Yes	1.0	7/1/2019	6/30/2020
Jeremy Liu	PGY-2 Neurology Specialty Pharmacy Resident	Yes	1.0	7/1/2019	6/30/2020
Lillian Chi	PGY-2 Neurology Specialty Pharmacy Resident	Yes	1.0	7/1/2018	6/30/2019
Daniel Vitantonio	Clinical Neurophysiology	Yes	1.0	7/1/2018	6/30/19
Seyedali Hejazi	Epilepsy	Yes	1.00	7/1/2019	6/30/2020
George Lai	Epilepsy	Yes	1.00	July 1, 2018	6/30/2019
Kira Dillard	Clinical Neurophysiology	Yes	1.00	7/1/2019	6/30/2020

Southwest Region Publications/Presentations

Houston

Books

Stereotactic and Functional Neurosurgery: Principles and Applications. Pouratian N and Sheth SA [eds.], Springer, New York, NY (in press).

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Chapters

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Provenza NR, Matteson ER, Allawala AB, Barrios-Anderson A, **Sheth SA**, Viswanathan A, McIngvale E, Storch EA, Frank MJ, McLaughlin NCR, Cohn JF, Goodman WK, Borton DA. The case for adaptive neuromodulation to treat severe intractable mental disorders. *Frontiers in Neuroscience* 13, no. 152. (2019). (PMID 30890909, PMCID PMC6412779).

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ABSTRACTS/POSTERS/PRESENTATIONS

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study (to be presented at the 73th American Epilepsy Society Meeting, Baltimore, MD December 2019, poster 1.374).

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Sheth SA. Mechanisms of rapid, flexible cognitive control in human prefrontal cortex. NIH BRAIN Initiative Conference: Pioneering our Understanding of the Human Brain, March 13, 2019, virtual online format.

Sheth SA. Prominent temporal coding of decision variables in human prefrontal cortex. Human Single Neuron Conference, Pasadena, CA, November 1, 2018.

Sheth SA Emerging neuropsychiatric uses of brain stimulation. CME Symposium, NYU, New York, NY. "DBS for Depression." October 26, 2018.

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Sheth SA. The co-evolution of neuroimaging and psychiatric neurosurgery. Eastern DBS Think Tank, Shanghai, China, October 11, 2018.

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Sheth SA. DBS for depression. Dinner seminar, Congress of Neurological Surgeons (CNS) Annual Meeting Houston, TX, October 9, 2018.

Sheth SA. Stereotactic radiosurgical capsulotomy for OCD: Initial results using a 'Goldilocks' 5-shot radiosurgical plan. Congress of Neurological Surgeons (CNS) Annual Meeting, Houston, TX, October 9, 2018.

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PUBLICATIONS/MANUSCRIPTS/CHAPTERS

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Misganaw B, Guffanti G, Lori A, Abu-Amara D, Flory JD; SBPBC, **Mueller S**, Yehuda R, Jett M, Marmar CR, Ressler KJ, Doyle FJ 3rd. Polygenic risk associated with post-traumatic stress disorder onset and severity. *Transl Psychiatry* 9, no. 1 (2019 Jun 7):165. doi: 10.1038/s41398-019-0497-3.

Salinsky M, Rutecki P, **Parko K**. Health-related quality of life in Veterans with epileptic and psychogenic non-epileptic seizures. *Epilepsy Behav.* In press.

Birbeck G, **Parko K**. Systemic review of intervention studies for stigma reduction in epilepsy: It is time to fill the vacuum. Report from the International League Against Epilepsy Task Force on Stigma in Epilepsy. *Epilepsia.* In press.

ABSTRACTS/POSTERS/PRESENTATIONS

Winawer, M.; **Hegde, M.**, et al. Brain somatic variants in SLC35A2 in intractable neocortical epilepsy. 72nd Annual Meeting of the American Epilepsy Society, New Orleans LA, 2018. Selected for poster, investigator's workshop, and platform presentations.

Panel Chair: **Karen Parko**. Global Health in Epilepsy Symposium, American Epilepsy Society 2018 Annual Meeting, New Orleans, December 2018.

John D Hixson, Stephen Yates, Bosny Pierre-Louis, Robert Warnock, Edward Han-Burgess, Shweta Joshi, Jonathan Williams, Marla Gorges, Steven Vandamme, Joseph Robertson, Ali Bozorg. Adequacy of patient information in electronic medical records and claims sources – an exploratory, retrospective record review to guide development of an antiepileptic drug treatment decision support system (TDSS). American Epilepsy Society Annual Meeting, New Orleans, LA, 2018.

Edward Han-Burgess, Ali Bozorg, John D Hixson, Bosny Pierre-Louis, Shweta Joshi, Stephen Yates. Treatment decision support systems (TDSS) in epilepsy—exploring proxy validity and overall clinical outcome success related to TDSS-predicted antiepileptic drug (AED) choices. American Epilepsy Society Annual Meeting, New Orleans, LA, 2018.

Reyes, A., Marshall, A., Balachandra, A.R., Hegde, M., Paul, B.M., McDonald, C.R. Differential pattern of white matter network abnormalities across cognitive phenotypes in temporal lobe epilepsy. 72nd Annual Meeting of the American Epilepsy Society, New Orleans, LA, 2018

Mueller SG, Knowlton R, Laxer KD. Brainstem atrophy in focal epilepsy destabilizes brainstem-cortex interactions: A path towards SUDEP? 72nd Annual Meeting of the American Epilepsy Society, New Orleans, LA, 2018.

J Zhan, H Yee, I Covert, J Wu, A Ling, M Shore, E Teasley, R Davies, T Kung, J Tansuwan, Hixson J, MJ Po. EEG seizure detection via deep neural networks: Application and interpretation. Machine Learning for Healthcare Conference, 2018.

ina I Garga. The imprint of psychogenic nonepileptic seizures on the brain: A new model and imaging biomarker. Presentation, UCSF Epilepsy Research Retreat, San Francisco, CA, January 2019.

Hixson, JD, Course Director. Biosensing in neurologic disease. AAN Annual Meeting, Philadelphia, PA, 2019.

Karen Parko. Global health in epilepsy: The North American Experience. Presentation, International League Against Epilepsy, 33rd International Epilepsy Congress, Bangkok, Thailand, June 2019.

Balu Krishnan, Ian Covert, Imad Najm, Jack Po, Jiening Zhan, John Hixson, Matt Shore. Temporal Graph Convolutional Networks for Automatic Seizure Detection. Machine Learning for Healthcare Conference, Montreal, Canada, 2019.

John Hixson and Lana Braverman. Digital and technological opportunities in Epilepsy: What is holding us back? American Association of Neuroscience Nurses Annual Meeting. Denver, CO, 2019.

John Hixson, Lana Braverman, Nancy Santilli. Digital and technological opportunities in epilepsy: A future self-management ecosystem. Child Neurology Society Annual Meeting, Charlotte, NC, 2019.

Barnard SN, Friedman D, Hegde M, Haut S, Kälviäinen T, Hixson J, French J. When do patients track their seizures in an electronic seizure diary? An interim analysis of the Human Epilepsy Project. 73rd Annual Meeting of the American Epilepsy Society, Baltimore, MD. (2019 abstract accepted.)

Hegde M, Barnard SN, Cassard L, Detyniecki K, Holmes M, Haut S, Kälviäinen T, Hixson J, French J. With and without seizures: Characteristics of seizure frequency cohorts in the Human Epilepsy Project. 73rd Annual Meeting of the American Epilepsy Society, Baltimore MD. (2019 abstract accepted.)

Cassard L, Hegde M, Gidal B, Glauser T, Faught E, Ficker D, Mintzer S, Abou-Khalil B, Alldredge B, Klein P, Barnard SN, Shadan J, French J. Levetiracetam versus sodium channel blockers as first prescribed antiepileptic drug: Data from the Human Epilepsy Project. 73rd Annual Meeting of the American Epilepsy Society, Baltimore MD. (2019 abstract accepted.)

Nancy Santilli, Lana Braverman, John Hixson. A survey of epilepsy digital technology awareness and usage among neuroscience nurses. American Epilepsy Society Annual Meeting, Baltimore, MD. (2019 abstract accepted.)

Cluster Seizure and Rescue Therapy Reporting via the My Seizure Diary. John Hixson, David Jost, and Patty Shafer. American Epilepsy Society Annual Meeting, Baltimore MD (2019 abstract accepted)

Pablo Pino, Das Sampath, John Hixson. Use of a seizure similarity machine-learning algorithm for EEG screening. American Epilepsy Society Annual Meeting, Baltimore MD. (2019 abstract accepted.)

West LA

PUBLICATIONS/MANUSCRIPTS/CHAPTERS

Niquet J, Lumley L, Baldwin R, Rossetti F, Suchomelova L, **Naylor D**, Estrada IBF, Wasterlain CG. Rational polytherapy in the treatment of cholinergic seizures. *Neurobiol Dis*. 2019 Aug 24. 104537. doi: 10.1016/j.nbd.2019.104537.

Sun Y, Jin S, Lin X, **Chen L**, Qiao X, Jiang L, Zhou P, Johnston KG, **Golshani P**, Nie Q, Holmes TC, Nitz DA, Xu X. CA1-projecting subiculum neurons facilitate object-place learning. *Nat Neurosci*. 2019 Sep 23. doi: 10.1038/s41593-019-0496-y. Epub ahead of print.

Frohlich J, Reiter LT, Saravanapandian V, DiStefano C, Huberty S, **Hyde C**, Chamberlain S, Bearden CE, **Golshani P**, Irimia A, Olsen RW, Hipp JF, Jeste SS. Mechanisms underlying the EEG biomarker in Dup15q syndrome. *Mol Autism* 10, no. 37 (2019 Nov 6). doi: 10.1186/s13229-019-0288-y. eCollection 2019.

Kingsbury L, Huang S, Wang J, Gu K, **Golshani P**, Wu YE, Hong W. Correlated neural activity and encoding of behavior across brains of socially interacting animals. *Cell*. 178, no. 2 (2019 Jul 11):429–446.e16. doi: 10.1016/j.cell.2019.05.022. Epub 2019 Jun 20.

Wykes RC, Khoo HM, Caciagli L, Blumenfeld H, **Golshani P**, Kapur J, Stern JM, Bernasconi A, Dedeurwaerdere S, Bernasconi N. WONOEP appraisal: Network concept from an imaging perspective. *Epilepsia* 60, no. 7 (2019 Jul):1293–1305. doi: 10.1111/epi.16067. Epub 2019 Jun 9.

Lazaro MT, Taxidis J, Shuman T, Bachmutsky I, Ikrar T, Santos R, Marcello GM, Mylavarapu A, Chandra S, Foreman A, Goli R, Tran D, Sharma N, Azhdam M, Dong H, Choe KY, Peñagarikano O, Masmanidis SC, Rácz B, Xu X, Geschwind DH, **Golshani P**. Reduced prefrontal synaptic connectivity and disturbed oscillatory population dynamics in the CNTNAP2 model of autism. *Cell Rep*. 27, no. 9 (2019 May 28):2567–2578.e6. doi: 10.1016/j.celrep.2019.05.006.

Octeau JC, Gangwani MR, Allam SL, Tran D, Huang S, Hoang-Trong TM, **Golshani P**, Rumbell TH, Kozloski JR, Khakh BS. Transient, consequential increases in extracellular potassium ions accompany channelrhodopsin2 excitation. *Cell Rep*. 27, no. 8 (2019 May 21):2249–2261.e7. doi: 10.1016/j.celrep.2019.04.078.

Aharoni D, Khakh BS, Silva AJ, **Golshani P**. All the light that we can see: A new era in miniaturized microscopy. *Nat Methods*. 16, no. 1 (2019 Jan):11–13. doi: 10.1038/s41592-018-0266-x. No abstract available

Howe JR 6th, Bear MF, **Golshani P**, Klann E, Lipton SA, Mucke L, Sahin M, Silva AJ. The mouse as a model for neuropsychiatric drug development. *Curr Biol*. 28, no. 17 (2018 Sep 10):R909–R914. doi: 10.1016/j.cub.2018.07.046

ABSTRACTS/POSTERS/PRESENTATIONS

Alexander M. Crossley, VA Greater Los Angeles Healthcare System; Naomi Wu, Jeremy Liu, Sidarth Ethiraj, Hyo-Jin Chae Suh, and **Sunita Dergalust**, VA Greater Los Angeles Healthcare System. Characterization of antiepileptic drug dosages and their response in Veterans with medically refractory focal onset. Epilepsy Annual Meeting of the American Epilepsy Society, 2019.

Zahra M. Aghajan, Jean-Philippe Langevin, Diane Villaroman, **Ausaf Bari**, Sonja Hiller, Uros Topalovic, Ralph J. Koek, Scott Krahl, **James W.Y. Chen**, Nicholas R. Hasulak, Michael Fanselow, Nanthia Suthana.

Intracranial neurophysiology of hypervigilance in post-traumatic stress disorder. The Society of Neuroscience meeting, 2019.

Mapping of acute deep brain stimulation (DBS) effects in two patients with refractory post-traumatic stress disorder (PTSD). George Lai, Jean-Phillipe Langevin, Ralph J. Koek, Scott E. Krahl, **Ausaf A. Bari**, **James W.Y. Chen**. Poster presentation, Third International Brain Stimulation Conference, Vancouver, BC, Canada, 2019.

Ralph J. Koek, Jean-Phillipe Langevin, Scott E. Krahl, **James W.Y. Chen**, David L. Sultzer, Mark J. Mandelkern, Alexis D. Kulick. Basolateral amygdala deep brain stimulation for treatment refractory combat PTSD: Data from the first two cases. Third International Brain Stimulation Conference, Vancouver, BC, Canada, 2019.

Alexander Crossley, Brian Toh, HyoJin Chae Suh, PharmD, Neha Gautam, **Sunita Dergalust**, PharmD. Risk of anti-epileptic drug-related adverse effects in Veterans with medically refractory epilepsy. International Epilepsy Congress, Bangkok, Thailand, 6/23/19.

Naylor DE. Stimulus conditions shift spatio-temporal patterns of GABA-A receptor activation at synaptic and extrasynaptic sites to tune and synchronize hippocampal networks. American Neurological Association, Atlanta, GA, 2018.

Naylor DE. Spillover-induced shifts in the contribution of synaptic and extrasynaptic GABA-A receptors after brief convulsant stimulation favor slowing and synchronization of hippocampal networks. Society for Neuroscience, San Diego, CA, 2018.

Naylor DE. Synchronized GABA release inversely desensitizes and diminishes synaptic but accentuates spillover to extrasynaptic GABA-A receptors in a progressive frequency-dependent manner. American Epilepsy Society, New Orleans, LA, 2018.

Naylor DE. Seizures and GABAergic tuning of hippocampal networks. Winter Conference on Brain Research, Snowmass, CO, 2019.

Naylor DE. Computational model shows shifting patterns of synaptic and extrasynaptic GABA-A receptor activation shape hippocampal circuit dynamics during seizure evolution. 26th Joint Symposium on Neural Computation, USC, CA, 2019.

Naylor DE. Shifting patterns of synaptic and extrasynaptic GABA-AR activation shape seizure evolution as a loss of inhibition followed by slowed synchrony before seizure termination. Workshop on Neurobiology of Epilepsy, Bangkok, Thailand, 2019.

Webinars

Sunita Dergalust, Anti-epileptic drugs: A focus on drug interactions. Epilepsy Centers of Excellence clinician webinar, June 5, 2019.

Hyojin Suh. Management of antiepileptics and their side effects. Epilepsy continuing education webinar, September 5, 2019.

Southwest Region Research/Grants

Houston

Principal Investigator Last, First, MI	Grant/Study Title	Project Start Date mm/dd/yyyy	Project End Date mm/dd/yyyy	Name of Funding Source
Chen, David, Site Principal Investigator	Treatment of Psychogenic Non-epileptic Seizures in U.S. Veterans			VA Cooperative Studies Program, LOI accepted
Chen, David, Site Principal Investigator	Detecting psychogenic nonepileptic seizures with single-channel sEMG	7/1/2016	9/1/2020	Brain Sentinel, IRB protocol submitted
Yoshor, Daniel Site Principal Investigator	BISC Bioelectronic Interfacing to Sensory Cortex with massive, fully implanted, flexible wireless CMOS surface recording and stimulating arrays	04/24/2017	04/23/2021	Defense Advanced Research Projects Agency (DARPA)
Sheth, Sameer, Principal Investigator	Mechanisms of Rapid, Flexible Cognitive Control in Human Prefrontal Cortex	10/2018	9/2020	U01 NS108923, NINDS
Sheth, Sameer, Contact Principal Investigator	Deep Brain Stimulation for Depression Using Directional Current Steering and Individualized Network Targeting	9/2017	8/2022	UH3 NS103549, NINDS
Sheth, Sameer, Principal Investigator	Cognitive Control Mechanisms in Human Prefrontal Cortex	4/2018	3/2021	R01 MH106700, NIMH
Van Ness, Paul, Site Principal Investigator	RCT for Cenobamate in primary generalized epilepsy	4/2019		SK Pharmaceuticals

San Francisco

Principal Investigator Last, First, MI	Grant/Study Title	Project Start Date mm/dd/yyyy	Project End Date mm/dd/yyyy	Name of Funding Source
Mueller, Susanne (PI) Garga, Nina (co-investigator)	The Imprint of Psychogenic Nonepileptic Seizures on the Brain: A New Model and Imaging Biomarker	9/1/2017	9/1/2020	DOD/CDMRP
Parko, Karen (site PI) Salinsky, Martin (PI)	Characteristics of Veterans with Epilepsy	8/12/2012	Present	VA Merit Review Award (CSR&D)
Mueller, Susanne (Co-investigator, site PI)	Center for SUDEP Research: Morphometrics Core	9/1/2014	8/31/2019	NIH/NINDS
Parko, Karen (site PI) Chen, David (PI)	Novel Group Treatment for Patients with Non-Epileptic Seizures	8/30/2016	Present	
Hixson, John (National PI)	Peer Support for U.S. Veterans with Epilepsy	1/1/2018	12/31/2019	UCB Inc.

West LA

Principal Investigator Last, First, MI	Grant/Study Title	Project Start Date mm/dd/yyyy	Project End Date mm/dd/yyyy	Name of Funding Source
Golsh G, Golshani, Peyman, Xu, Xiangmin	"Inhibitory neuron circuit organization and function in prefrontal cortex." \$1,705,664	7/01/2015	6/30/2020	1R01MH105427-01A1
Golshani, Peyman	"UCLA Center for Translational Research in Neurodevelopment :Direct funding to Golshani Lab \$625,000 (UC-TRaN)." Main Project Title: "Neurophysio-logical biomarkers of cognition in Dup15 syndrome: From mouse models to patients"	9/01/2015	8/30/2020	NIH/NICHHD: U54

Golshani, Peyman, Markovic, Khakh, Silva	"Building the next generation of wireless, two-channel miniaturized microscopes for imaging freely moving mice." Total direct funding: \$1,665,000	9/30/2015	9/30/2018	"Building the next generation of wireless, two-channel miniaturized microscopes for imaging freely moving mice."
Golshani, Peyman, Levine, Michael	"Cortical pathophysiology in Huntington's Disease." Total direct funding: \$1,700,000	7/01/2016	6/30/2021	1R01NS096994-01A1
Golshani	Carol Moss Spivak Scholar in Neuroscience Award, Golshani Lab, \$60,000	10/1/2016	9/30/2019	UCLA Brain Research Institute
Golshani, Peyman, Houser	"Epilepsy-related cell loss and cognitive dysfunction." NIH/NINDS R01NS099137. Total direct funding: \$1,750,000. Total direct funds to Golshani Lab: \$875,000	7/1/2017	6/30/2022	NIH/NINDS R01NS099137
Golshani, Peyman, Houser	"GABA Receptor Plasticity and Tonic Inhibition in Epilepsy." Total direct funding: \$1,192,230. Total direct funds to Golshani Lab: \$65,400	2/1/2017	1/31/2021	NIH/NINDS 2 R01 NS075245-06A1

Golshani, Peyman, Evans	Center for Study of Opioid Receptors and Drugs of Abuse (CSORDA): NIDA P50 Renewal" Total direct funds to Golshani Lab: \$250,000	07/01/2017	06/30/2022	DA-005010
Langevin, Chen, BariBari	Responsive Neurostimulation for Post-Traumatic Stress Disorder	5/1/2019	4/30/2024	NIH UH3 NS107673
Bari	Deep Brain Stimulation of the Subgenual Cingulate Cortex for the Treatment of Medically Refractory Chronic Low Back Pain	07/01/2019	06/30/2024	NIH UH3 NS113661
Naylor	Neurophysiology of Epilepsy	07/01/2009	06/30/2019	LA Biomed Institute

National ECoE Workgroups



Basic Science Research Seminar Group

VA Puget Sound Health Care System
1660 S. Columbian Way, Seattle, WA 98108

Chair: **Nikolai Dembrow, PhD**

Admin Support: **Linda L. Benson, MPH, CCRC**

Workgroup Members		
Nikolai Dembrow PhD, Chair – Seattle	Christopher B. Ransom, MD, PhD – Seattle	William Spain, MD – Seattle
Claude Wasterlain M – Los Angeles	Peyman Golshani MD, PhD – Los Angeles	David Naylor MD, PhD – Los Angeles
Andre Lagrange MD, PhD – Nashville	Cha-Min Tang MD, PhD – Baltimore	Alan Towne, MD – Richmond
Robert Kotloski MD, PhD – Madison	Jack Parent MD – Michigan	

FY19 Accomplishments

- Developed a 10-year road map for Epilepsy Center of Excellence Basic Research, with a focus on traumatic brain injury and acquired epilepsy.
- Several members (Wasterlain, Naylor, Golshani, Smirnakis, and Lagrange) have developed research projects under the collaborative merit award (CMA), “Network plasticity in acquired epileptogenesis.”
- Teleconferences with basic science research presentations were conducted by VA and non-VA investigators. These teleconferences have been very well received.
- ECoE Basic Science Workgroup teleconference calls FY2019:
 - 11/14/2018: Round Table Discussion: Key findings from the Society for Neuroscience Meeting as they relate to the ECoE
 - 12/12/2018: Mini Round Table Discussion: Key findings from the American Epilepsy Society Meeting as they relate to the ECoE
 - 01/16/2019: Journal Club Discussion led by Dr. Nikolai Dembrow: “Altered Hippocampal Interneuron Activity Precedes Ictal Onset”
 - 02/15/2019: Presentation by Dr. Joshua Nichols: “Cortical GABAergic neuron dysfunction after pediatric traumatic brain injury”
 - 03/08/2019: Journal Club Discussion led by Dr. Nikolai Dembrow: “Immediate Neurophysiological Effects of Transcranial Electrical Stimulation”
 - 04/10/2019: Drs. Lawrence Mahan and Mike Poulter of OB Pharmaceutical: “A Novel Family of Anti-Convulsant Small Molecules
 - 06/19/2019: Journal Club Discussion led by Dr. Nikolai Dembrow: “Epilepsy Gene Therapy Using an Engineered Potassium Channel”

- 07/24/2019: Journal Club Discussion led by Dr. Nikolai Dembrow: “Prevention of Brain Damage After Traumatic Brain Injury by Pharmacological Enhancement of KCNQ (Kv7, “M-type”) K⁺ Currents in Neurons”
- Planned 09/11/2019: Journal Club Discussion led by Dr. Nikolai Dembrow: “Mitochondrial Regulation of the Hippocampal Firing Rate Set Point and Seizure Susceptibility”
- Workgroup members are actively engaged in basic science research projects; accomplishments and awards given are listed by site elsewhere in this annual report.

Future Initiatives

- Further increase the national audience, with the goal of providing richer discussion and new perspectives on basic science topics through broader participation.
- Expand the presence of the Epilepsy Center of Excellence Basic Research Group at national meetings (Society for Neuroscience, American Epilepsy Society).
- Further increase the collaborative research efforts among sites, with a focus on TBI-related epileptogenesis in different models of acquired epilepsy.

Clinical Research Workgroup

Chair: **Alan Towne, MD, MPH**

Admin Support: **Linda L. Benson, MPH, CCRC**

Workgroup Members		
Alan Towne, Richmond, Chair	Rizwana Rehman, Durham	Chris Ransom, Seattle
Linda L. Benson, Richmond, Admin	Karen Parko, San Francisco	Mary Jo Pugh, Salt Lake City
Curt LaFrance, Providence	Maria Lopez, Miami	Anne VanCott
Hamada Altalib, West Haven	Paul Rutecki, Madison	
Tung Tran, Durham	Martin Salinsky, Portland	

FY19 Accomplishments

- Expand use of the national ECoE epilepsy monitoring unit database with TBI variables, to include consortium/affiliate sites.
- Pugh: “Epidemiology of Epilepsy and Traumatic Brain Injury: Severity, Mechanism, and Outcomes” project
- LaFrance: Continued CBT training at sites for PNES diagnosis
- Continue to obtain normalized volumetric NeuroQuant data from brain MRIs in patients with TBI.
- Collaboration; CENC Epidemiology Project; Longitudinal study to examine TBI and epilepsy
- Concluded Brain Sentinel device trial, Detecting PNES w Single-Channel sEMG at 3 ECoE sites (Durham, Richmond, Houston).
- Peer Support Study (UCB) initiated.

- Participated in Interagency Collaborative to Accelerate Research on Epilepsy (ICARE) hosted by NINDS.

Future Initiatives

- Submit an article: "Differentiation of Epileptic and PNES Using Single-Channel EMG."
- Salinsky/LaFrance CSP#2013: "Treatment of Psychogenic Non-Epileptic Seizures in U.S. Veterans"
- Submit an article: "Epidemiology of Epilepsy and Traumatic Brain Injury."
- Develop and submit abstracts from the standardized EMU database.
- Continue enrolling participants in the Peer Support Study.
- Examine other collaborative arrangements with outside agencies.
- Develop a TBI and epilepsy initiative with CURE (Citizens United for Research in Epilepsy).
- Explore research opportunities and shared resources between the Headache Centers of Excellence (HCoE) and the ECoE.

Education Workgroup

Chair: **Pamela Kelly, DHA, MBA/HCM**

Workgroup Members		
Denise Riley	Janice Broughton	Pamela Kelly
Paul Rutecki	Ann Carncross	Judy Ozuna
Janet Spencer	David Chen	Karen Parko
Tung Tran	Winona Finley	Mary Jo Pugh
Angela Young	Nina Garga	Guiomar Scheid

FY19 Accomplishments

- Restarted the ECoE education webinar series:
 - Six accredited clinician webinars
 - Eleven accredited patient & caregiver webinars
- Released two accredited VA Talent Management System education modules.:
 - Anti-Epileptic Drugs
 - Recognizing Imitators of Epilepsy
- Veterans & Epilepsy Basic Training
 - One new YouTube video is being developed.
 - A training session on women's focused issues is in post-production.

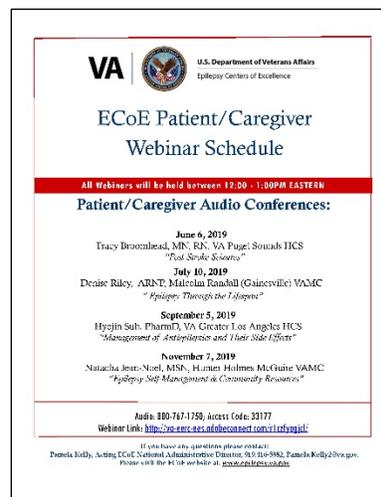
The poster is titled "VA ECoE Clinician Webinar Schedule" and is from the U.S. Department of Veterans Affairs. It lists three healthcare provider CME webinars:

- June 5, 2019:** Soraida Dengelino, PharmD, Greater Los Angeles HCS. Topic: "Anti-Epileptic Drugs: Issues in Drug Administration".
- October 2, 2019:** Divya Singhal, MD, VA Oklahoma City VAMC. Topic: "First Time Seizure: Comprehensive Approach to Evaluation and Management".
- November 6, 2019:** Jigeesa Patel, MD, Lorna Linda VAMC. Topic: "Women Issues".

 The poster also includes a note that all education audio webinars will be held between 12:00 - 1:00 PM Eastern and that registration is required. At the bottom, it provides contact information for Pamela Kelly, Acting ECoE National Administrative Director.

Future Initiatives

- Continue to revive clinician, patient, and caregiver webinars:
 - Host six accredited clinician webinars.
 - Host five patient webinars.
 - Partner with the Epilepsy Foundation to improve the reach of patient and caregiver webinars.
- Develop two new videos, "Veterans & Epilepsy: Basic Training."



EEG Technologist Workgroup

National Director: **Aatif Husain, MD**

Chair/Admin: **Ronda Tschumper**

NW Acting AO: R. Tschumper	NE AO: Vacant	SW AO: Vacant	SE AO: Pamela Kelly
Northwest: Martin Salinsky	Northeast: Alan Towne	Southwest: Nina Garga	Southeast: Tung Tran
<p>Madison: John C. Jones Ronda Tschumper Vonda Elmer Joan Schultz Brittany Schmidt-Hess</p> <p>Minneapolis: Stephen Holloway Melanie Seal Yuliya Volkov Valerie Howard</p> <p>Portland: Martin Salinsky Michael Wilson Bryanna Lilies</p> <p>Seattle: William Spain Debra Marwitz-Perkins Larissa Ronich</p>	<p>Baltimore: Omar Khan</p> <p>Boston: David McCarthy Carol Riley Roberta Sausville Adele Mirabella</p> <p>Richmond: Alan Towne Rachel Van Aken Sharon Banks Brenda Robert-Wilson</p> <p>West Haven: Hamada Altalib James Vera Dominica Rodriguez</p>	<p>Albuquerque: Larry Davis Robert Spears</p> <p>Houston: David Chen Betty Calahan Ritu Jain Phenita Groves Harold Walker Debra Dennis Rodney Hall Roy Batiste</p> <p>San Antonio: Joshua Robert Deborah Hernandez Norma Ferguson</p> <p>San Francisco: Nina Garga Christina Mapp Jeffrey Reznic</p> <p>West Los Angeles: James Chen Joaquin Barreda</p>	<p>Durham: Tung Tran Susan Hayes Josie Brame Lisa Sisk</p> <p>Gainesville: Stephan Eisenschenk Paula Crew Adam Shugan</p> <p>Miami: Maria Lopez Rosario Carballo Michael Perez</p> <p>Tampa: Alfred Frontera Cynthia Jackson Chris Holt</p>

Consortium Medical Instrument Technologists (MITs)

<p>Captain James A. Lovell Valerie Krasne</p> <p>Hines Paz Martinez</p> <p>Iron Mountain Patty Leatherman</p> <p>Jesse Brown Mary Ocansey Victor Cabrales</p> <p>Milwaukee Juba Mattice</p>	<p>Buffalo Vicky Olson</p> <p>Cleveland Galina khutoryan</p> <p>Huntington WV Mary Miller</p> <p>Pittsburgh Donna Leppla Diane White</p> <p>Providence Ann Richard</p> <p>Stratton Tarita Owens</p>	<p>Boise Michael Brown</p> <p>San Diego Richie Secody</p> <p>El Paso Elva Richey</p>	<p>Atlanta James Coleman</p> <p>Kansas City Rhonda Reliford</p> <p>Little Rock Corena Johnson Larae Bearden</p> <p>Orlando Mitchell Wonya</p> <p>Salisbury, NC Ashley Griffin</p>
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FY19 Accomplishments

- Purple Day®** For Epilepsy Awareness Around the World – March 26, 2019
 Purpose: To spread awareness of seizures/epilepsy
 Megan Cassidy (Founder of **Purple Day**) said, "Epilepsy can affect anyone, anytime, anyplace, and can change lives in a moment."
Boston VA: Information was available about epilepsy and seizures in Veterans.
 MIT Techs, nursing staff, and ECoE physician were available to advocate for the Epilepsy Center of Excellence and discuss the importance of Seizure First Aid.
Durham VA: A gift basket was donated to the Anita Kaufman Foundation.
- Purple Heart Day®** – August 7, 2019
Madison VA staff were encouraged to wear purple.
 Information was available about epilepsy and seizures in Veterans.
 MIT Techs, nursing staff, and ECoE physicians were available to advocate for the Epilepsy Center of Excellence and discuss the importance of Seizure First Aid.
- 2019 ASET ECoE Information Booth – Kansas City, MO – August 15-17, 2019
- Northwest:** Ronda Tschumper (Madison) and Melanie Seal (Minneapolis)
- Southeast Consortium:** Rhonda Reliford (Kansas City)
- On-Call Documents:** Gainesville VA
- Little Rock VA:** Long-Term Monitoring scheduling and encounters
- Baltimore VA:** Functional Statements/ Professional Boarding (PSB) Information
- San Antonio VA:** MIT Qualification Standards
- Data storage:** Survey/results shared throughout
- Professional Board Member:** Recommendations (VISN 5, 6, 8, 16, 23)
- Case studies:** Incorporated with each call for continuing learning opportunities (sEEG/RNS) and discussing "Best Practices"
- Updates:** ABRET Self-Assessment Program (ASAP)

Future Initiatives

- Interact with appropriate personnel to develop a purchase mechanism for an equipment contract.
- Develop a National SOP with remote access and store-and-forward
- Maintain Standard Routine Procedures and Long-Term Monitoring following the ACNS Guidelines.
- Continue efforts to increase consortium and non-consortium site involvement.
- Continue efforts to provide information for ABRET Registration in EEG and LTM.
- Continue efforts to seek educational opportunities offered by ASET and ABRET.
- Secure ASET Institutional Membership:
 - Four members: \$500
 - Each additional member: \$86
 - Member-rate discounts on events and online course registrations (CEUs)

Mental Health Workgroup

Chair: **Hamada Altalib, MD**

Admin Support: **Linda Benson, MPH, CCRC**

Workgroup Members		
Sharon R. Bottomley	Terry Lee-Wilk	Mary Jo Pugh
David Chen	Maria R. Lopez	Denise Y. Riley
Natasha S. Depesa	Janice C. Marceaux	James C. Sackallares
Moira C. Dux	Martin Salinsky	Aneeta R. Saxena
Ariela Karasov	Kristen Mordecai	Janet D. Spencer
Pamela Kelly	Adriana Ortega	Tung T. Tran
William C. LaFrance	Karen Parko	Ronda J. Tschumper

FY19 Accomplishments

- As a group:
 - Completed and piloted a mental health screen.
 - Connected individuals to Dr. LaFrance for PNES training/care.
 - Continued the Journal Club.
- As individual sites:
 - Completed many research projects: PNES, MH, neuroimaging.
 - Completed local education efforts: didactic talks, AES.

Future Initiatives

- Assess benefits of continuing workgroup.
- If it is discontinued, we need representation from *each* ECoE to develop mental health champions and to monitor care.
- Reevaluate gap analysis on MH care.
- Continue to monitor the volume of PNES cases managed.

Nursing Workgroup

Co-Chair: **Natalya Kan, BSN, RN, CNRN**

Co-Chair: **Tracy Broomhead, MN, RN, SCRNP, CNRN, CMSRN**

Administrative Support: **Pamela Kelly, DHA, MBA/HCM**

Workgroup Members		
Adriana Valadez, San Antonio	Doug South, San Francisco	Lynne Bailey, Hammel
Alan Krumholz, Baltimore	Elise Boucher, San Antonio	Maria Quiane, San Francisco
Amanda Everhart, Durham	Elizabeth Aprile, Charleston	Mary Jo Pugh, San Antonio
Andrew David, Baltimore	Esmeralda Sanchez, San Antonio	Melissa Fadipe, Houston
Anna Shukla, Minneapolis	Greg Head, Boston	Natacha Jean-Noel, Richmond
Ann Carncross, Madison	Heather Hodges, Richmond	Natalya Kan, Los Angeles
Brittney Betcher, Minneapolis	Huda Terraz, San Antonio	Pamela Kelly, Durham
Brooke L. Keenan, Madison	Judy Ozuna, Seattle	Paul Rutecki, Madison
Carol Riley, Boston	Katherine McMillan, San Antonio	Regina McGuire, Baltimore
Collette Evrard, Portland	Kathy Browning, Richmond	Roanna Bamford, Boston
David (Mike) Schoof, Durham	Kimberly Heckman, Minneapolis	Ronda J. Tschumper, Madison
Denise Riley, Gainesville	Linda Benson, Richmond	Sharon Bottomley, West Haven

Workgroup Members		
Sheela Sajan, Durham	Winona Finley, Durham	
Tracy Broomhead, Seattle	Yvonne Davila, San Antonio	

FY19 Accomplishments

- Finalized the PNES Brochure; it is now available on the ECoE website.
- Finalized resource PowerPoints for "Handling Seizures in the Clinic."
- Finalized the resource "Staff Management of Postictal Agitation in the Epilepsy Monitoring Unit."
- Renewed the "Safety in the Epilepsy Monitoring Unit" video for use in TMS.
- Updated the "Safety in the Epilepsy Monitoring Unit" PowerPoint and quiz questions.
- Reviewed ECoE Nursing Website files and identified which are due for updating/renewal.
- Identified ECoE sites offering epilepsy support groups; discussed factors to consider in establishing such groups.
- Assisted in the continuation of the ECoE Patient/Caregiver and ECoE Clinician Webinar series for FY2019–20.

Future Initiatives

- Develop an EMU brochure for prospective patients being referred.
- Conduct a needs-assessment survey for nurses at ECoE and consortium sites.
- Update the ECoE Nursing Website files.
- Review and update the ECoE Nursing SharePoint files.
- Create and finalize resources in a user-friendly format.
- Explore the possibility of updating the Safety portion of the EMU video.

ECoE Technology Workgroup

Chair: **William McCarthy, MD**

Admin Support: **Pamela Kelly, DHA, MBA/HCM**

Workgroup Members		
Elizabeth Aprile	Corena D. (Dawn) Johnson	Joan Schultz
Elizabeth Barry	Pamela Kelly	Lisa Sisk, C DURVAMC
Linda Benson, RICVAMC	Deborah L. Marwitz-Perkins	Alan R. Towne
Victor Cabrales	David McCarthy	Tung Tran, T DURVAMC
Steven Castaneda	Kenichiro Ono, RICVAMC	Ronda J. Tschumper
James W. Y. Chen	Michael Perez	Rachel M. Van Aken, RICVAMC
Stephan Eisenschenk	Rizwana Rehman	Angela Young
Paul Fishman	Martin Salinsky (Portland)	

FY19 Accomplishments

- Further expanded the Tele-EEG and telehealth clinics with a move to VVC (easier to set up up than prior Telehealth clinics).
- Assessed obstacles that were limiting Telehealth to discover why they vary by site.
- Discussed the risks/benefit of home-based Video EEG from non-VA companies.
- Draftied a Tele-EEG SOP as part of the Neurology Telehealth supplement.
- Conducted an Initial Review of new remote EEG access methods. Direct access to the EEG Citrix server from VA CAG is no longer allowed.

Future Initiatives

- Finalize the Tele-EEG SOP after review by ECoE.
- Conduct an inventory of National VA Tele-EEG sites and optimal target areas for Tele-EEG growth.
- Update the inventory of ECoE EEG platforms and versions (last done in 2017).
- Conduct an ECoE survey to determine the most relevant technological problems.
- Assess the potential for real-time synchronous Tele-EEG support.
- Conduct a poilot program for the regional ECoE EEG VLAN. Develop a plan for the Northeast ECoEs to have bidirectional network connectivity that allows routing and sharing of EEGs. This will include high-volume non-ECoE sites like Pittsburgh.
- Update the current status of direct a Natus EEG Citrix link from VA remote access and upcoming changes to IT requirements. Investigate alternatives (discussion to include national IT biomedical electronics).
- Develop a SOP for remote-access options.

- Conduct a committee review of VA support for a single EEG Vendor contract (was suggested by Jason Newman at the FY19 EcoE Directors Meeting).
- Determine Cerner impact on ECoE clinical neurophysiology technology and reporting.

Women Veterans with Epilepsy (WVE) Workgroup

Chair: **Anne C. Van Cott, MD, FAAN, FAES**

Admin Support: **Pamela Kelly, DHA, MBA/HCM, and Winona Finley**

Workgroup Members		
Cait Cusak (WH Services)	Pamela Kelly	Deanna Rolstead
Sunitra Dergalust	Lopez, Maria	Divya Singhal
Elizabeth Felton	Karen Parko	Kathy Tortorice
Winona Finley	Mary Jo Pugh	Anne Van Cott (Chairperson)
Nina Garga	Rizwana Rehman	

FY19 Accomplishments

- Completed an American Academy of Neurology course in 2019 titled “Women with Epilepsy (WWE): Beyond Seizure Control.”
- Contributed to update the CPRS teratogenicity counseling template (T drugs Phase 2) for CPRS v31b.
- Maintained the ECoE WWE Sharepoint site and expanded WWE library reference on the ECoE website.

Future Initiatives

- Complete the American Academy of Neurology course in 2020 titled “Women with Epilepsy (WWE): Beyond Seizure Control II.”
- Conduct an annual review of Table 3 of the ECoE AED Drug Guidance Document; share information with Women’s Health Services.
- Develop patient/caregiver educational material based on AED Pocket card/Antiepileptic Drug Guidance that addresses unique concerns associated with the treatment of women diagnosed with epilepsy.
- Collaborate with Dr. Marty Salinsky on gender differences in women Veterans with PNES.
- Submit for publication to *Neurology: Clinical Practice*: “QI/QA Project Results (Fracture Risk of Veterans Treated for New Onset Epilepsy).”
- Catamenial Epilepsy:
 - Develop specialized diaries/calendars.
- Continue to maintain the ECoE WWE Sharepoint site and expand WWE library reference resources on the ECoE website.

Peer Review Committee

The National Advisory Committee is an important part of the ECoE overall team. This committee is responsible for providing guidance and direction to the ECoEs. It will assist in the planning phases of the ECoE to maximize cooperation among the facilities and enhance referral patterns across the VA healthcare system. The National Advisory Committee will also assist in the collaboration between VA sites and affiliate universities. It will establish performance measures, with an emphasis on measurable outcomes for the ECoE and will provide oversight of all clinical, educational, and research-related activities within the ECoE.

Original National Advisory Committee Members

Marc Dichter, MD, PhD, University of Pennsylvania, ECoE Advisory Committee Chair
Michael Amery, Legislative Counsel, American Academy of Neurology
Susan Axelrod, CURE
John Booss, MD, American Academy of Neurology
David Cifu, VA Poly-Trauma Centers Director
Tony Coelho, Epilepsy Foundation
Ramon Diaz-Arrastia, MD, Uniformed Service University
Sandy Finucane, Executive Vice President, Epilepsy Foundation
Glenn Graham, MD, VA Deputy Director of Neurology
COL Jamie B Grimes, MD, MC, USA, Uniformed Service University, Department of Neurology Chair
Donald Higgins, MD, VA National Director of Neurology
Patty Horan, Military Officers Association of America
David Labiner, MD, University of Arizona, National Association of Epilepsy Centers
Richard Mattson, MD, Yale Epilepsy Program
Shane McNamee, MD, VA Poly-Trauma Centers
Angela Ostrom, Chief Operating Officer and Vice President Public Policy, Epilepsy Foundation
Jack Pellock, MD, Virginia Commonwealth University
Robert Ruff, MD, VA Director of Neurology (Retired)
Brien Smith, MD, Spectrum Health Medical Group, Michigan State University
William Theodore, MD, Chief of the Clinical Epilepsy Section, NINDS
Kathy Tortorice, Clinical Pharmacist, VA Pharmacy Benefits Management
Michael Flowers, LTCOL, USMC (Retired)
Ann Marie Bezuyen, Director of Special Projects, Anita Kaufmann Foundation
Phil Gattone, CEO, Epilepsy Foundation
Jan Buelow, VP of Programs & Research, Epilepsy Foundation
Princess Katana, Senior Director for Programs, Epilepsy Foundation
Rosemarie Kobau, MPH, MAPP, Centers for Disease Control and Prevention, Epilepsy Division
Tim Tilt, ECoE Veteran Patient
Francis White III, Veteran Patient
Ed Perlmutter, Congressman, Representing 7th District of Colorado
Karen Parko, MD, Former ECoE National Director
Ryan Rieger, MHA, Former ECoE National Administrative Director

March 28, 2019

Anne Utech, PhD, RDN, LD
Acting Chief Officer, Office of Specialty Care Services (10P11) Veterans Health Administration VA Central Office (10P11), Rm 664
810 Vermont Avenue NW
Washington, DC 20420
Anne.utech@va.gov

Re: Annual External Evaluation of the VA Epilepsy Centers of Excellence (ECoEs)
ECoE National Peer Review Committee Report - Friday, November 30, 2018

Dear Dr. Utech,

Executive Summary:

As Chairman of the ECoE Peer Review Committee, I'm submitting this year's progress report and evaluation of the activities, accomplishments, challenges, and future goals of the VA Epilepsy Centers of Excellence (ECoEs). The Committee met at this year's Annual Meeting of the American Epilepsy Society to review each of these issues. As you know, the Committee is composed of non-VA personnel – experts in epilepsy and representatives of individuals with epilepsy both in the VA and in civilian life. Currently, ~1.3% of all VA patients have a diagnosis of epilepsy and approximately ~1% of Veterans returning from OEF/OIF/OND have epilepsy. That number that is likely to increase over the next few years as some active duty personnel with significant traumatic brain injuries are likely still being cared for by the DOD, and, in addition, because, in my personal professional opinion, a significant fraction of Veterans with PTSD after TBI are likely have undiagnosed partial seizures. Of note, the mortality of OEF/OIF/OND veterans with epilepsy is nearly 5 times greater than the mortality of those veterans without epilepsy (MMWR 2016 Nov 11;65(44):1224-1227).

Over the duration of the ECoEs' 9 year existence, the Peer Review Committee has been very impressed with the progress made in multiple areas. These specifically include (1) the improvements to access to specialized care for Veterans with epilepsy, especially with regard for the relatively seamless transfer of Veterans from their home facilities to the centralized areas of excellence, (2) the clinical and educational programs developed for Veterans, their families, physicians, and physician extenders, (3) the connection with mental health programs required by these Veterans, especially with regard to the overlap of PTSD and occult epilepsy, (4) the increased emphasis on mental health problems and treatments for veterans with epilepsy and non-epileptic seizures, (5) the innovative use of telemedicine to enhance the opportunities for veterans living distances from their closest ECoE to obtain optimal consultation and treatment, and (6) the likely significant cost savings to the VHA by the new centralized facilities. These accomplishments were fostered by a close collaboration among the centers on national scale, the skills and caring exhibited by all the personnel within the multiple ECoEs, the leadership provided by Dr. Karen Parko and Dr. Paul Rutecki, as well as all of the individual ECoE Directors, and the senior staff with whom our Committee has interacted, and who developed and implemented many of the educational and outreach programs established by the ECoEs.

At this year's meeting, it was announced that Dr. Aatif Husain, MD will be replacing Dr. Rutecki as National Director of the ECoEs. Our committee has been working with Dr. Husain since the beginning of the ECoE program and he has impressed us continuously with his dedication to the program and the VA patients and his efforts in writing a handbook for epilepsy care and working on a new computerized medical record section specifically for VA patients that will hopefully be implemented nationwide in the near future. I also wanted to call your attention to the fact that two of the VA pioneers in the formation of the ECoE program, Drs. Karen Parko and Robert Ruff were recently awarded the very prestigious Epilepsy Service Award by the American Epilepsy Society for their leadership in developing this outstanding national program and for overseeing its initial activities. The AES Service Award is the highest award bestowed by our society for service to individuals with epilepsy.

Despite all these very impressive accomplishments, however, our committee identified some major problems facing the ECoEs that represent **potentially existential, challenges** to the activities of these centers in continuing to provide outstanding services our Veterans with epilepsy, PTSD and TBI, and for the planned enhancement of these medical and educational services. These challenges fall into two categories:

The continued limited funding of the ECoEs, which has been functionally decreasing from the original \$6 million per year allocated by Congress for the entire program 9 years ago. This amount of funding has prevented even replacing critical personnel who have left the program (e.g., a National Administrator who was responsible for implementing many of the remarkable educational programs focused on teaching veterans, their families and other care providers, physicians and physician extenders about diagnosing and treating epilepsy). It was remarkable to our Committee that the ECoEs could continue to accomplish as much as they had with the dwindling support.

The plan, which we did not completely understand and which may not be implemented, to eliminate the centers of excellence in several neurological diseases, including the ECoEs, and to roll their limited budgets into the general medical budget. It was clear that this would almost certainly lead to further reductions of support and perhaps even the elimination of the services able to be supplied to our Veterans with epilepsy and related disorders.

Our committee members do not have extensive knowledge of all the VAH's programs and activities. However, we do have extensive experience delivering medical care to individuals with epilepsy and other neurological disorders in all parts of our country. It has been clear, from the onset, that the services provided by the ECoEs to our Veterans with epilepsy is equivalent in many ways, and even superior in others, to what is available in epilepsy centers at most universities. This is especially true with regard to telemedicine outreach to patients and the educational activities provided to Veterans, families, other care providers, etc. As such, this program should stand as an example of the kind of excellent care that Veterans can receive within the VAH and should not be hampered by continued budget cuts and reductions in staff, as well as other bureaucratic roadblocks!

Detailed Report:

In the sections below, I will briefly outline this year's accomplishments of the ECoEs and their goals for the upcoming year.

The National VHA consortium established by the ECoEs now includes 110 VHA healthcare providers in 78 VA facilities all over the country. The program is divided into four regions, roughly based on geography and number of Veterans served. Each region is considered as a Center and has several sites, at least one of which is at the same location as a polytrauma center. Each of the Centers is staffed by epilepsy specialists and trained staff, and includes inpatient monitoring programs and surgical expertise.

At last three years' annual meetings, discussion highlighted the data on the psychological problems commonly associated with individuals with epilepsy, as well as with traumatic brain injury, and the strong relationship between PTSD, epilepsy, and psychogenic non-epileptic seizures (PNES). This has been an increasingly recognized issue in the civilian population as well as in our Veterans. Continuing research at the Portland VA, one of the ECoE centers, demonstrated that a significant portion of Veterans who had events that were thought to be epileptic seizures and were sent to the epilepsy monitoring unit, were determined to have psychogenic non-epileptic seizures. These can be as disabling as true epileptic seizures and are particularly resistant to pharmacological therapies. In response to this increasingly recognized problem, as well as the issues of the significant frequency and potentially devastating impact of PTSD in the veteran population, several new initiatives were developed to provide enhanced psychological support and a program of cognitive behavioral therapy (CBT) was instituted. CBT is currently recognized as a major therapeutic modality for PNES and epilepsy. Providers using CBT have been trained by Dr. Curt LaFrance (Providence, RI) using ECoE funds. All four regional centers now provide CBT for PNES, an issue that was emphasized as a critical addition to the therapeutic armamentarium for Veterans with epilepsy. A white paper that assesses existing mental health epilepsy services and describes existing models of care across ECoE sites was completed and gaps in care were identified and recommendations for a potential health service intervention were made and implemented. Currently, a "mental health" champion has been identified at each ECoE site to help implement this added level of care. In addition, studies were initiated to evaluate interactions of anti-seizure drugs with psychogenic drugs, to minimize potential deleterious interactions. In addition, ECoE members obtained a VA grant to examine the epidemiology of epilepsy and traumatic brain injury in the veteran population.

A second area of continuing growth within the ECoEs relates to providing specialty care to Veterans with epilepsy who are unable to attend clinics either at the ECoEs or even, often, at local VHA facilities. The ECoEs have continued to utilize a variety of telehealth initiatives to serve these Veterans, which is a win-win situation, as the Veterans are able to receive excellent consultative interactions with highly skilled specialists either at participating facilities near where they live, or even, at times, at home. This has been expanded over the current year. Currently, the ECoEs can perform chart reviews with local physicians, perform remote patient consults, analyze remote EEGs, and have direct patient contacts, all without the Veterans having to travel to a distant site. This is also a potential cost saving measure for the VHA system. This is the kind of system that the "private sector" has been very slow to develop, at least in part because of reimbursement issues for these services. Overall, the VA ECoEs appear to be at the forefront of using telehealth and related technologies for delivering cost efficient and patient satisfying health care to Veterans with epilepsy living significant distances from specialized VA facilities. This is one of the programs with the ECoEs that our committee thought could be instructional to traditional private health systems nationwide.

Another continuing activity among the ECoEs in optimizing Epilepsy Monitoring Unit (EMU) services and enhancing interactions with the VH health care network is an ongoing process and will be continued this fiscal year. This component of the program grew rapidly over the first several years and has reached somewhat of a steady state more recently. This is likely due to funding freezes which has limited replacing vital personnel and in some cases equipment, and also a leveling out of the Veterans being referred to the ECoE monitoring centers. Issues included the number of beds and staffing for epilepsy monitoring units. None the less, access improvements continue to be goals to address in the current fiscal year. Of note, many of the inpatient episodes of video-EEG monitoring performed at ECoE sites are being substituted for referrals to outside institutions. In the past, it was estimated that this could translate to a saving of possibly as much as 6 million dollars (or more) which is approximately the size of the total ECoE annual budget.

Physicians within the ECoEs had developed their own patient intake system within the ECoE electronic medical record that will facilitate patient encounters, insure that all relevant data is obtained, even by non-specialists, and also enable the capture of all the data for subsequent clinical research including outcomes research. This was tested in Phase I by the ECoEs, reworked in Phase II. However, this program is now on hold, as there seems to be a change in the VAH electronic health data system. Hopefully, it will be integrated with the new system and approved for full distribution to the “spokes” in the “hub and spoke” system for widespread use. It is hoped that this will be distributed throughout all VHA facilities within one or two years. Nothing this comprehensive exists within the civilian epilepsy community.

Research efforts continue to be strong at the ECoE sites, although *not* directly funded by the ECoE funds. A prospective study is evaluating characteristics of patients with epilepsy and psychogenic non-epileptic seizures (PNES). This research will help our understanding of the relationship of PTSD with epilepsy and PNES and identify ways to successfully treat these conditions. Many prominent epilepsy specialists feel that some of the intermittent behavioral and cognitive symptoms of PTSD, especially PTSD after TBI, could be due to subtle, non-convulsive seizures. If identified, these seizures could be treated and some of the issues related to PTSD could be resolved. Thus, the relationship between post-TBI PTSD could go in two directions: PTSD patients may have non-epileptic events that are mistakenly diagnosed and unnecessarily treated and other PTSD patients may have subtle events that are, in fact, seizures that are not diagnosed or treated. This research by the ECoEs has the promise of dramatically improving the care of Veterans with PTSD and also has consequences for the civilian population as well. This is one of many examples where the VA can be out front in clinical research that has significant impact both within the Veteran population but also for our country as a whole.

The San Francisco VA ECoE used an online patient community platform directed to Veterans to show that selfmanagement and self-efficacy improved for those that participated. The Durham VA used the VHA Support Service Center (VSSC) to assay the number of Veterans with epilepsy and co-morbidities and found comorbid TBI and PTSD were 15.8% and 24.1%, respectively. For OIF/OEF/OND Veterans, these percentages increased to 52.6% and 70.4%, respectively. The higher percentage of TBI and PTSD in Veterans of the most recent conflicts could represent patients with PNES carrying the diagnosis of epilepsy. Another grant is funded by the DOD entitled: The Epidemiology of Epilepsy and Traumatic Brain Injury: Severity, Mechanism, and Outcomes. In addition, physicians within the ECoEs received Merit grants, Career Development Awards, NIH grants, and other grants in the past year.

The ECoEs have continued their educational activities directed at epilepsy specialists, other physicians, other medical providers, and the Veterans and their families. A “Self-Management in Epilepsy” guide was developed. The production of a series of videos for providers is complete and being reviewed by employee educational services. A series of videos of patients explaining their condition was rolled out and entitled “Epilepsy Basic Training”. This series also included videos focusing on Introduction to Epilepsy & Seizures, Seizure First Aid, Traumatic Brain Injury, Medications, Psychosocial Issues, Epilepsy Surgery, Psychogenic Non-Epileptic Seizures, and Advocacy & Awareness. The Advisory Board was very impressed by these efforts.

CME presentations available through the Employee Educational Services were also targeted to primary care providers (Intro to Epilepsy/TBI, Seizure Identification and Workup, Epilepsy Treatment Basics, Adverse Effects of Epilepsy Medications, and Psychogenic Non-Epilepsy Seizures). For general neurologists, the videos were Epileptogenic Lesions on MRI, Management of Status Epilepticus, Women and Epilepsy, Medically Refractory Epilepsy and Pre-Surgery Evaluations, and Sleep and Epilepsy. For epilepsy specialists, the videos were New Antiepileptic Medications and Mental Health and Epilepsy.

Goals for the fiscal year 2019 were reviewed and included developing improved mechanisms for meeting increasing demands for the ECoE services, update clinical intake forms for new EMR, increasing utilization

of telemedicine, finalizing the EMU safety policy, continuing to implement quality of care specifically for female Veterans with epilepsy, pursuing data mining for evaluating the economic impact of the ECoEs on VA health care savings and for outcomes research, developing performance improvement projects for intractable epilepsy and depression associated with epilepsy, implementing a program sponsored by UCB Pharma to establish a peer navigation program, continuing to build and enhance the hub and spoke model of care, and increasing eConsults access. In addition, the ECoEs will work with the National Association of Epilepsy Centers to obtain certification for at least some of the sites. This has been a challenge because NAEC requires a significant fee for certification which the ECoEs currently do not have. The Centers will also continue to foster relationships with primary care providers and identify a mental health champions at each site.

There are also plans to complete the pilot evaluation of seizure medications and psychotropic drug use and possible interactions of enzyme-inducing seizure medications with other drugs. This involves tracking seizure medication use in the VHA with regard to ECoE, consortium, and other sites. They will also increase epilepsy patient enrollment in the 1 million Veterans program and continue with the collaboration with Mary Jo Pugh on the DoD grant: The Epidemiology of Epilepsy and Traumatic Brain Injury: Severity, Mechanism, and Outcomes.

A discussion of challenges for the centers took up a significant part of the meeting, as it had in past years. Before we met, the VAH announced a redirection of funds from supporting specific high priority programs, such as the Congressionally authorized ECoEs, to general purpose funds. Two of the Center Directors had already been approached by their hospital directors to provide plans for major reductions in funding for their epilepsy programs. If this were to occur, in even a few of the ECoEs, the entire program, which in many ways depends on the interactions between the centers, will likely disintegrate. Patients with intractable seizures, or other forms of paroxysmal neurological symptoms will likely not be easily referred to other facilities for appropriate evaluation and treatment. Given that even in the best of hands, between 30-50% of patients with epilepsy whose seizures are not completely controlled, this could have very serious consequences for Veterans with epilepsy. It would also affect the ability of Veterans with epilepsy to obtain appropriate mental health treatment, interfere with the evaluation of Veterans with PTSD who may have undiagnosed epilepsy to receive appropriate diagnosis and treatment. In the worst case, such a collapse of all that has already been created in the ECoE program could result in an increased number of Veterans with epilepsy, TBI, and/or PTSD committing suicide, an issue that the VAH has been exceedingly anxious to prevent. Recent research within the VAH has demonstrated that deaths from all causes is five times higher in Veterans with epilepsy from the Afghanistan and Iraq conflicts compared to those without epilepsy.

Many of the other key concerns were carried over from the prior years. These included the re-organization of VA Central Office. The need to re-evaluate organizational charts to meet program needs was discussed. There was concern about meeting the budget because of grade and pay increases but no budget increases. Currently, the on-board salaries amount to ~\$5.9M of the total \$6.1M FY allotment. There are currently more than 10 unfillable FTEs just to recruit replacement personnel, including the National Administrator who was so influential in implementing the coordination of all the ECoEs, the overall administration of the funds, and all of the educational programs. There is no funding available for equipment and supplies in the EMUs as well as the necessary staffing.

Summary:

Overall the Peer Review Committee members, who widely represent the neurology and epilepsy professional groups in the United States, were very impressed by the continuing progress made by the ECoEs with regard to improving the medical care provided to Veterans with epilepsy. Specifically, the Committee was enthusiastic about the VHA's ability to provide tele-health services, something that is

difficult to do in the private sector and the ability to carry out important clinical research in the absence of funding from the ECoE program. Also the Committee commended the ECoEs attention to mental health and treatment for PNES. Finally, the continued efforts to educate Veterans, their families and care providers, and the medical profession were highly praised. The committee was very concerned about the limited funding for the ECoEs and the possibility of changing the funds flow by folding the special funds, even at their minimal level, into the general budget items, which is almost certain to lead to a severe reduction in services to our Veterans and possibly the dissolution of the entire national program.

Areas of opportunity for the next year include:

1. Growth of the network of consortium sites and an increase in evaluation of Veterans whose seizures are not controlled.
2. Increase in collaborative research.
3. Demonstration of the cost savings the ECoEs produce.
4. Increasing Veteran use of an on-line patient community for self-management.
5. Consider ECoE administrative reorganization that would compensate for limited funding.
6. Make sure all relevant parties are aware of the significantly increased mortality among individuals (and Veterans, specifically) with epilepsy and the likelihood that this would be decreased by increased specialty care.

Overall the ECoEs are meeting the mission of improving the health and well-being of Veteran patients with epilepsy and other seizure disorders.

I hope this year's annual review is helpful to you. Please do not hesitate to contact me if you have any questions about this program.

It is a continuing honor for me to have served in this capacity and hopefully, helped improve the medical care for our Veterans with this very difficult neurological illness which is often a direct result of the TBI experienced in combat.

Respectively submitted by:



Marc A. Dichter, MD, PhD
Chairman, VA Epilepsy Centers of Excellence Peer Review Committee
Professor of Neurology and Pharmacology
Former Director of the Mahoney Institute of Neuroscience
Former Director, Penn Epilepsy Center
University of Pennsylvania Perelman School of Medicine

Peer Review Committee Members Present:

Marc Dichter, MD, PhD, University of Pennsylvania, (Chair)
Brien Smith, MD, Spectrum Health Medical Group, Michigan State University
Tim Tilt, ECoE Veteran Patient
Karen Parko, MD, Former ECoE National Director
Joseph Brown, MD, Walter Reed- University of Pennsylvania
Laura Lubbers, CURE
Steve Owens, Epilepsy Foundation

VA Staff Present: Paul Rutecki, MD, National ECoE Director (Chairperson)
Aatif Husain, MD, National ECoE Director (Elect)
Pamela Kelly, DHA, MBA/HCM, Acting ECoE National Administrative Director
Nina Garga, MD, SW ECoE Regional Director
Maria Lopez, MD, SE ECoE Regional Director
Rizwana Rehman, PhD, SE ECoE Statistician

CC:

Robert Wilkie
Acting Secretary of Veterans Affairs

Dr. Richard Stone
Executive in Charge, Veterans Health Administration

Donald Higgins MD
VA National Program Director of Neurology

Glenn Graham, MD, PhD
Deputy National Director of Neurology

Honorable Johnny Isakson, Chairman Senate Committee on Veterans Affairs

Honorable Jon Tester, Ranking Member Senate Committee on Veterans Affairs

Honorable Mark Takano, Chairman House Committee on Veterans Affairs

Honorable Dr. Phil Roe, Ranking Member, House Committee on Veterans Affairs

Honorable Ed Pearlmutter
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The Epilepsy Centers of Excellence were mandated by Public Law S. 2162. Here is the law in its entirety.

Public Law S. 2162

One Hundred Tenth Congress of the United States of America

AT THE SECOND SESSION

Begun and held at the City of Washington on Thursday, the third day of January, two thousand and eight

An Act

To improve the treatment and services provided by the Department of Veterans Affairs to Veterans with post-traumatic stress disorder and substance use disorders, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

TITLE IV—HEALTH CARE MATTERS

Sec. 404. Epilepsy Centers of Excellence.

In General.—Subchapter II of chapter 73 is amended by adding at the end following new section:

‘§ 7330A. Epilepsy centers of excellence

(a) ESTABLISHMENT OF CENTERS—

(1) Not later than 120 days after the date of the enactment of the Veterans’ Mental Health and Other Care Improvements Act of 2008, the Secretary shall designate at least four but not more than six Department health care facilities as locations for epilepsy centers of excellence for the Department.

(2) Of the facilities designated under paragraph (1), not less than two shall be centers designated under section 7327 of this title.

(3) Of the facilities designated under paragraph (1), not less than two shall be facilities that are not centers designated under section 7327 of this title.

(4) Subject to the availability of appropriations for such purpose, the Secretary shall establish and operate an epilepsy center of excellence at each location designated under paragraph (1).

DESIGNATION OF FACILITIES—

(1) In designating locations for epilepsy centers of excellence under subsection (a), the Secretary shall solicit proposals from Department health care facilities seeking designation as a location for an epilepsy center of excellence.

(2) The Secretary may not designate a facility as a location for an epilepsy center of excellence under subsection (a) unless the peer review panel established under subsection (c) has determined under that subsection that the proposal submitted by such facility seeking designation as a location for an epilepsy center of excellence is among those proposals that meet the highest competitive standards of scientific and clinical merit.

(3) In choosing from among the facilities meeting the requirements of paragraph (2), the Secretary shall also consider appropriate geographic distribution when designating the epilepsy centers of excellence under subsection (a).

PEER REVIEW PANEL—

(1) The Under Secretary for Health shall establish a peer review panel to assess the scientific and clinical merit of proposals that are submitted to the Secretary S. 2162—18 for the designation of epilepsy centers of excellence under this section.

(A) The membership of the peer review panel shall consist of experts on epilepsy, including post-traumatic epilepsy.

(B) Members of the peer review panel shall serve for a period of no longer than two years, except as specified in subparagraph(C).

(C) Of the members first appointed to the panel, one half shall be appointed for a period of three years and one half shall be appointed for a period of two years, as designated by the Under Secretary at the time of appointment.

(3) The peer review panel shall review each proposal submitted to the panel by the Under Secretary for Health and shall submit its views on the relative scientific and clinical merit of each such proposal to the Under Secretary.

(4) The peer review panel shall, in conjunction with the national coordinator designated under subsection (e), conduct regular evaluations of each epilepsy center of excellence established and operated under subsection (a) to ensure compliance with the requirements of this section.

(5) The peer review panel shall not be subject to the Federal Advisory Committee Act.

(d) EPILEPSY CENTER OF EXCELLENCE DEFINED—

In this section, the term 'epilepsy center of excellence' means a health care facility that has (or in the foreseeable future can develop) the necessary capacity to function as a center of excellence in research, education, and clinical care activities in the diagnosis and treatment of epilepsy and has (or may reasonably be anticipated to develop) each of the following:

(1) An affiliation with an accredited medical school that provides education and training in neurology, including an arrangement with such school under which medical residents receive education and training in the diagnosis and treatment of epilepsy (including neurosurgery).

(2) The ability to attract the participation of scientists who are capable of ingenuity and creativity in health care research efforts.

(3) An advisory committee composed of Veterans an appropriate health care and research representatives of the facility and of the affiliated school or schools to advise the directors of such facility and such center on policy matters pertaining to the activities of the center during the period of the operation of such center.

(4) The capability to conduct effectively evaluations of the activities of such center.

(5) The capability to assist in the expansion of the Department's use of information systems and databases to improve the quality and delivery of care for Veterans enrolled within the Department's health care system.

(6) The capability to assist in the expansion of the Department telehealth program to develop, transmit, monitor, and review neurological diagnostic tests.

(7) The ability to perform epilepsy research, education, and clinical care activities in collaboration with Department medical facilities that have centers for research, education, and clinical care activities on complex multi-trauma associated

S. 2162—19 with combat injuries established under section 7327 of this title.

(e) NATIONAL COORDINATOR FOR EPILEPSY PROGRAMS—

(1) To assist the Secretary and the Under Secretary for Health in carrying out this section, the Secretary shall designate an individual in the Veterans Health Administration to act as a national coordinator for epilepsy programs of the Veterans Health Administration.

(2) The duties of the national coordinator for epilepsy programs shall include the following:

(A) To supervise the operation of the centers established pursuant to this section.

(B) To coordinate and support the national consortium of providers with interest in treating epilepsy at Department health care facilities lacking such centers in order to ensure better access to state-of-the-art diagnosis, research, clinical care, and education for traumatic brain injury and epilepsy throughout the health care system of the Department.

(C) To conduct, in conjunction with the peer review panel established under subsection (c), regular evaluations of the epilepsy centers of excellence to ensure compliance with the requirements of this section.

(D) To coordinate (as part of an integrated national system) education, clinical care, and research activities within all facilities with an epilepsy center of excellence.

(E) To develop jointly a national consortium of providers with interest in treating epilepsy at Department health care facilities lacking an epilepsy center of excellence in order to ensure better access to state-of-the-art diagnosis, research, clinical care, and education for traumatic brain injury and epilepsy throughout the health care system of the Department. Such consortium should include a designated epilepsy referral clinic in each Veterans Integrated Service Network.

(3) In carrying out duties under this subsection, the national coordinator for epilepsy programs shall report to the official of the Veterans Health Administration responsible for neurology.

(f) AUTHORIZATION OF APPROPRIATIONS—

(1) There are authorized to be appropriated \$6,000,000 for each of fiscal years 2009 through 2013 for the support of the clinical care, research, and education activities of the epilepsy centers of excellence established and operated pursuant to subsection (a) (2).

(2) There are authorized to be appropriated for each fiscal year after fiscal year 2013 such sums as may be necessary for the support of the clinical care, research, and education activities of the epilepsy centers of excellence established and operated pursuant to subsection (a) (2).

(3) The Secretary shall ensure that funds for such centers are designated for the first three years of operation as a special purpose program for which funds are not allocated through the Veterans Equitable Resource Allocation system.

(4) In addition to amounts authorized to be appropriated under paragraphs (1) and (2) for a fiscal year, the Under Secretary for Health shall allocate to such centers from other funds appropriated generally for the Department medical services account and medical and prosthetics research account, as appropriate, such amounts as the Under Secretary for Health determines appropriate.

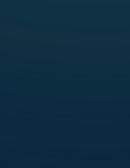
(5) In addition to amounts authorized to be appropriated under paragraphs (1) and (2) for a fiscal year, there are authorized to S. 2162—20 be appropriated such sums as may be necessary to fund the national coordinator established by subsection (e).”.

(b) CLERICAL AMENDMENT—The table of sections at the beginning of chapter 73 is amended by inserting after the item relating to section 7330 the following new item: “7330A. Epilepsy centers of excellence.”

Acronyms

AAN	American Academy of Neurology
ACGME	Accreditation Council for Graduate Medical Education
AED	Antiepileptic Drugs
AES	American Epilepsy Society
CAC	Clinical Application Coordinator
CBOC	Community Based Outpatient Clinic
CBT	Cognitive Behavioral Therapy
CDC	Centers for Disease Control and Prevention
CICU	Coronary Intensive Care Unit
CoE	Center of Excellence
CPRS	Computerized Patient Record System
CPT	Current Procedural Terminology
CURE	Citizens United for Research in Epilepsy
CVT	Clinical Video Telehealth
DoD	Department of Defense
DSS	Decision Support System
DVBIC	Defense and Veterans Brain Injury Center
ECMS	Executive Committee, Medical Staff
ECoE	Epilepsy Center of Excellence
EEG	Electroencephalography
EES	Employee Education System
EF	Epilepsy Foundation
EFGLA	Epilepsy Foundation of Greater Los Angeles
EMG	Electromyography
EMU	Epilepsy Monitoring Unit
FDA	Food and drug Administration
FTE	Full-Time Equivalent
FTEE	Full-Time Employee Equivalent
FY	Fiscal Year
GABA	Gamma-Aminobutyric Acid
GLA	Greater Los Angeles
GRECC	Geriatric Research, Education and Clinical Center
HCOE	Headache Centers of Excellence
HCS	Health Care System
HIMS	Health Information Management System
HSR&D	Health Services Research and Development
IC	Informatics Council
ICD	International Classification of Diseases
ICU	Intensive Care Unit
IFC	Inter-Facility Consult
IOM	Integrated Operating Model
IRM	Information Resources Management
IT	Information Technology
LTM	Long Term Monitoring
MIT	Means Indicator Test
MRI	Magnetic Resonance Imaging

MSECoE	Multiple Sclerosis Center of Excellence
NIH	National Institutes of Health
NINDS	National Institute of Neurological Disorders and Stroke
NTRT	New Term Rapid Turnaround
OAA	Office of Academic Affiliation
OEF	Operation Enduring Freedom
OIF	Operation Iraqi Freedom
OND	Operation New Dawn
PADRECC	Parkinson's Disease Research, Education and Clinical Center
PET	Positron Emission Tomography
PGY	Post-Graduate Year
PL	Public Law
PNES	Psychogenic Nonepileptic Seizures
PTSD	Post-Traumatic Stress Disorder
TBI	Traumatic Brain Injury
VA	Veterans Administration
VACO	Veterans Affairs Central Office
VANF	VA National Formulary
VERA	Veterans Equitable Resource Allocation
VHA	Veterans Health Administration
VVC	VA Video Connect



VA



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