

FY 2020 PADRECC Executive Summary

Introduction: The *Parkinson's Disease Research Education and Clinical Centers* (PADRECCs) were established through RFA in 2001, then amended into Public Law 109-461. There are six Centers of Excellence: Philadelphia, Southeast (Richmond), Houston, Northwest (Portland), San Francisco, and Southwest (West Los Angeles).

Our Mission: To provide comprehensive, state-of-the-art care to assure the highest quality of life for Veterans afflicted with Parkinson's disease and related Movement Disorders (PDMD); to advance investigation into the cause, treatment and cure for those disorders; and to enhance understanding of those disorders by developing education programs for practitioners, patients, and caregivers.

Brief Description: The PADRECCs provide access to comprehensive, advanced medical and surgical care for Veterans afflicted with PDMD.

The focus of our educational and training programs is on sharing contemporary information on the management of PDMD with clinicians, patients, and their families.

The PADRECC's research program focus is on advancing investigations into the epidemiology, treatment, prevention, and basic pathophysiology, of PDMD.

Complementing the research and care at the PADRECCs is the National VA Parkinson's Disease Consortium, a professional society comprised of VA physicians, nurses, therapists, and pharmacists with interest and expertise in the field of movement disorders. The PADRECCs launched the consortium in 2003 to expand Parkinson's disease awareness and education across VA. It offers peer networking, mentorship, education and training. Consortium Centers (54) are VA clinics that offer specialized Parkinson's disease and movement disorder specialty care to Veterans who cannot travel to a PADRECC. These centers are staffed by movement disorder specialists or clinicians with vast experience and/or interest in the field of movement disorders. Together, the six PADRECCs and over 50 consortium centers provide convenient and state-of-the-art care to Veterans throughout the country. The following Consortium Center was added during FY20: North Texas VAMC – Meagen Salinas, MD – Director. In addition, Dr. Jeanne Feuerstein, MD assumed the directorship of the VA Eastern Colorado Health Care System Consortium Center.

AWARDS AND RECOGNITION

Dr. Caroline Tanner received the 2020 MDS Honorary Lifetime Membership Award from the International Parkinson and Movement Disorders Society. The MDS Honorary Membership Award Program recognizes individuals that have made extraordinary contributions to the field of Movement Disorders or otherwise to The Society. Recipients of this prestigious award are entitled to lifetime MDS Membership. (San Francisco)

Dr. Caroline Tanner also received the 2020 Tom Issacs Award presented by The Cure Parkinson's Trust (CPT) and Van Andel Institute (VAI). The Tom Issacs award recognizes a researcher who has shown great impact on the lives of people living with Parkinson's and has involved people with Parkinson's in a participatory way in their work. (San Francisco)

Dr. John Duda was promoted to Professor of Neurology at the Hospital of the University of Pennsylvania, Department of Neurology, University of Pennsylvania School of Medicine. (Philadelphia)

Dr. John Duda also received the Senior Clinician Scientist Investigator Award by the Biomedical Laboratory Research and Development Service of the Department of Veterans Affairs. (Philadelphia)

Dr Joseph Quinn was named the Wayne and Sandra Ericksen Endowed Professor for Neurodegeneration Research at OHSU. (Portland)

Dr. Marian Dale was selected to participate in the 2020 MDS PAS LEAP (Leadership Program) in Miami, Florida from the International Parkinson and Movement Disorders Society. The MDS LEAP program recognizes and trains junior members who have are interested in future leadership roles within MDS. (Portland)

Fariha Jamal, MD. Norton Rose Fulbright Award, Teaching & Evaluation. December 2019. (Houston)

Michele York, PhD received the Houston Business Journal Health Care Hero, 2019- The annual award recognizes outstanding healthcare practitioners, physicians and rising stars who make a difference in healthcare and in the community. (Houston)

Michele York, PhD received the Star Clinician Excellence Award and Women of Excellence Award from Baylor College of Medicine. (Houston)

Michele York, PhD received the NDNG Women in Neurodegenerative Disease Rehabilitation Research Award, American Congress of Rehabilitation Medicine Neurodegenerative Disease Networking Group. (Houston)

Dr. Aliya Sarwar Norton Rose Fulbright Educational Award for Educational Leadership, Baylor College of Medicine, September 2020.

Dr. Indira Subramanian speaker "VA TED Talk"- "Loneliness in Veterans"- Sept 2020

U.S. DEPARTMENT OF VETERANS AFFAIRS MOA WITH PARKINSON'S FOUNDATION

The U.S. Department of Veterans Affairs (VA) and the Parkinson's Foundation have signed an agreement to combine their efforts to improve the health, well-being and quality of life of veterans living with Parkinson's disease (PD). The Parkinson's Foundation is one of the largest patient-centered organizations and is leading the way in the development of novel resources for the benefit of all people with PD. Their mission includes a goal to help improve the lives of everyone affected by this illness including people with PD and their caregiver. It was apparent to the PADRECC Directors that many of the resources developed by the Foundation would be helpful in educating and managing Veterans with PD. The Foundation also felt that the VA could help expand awareness of the resources they provide to Veterans with PD.

Therefore, an agreement was developed and signed between the VA and the Parkinson's Foundation with the following objectives:

- 1) Increase Veterans' and providers' access to PD information and resources.
- 2) Educate VHA staff on PD disease management and modifying therapies.
- 3) Improve service coordination and navigation for Veterans with PD.

Gretchen Glenn, LCSW and Chair of the Education Committee is the PADRECC liaison with PF and leading efforts to meet these objectives. Activities from May – September 2020:

- 1) Anne Wallis, PF Assoc Director of Education joins the PADRECC Education Committee call on a quarterly basis to explore collaborative efforts.
- 2) A PADRECC patient joined the PF People with Parkinson's Advisory Council.
- 3) Parkinson's Foundation digital resource kits for health professionals and Veterans-emailed to PADRECC and Consortium Sites.
- 4) PADRECC ADOEs led a PF Helpline Training.
- 5) PF presented on September PADRECC PD at Home-"The Parkinson's Foundation: Education, Community, and Support for Living Your Best Life".
- 6) PADRECC/Consortium members were invited to attend PF's Virtual Centers of Excellence Leadership Conference. (27 attended)
- 7) Gretchen Glenn, LCSW and Eileen Hummel, CNP, MSN facilitated breakout session for Veterans Aware in Care Ambassadors Virtual Training.
- 8) Updated PF website to better represent PADRECC program and Veteran Benefits: Parkinson.org/Veterans.
- 9) PF reached out to PADRECC and Consortium Centers via email to send Aware in Care Hospital Kits for distribution to Veterans.

CLINICAL CARE

The PADRECC system of care provides Veterans with PDMD appropriate care, in the appropriate location, time and capacity as dictated by the natural progression of disease. This not only includes access to state-of-the-art diagnostic and treatment modalities through the course of the disease, but also access to social work services, spiritual care services and interdisciplinary care involving access to speech therapy, occupational therapy, physical therapy, and other physician specialist to care for the specific needs of Parkinson's disease and movement disorder patients in an integrated fashion.

The PADRECCs deliver comprehensive, multidisciplinary care with special expertise in chemodenervation, DBS surgery, neurostimulator programming, Duopa and telehealth. The COVID-19 pandemic restricted face to face visits beginning in March 2020. The PADRECCs relied on several telehealth platforms for telehealth visits into Veterans homes for both initial and follow up visits. Telephone clinics were established to check in with Veterans who were stable or who were not comfortable with the telehealth technology. These virtual visits augmented our overall encounters, meaning our Veterans were not 'lost' during the pandemic. In person visits have slowly increased but are not at the same level prior to March 2020. The shift to virtual care versus in person care is illustrated in the grid below.

The following report demonstrates the progress of the PADRECC team in meeting the missions of research, education and clinical care from October 2019 through September 2020.

Clinical Data: The data presented below includes Southwest’s satellite sites and the Seattle satellite site.

	FY20	FY19	FY18
Unique Pts	7455	8085	7224
Encounters (F2F + All Telehealth)	14640	17938	16196
All Telehealth Encounters	2344	1444	1287
CVT Same Station	436	510	472
CVT Different Station	421	756	742
VVC	1404	136	26
VVC Non VA Site	59	42	47
E-Consults	51	146	123
Telephone Enc.	7677	3348	3024
TOTAL ENC. (Encounters + Econsults +Phone)	22,317	21,286	19,220
Chemodenerv. By CPT Total	2901	3809	4006
Migraine	1026	1268	759
Movement Disorder/Sialorrhea	1875	2541	3247
DBS Surgeries	105	158	204
DBS Battery Repl.	23	27	29

The PADRECC program had a 4.62% increase in total encounters this fiscal year compared to FY19. The program continues to increase access to specialized care for Veterans with PDMD utilizing telehealth and telephone modalities. VVC telehealth encounters increased by 933% and telephone encounters more than doubled over last fiscal year.

Innovative Clinical Care Projects

- The Northwest PADRECC’s innovative clinical care project focused on remote programming of DBS patients, both initial and follow up appointments. With the increased number of DBS devices, it was assessed that some offsite patients did not have a local provider to program their device after surgery, necessitating multiple trips back to Portland. The PADRECC has provided education and training to offsite providers, both in person at Portland as well as conducting full programming sessions remotely with provider, patient and device representative to assist with the learning process allowing these patients to avoid travel and have care closer to home. Additionally, Northwest continues the Functional Movement Disorder (FMD) clinic led by Dr. Joel Mack. Dr. Mack has translated the manual for CBT for psychogenic seizures into use for the treatment of the FMD patient. He is currently seeing 2 patients for this 6 -week treatment.
- The San Francisco PADRECC Supportive Care Clinic continues to focus on reducing suffering in the setting of serious illness, including intensive motor and non-motor symptom management and an emphasis on spiritual well-being, advanced care planning and caregiver stress. Maya Katz, MD, is trained in evidence-based approach to teach serious illness communication to neurologists, which includes the delivery of bad news, worsening

prognosis, goals of care and advance care planning. These are skills are taught daily in the clinical setting with medical students, neurology residents and neurology fellows.

- Southwest PADRECC team developed a PD Quality Dashboard to monitor their region's performance on key quality indicators. The Dashboard monitors PD diagnostic certainty, cognition screening, falls, and 3 different lab markers. Currently 80/250 patients have data entered the dashboard. Data will continue to be added to the dashboard and monitoring the improvement in use of quality indicators template in clinical notes will continue. The Southwest PADRECC in collaboration with the national neurology office has developed a Neurology Cube, identifying patients with PD from EHR data. They have programmed the algorithm to identify PD cases into the Neurology Cube and are seeking funding to perform chart reviews to calculate sensitivity, specificity, and PPV values.
- The Houston PADRECC expanded its use of tele-technology to provide virtual education and resource provision for its brain health initiative which focuses on preventive and corrective measures to improve brain and overall health of their patients. Houston PADRECC collaborated on an operational grant with Mental Health to provide enhanced depression screening and tele-psychotherapy services to their PD patients. [Project title: Rural Veterans with Depression and Parkinson's Disease: A Telehealth Psychotherapy Solution]. Department of Veterans Affairs, Office of Rural Health operational grant, funded in July 2020.
- The Richmond PADRECC has a robust DBS telehealth clinic where Veterans, who are interested in DBS but do not live locally, can be evaluated for surgery. Richmond expanded its use of VA Video Connect (VVC) increasing their encounters from 4 in FY19 to 317 in FY20. This technology is also used for follow-up DBS evaluations, if preferred by the Veterans, including yearly assessments and for assistance with DBS programming. All DBS patients undergo comprehensive preoperative physical and speech therapy evaluations and a telerehabilitation clinic has been developed to evaluate them postoperatively. A DBS tele-support group is offered several times per year where veterans can call in utilizing the VA National Telecommunications System (VANTS).
- The Philadelphia PADRECC continues to focus on its whole health initiative: Brain Wellness Clinic (BWC). The COVID pandemic forced our Veterans out of their comfort zone to try telehealth in their home. We rapidly expanded our telemedicine services using VA Video Connect as well as taking advantage of the iPad Loaner program for those Veterans without a tablet, laptop or smartphone. Philadelphia also initiated a telephone clinic. This enabled us to provide ongoing multidisciplinary care and initial evaluations to Veterans while protecting them from unnecessary exposure. It also provided an opportunity to educate our trainees (residents, fellows) on the use of Telemedicine in Parkinson's Disease. In addition, the PADRECC developed criteria for the use of Cala Trio device for essential tremor and have begun distributing the device if clinically indicated.

RESEARCH

The PADRECCs currently have **73 active clinical trials, 15 basic science research projects, and 17 epidemiological studies**. This research has **produced 146 journal articles and 34 poster presentations**.

Below is a sample of PADRECC's current research.

Multi-Center Research:

- **VA Cooperative Study Project #2015** *Multicenter, Randomized, Double-Blind, Placebo-Controlled Comparator Effectiveness Study of Antipsychotics Pimavanserin and Quetiapine for Parkinson's Disease Psychosis (CESAPP Study)*, was approved and awarded \$20,000,000 in October. Dr. Daniel Weintraub (PI) and John Duda, MD (PI), the study is designed to establish if two existing medications for Parkinson's disease psychosis are equally efficacious and determine their respective tolerability and safety. These results will provide immediately translatable evidence-based guidance for clinicians managing patients with Parkinson's disease psychosis. The recruitment sites for this study include the 6 PADRECCs and 25 Consortium Centers. The kickoff meeting is being planned for Summer, 2021.
- **A multicenter, randomized, active-controlled, double-blind, double-dummy, parallel group clinical trial investigating the efficacy, safety, and tolerability of continuous subcutaneous ND0612 infusion in comparison to oral IR-LD/CD in subjects with Parkinson's disease experiencing motor fluctuations (BouNDless) Neuro-Derm Study.** The primary objective of the study is to determine the effect of ND0612 on daily "ON" time without troublesome dyskinesia using subject-completed "ON/OFF" diary assessments of motor function in subjects with Parkinson's disease (PD) experiencing motor fluctuations. Five of the six PADRECCs will participate in this study. The research team in Philadelphia has submitted the protocol through the VA Central IRB.

Northwest PADRECC, Portland, Oregon/Seattle, Washington:

- **Describing the differences between disease process and treatment effect.** Initiated by Dr. Jennifer Nichols (fellow 2017-2019), currently run by Dr. Venka Veerappan (fellow 2018-2020). The study aims to characterize ataxia occurring in essential tremor and essential tremor with DBS.
- **Pacific Northwest Udall Center (PaNuC): Clinical Core and Specimen Collection** Dr. Joseph Quinn is conducting this research study to examine the changes in thinking and memory of Parkinson's disease patients over time. A second goal is to determine the role genetics plays in cognitive impairment in Parkinson's disease.
- **Measuring Cortisol Levels in Persons with Parkinson's (PD)** Dr. Amie Hiller is conducting a research study looking at cortisol levels in Parkinson's disease (PD). Cortisol is a hormone that is normally released in response to events and circumstances such as waking up in the morning, exercising, and stress.
- **STAT-PD: Preventing Levodopa Induced Dyskinesia in Parkinson's disease with HMG-CoA Reductase Inhibitors:** VA CSR&D Merit Review Grant – in collaboration with Puget Sound VA.

Dr. Kathryn Chung is conducting a research study looking at movements in Parkinson's disease (PD). In this study, we will examine the association of statin use and dyskinesia in a convenience sample Parkinson's disease patient in the Veterans Administration Health Care System.

San Francisco PADRECC, San Francisco, California:

- **Parkinsons Disease and Exposure to Chlorinated Solvents at Marine Base Camp Lejeune**
The goal of this project is to understand the relationship between chlorinated solvent exposure and Parkinson's disease by studying Marine Corps veterans.
- **Interventional MRI (iMRI) for Implantation of DBS:** Interventional MRI allows placement of DBS electrodes using real time MR guidance. The intended brain target is visualized directly by MR imaging, and a skull mounted aiming device eliminates the need for a stereotactic frame. This study reports patient evaluations/outcome, adverse effects, and MRI time during the procedures. The investigators helped develop new skull mounted hardware, and associated software, to enhance the procedure.
- **Bipolar Disease and PD**
The goal of this project is to assess the relationship between bipolar disease and Parkinson's.
- **Toward a redox-directed therapy for PD:** Integrating environmental, genomic, and functional data: Funded by Marcus Program in Precision Medicine Transformative Integrated Research Award. The aim is to identify thiol-related genetic variants that confer susceptibility to specific pesticides associated with Parkinson's disease.

Southwest PADRECC, Los Angeles, California:

- **Synergy of Pandemics-Social Isolation is Associated with Worsening Parkinson Severity and Quality of Life**
The goal of this study was to survey individuals with PD to evaluate whether social isolation is associated with PD symptom severity and quality of life. Only individuals reporting a diagnosis of idiopathic PD were included in this analysis.
- **Parkinson's Gene and Environment (PEG) Study.** Adrienne Keener, MD is a study physician on this NIH-funded study of over 800 patients and 800 matched controls recruited to date. They have continued to recruit new subjects and controls through a funded grant from the NIEHS using the California Registry to identify new subjects. Five manuscripts have been published describing gene polymorphisms and progression of Parkinson's disease; more manuscripts have been submitted. Additional NIH funding is being requested to follow this cohort to determine genetic and environmental factors that alter progression of PD. Dr. Keener was the recipient of a pilot grant from the American Parkinson Disease Association to examine PD onset and progression phenotype in Hispanic participants of the PEG study. She conducts the assessments of new and follow-up study subjects and assists in data analysis. One manuscript has been submitted for publication.

- **Dystonia Outcomes Interdisciplinary Treatment Registry.** Adrienne Keener, MD is a co-investigator of a study to develop a multidisciplinary registry (REDCap database) of actual treatments for patients with dystonia, including both specific medical and physical therapy interventions. Results will inform the design of future interdisciplinary treatment paradigms to maximize patient-centered outcomes. Dr. Allan Wu is the Principal Investigator at UCLA. Dr. Adrienne Keener is recruiting and assessing study subjects.
- **Women and PD TALK (Teams to Advance Learning and Knowledge).** This is a 2-year project sponsored by the Parkinson's Foundation, funded through an award from the Patient-Centered Outcomes Research Institute (PCORI) to explore gender disparities in Parkinson's disease and develop a patient-centered research agenda.

Tucson

- **Ketamine as treatment for PD dyskinesia:** The VA Tucson laboratory group continues working to repurpose the anesthetic drug ketamine as a treatment for dyskinesia and non-motor symptoms of Parkinson Disease.
- The VA Tucson's basic research laboratory is a major collaborator on an NIH funded project to develop neuro-protective molecules in rodent models of Parkinson Disease. NINDS (1 R01 NS 091238-01A1, 09/30/15 to 06/30/20, PACAP/VIPV Glycopeptide Agonists as Neuroprotective Therapies for Parkinson's Disease.

Houston PADRECC, Houston, Texas:

- **To Study the Circadian Sleep Pattern and its Correlation with Subjective Sleep Complaints in Veterans with Parkinson's Disease.** This questionnaire study utilizes a variety of assessment scales to characterize several different aspects related to sleep, such as sleep related parasomnias and sleep quality among a study population of Veterans with Parkinson's disease recruited from the PADRECC clinic.
- **Study of Clinical Characteristics of Tremor in Veterans.** To provide a better understanding of Essential Tremor phenotypes, this study will combine chart review and the use of the new VHA Movement Disorders Clinical Case Registry to characterize patient demographics and clinical features of Essential Tremor (ET) in Veterans.
- **Prevalence of High Resolution Manometric Abnormalities of the Esophagus and Gastroesophageal Reflux in Patients with Parkinson's disease.** The purpose of the study is to more fully evaluate the burden of esophageal disease in patients with PD. The Houston PADRECC is referring PD patients to this case control study that utilizes high-resolution manometry (HRIM) to characterize the upper esophageal sphincter (UES), lower esophageal sphincter (LES), and esophageal body in PD patients. In addition, 24-hour multichannel intraluminal impedance-pH (mII-pH) monitoring is used to document the presence and severity of gastroesophageal reflux (GERD)
- **A Prospective, Randomized Placebo Controlled Pilot Study to Characterize the Intestinal Microbiome and to Evaluate the Safety and Fecal Microbiome Changes Following Weekly**

Administration of Lyophilized Prim-Dj2727 Given Orally in Subjects with Parkinson's disease. This study is in the planning stages and will be a collaborative project with The University of Texas Health Science Center, Houston and the Kelsey Seybold Research. The purpose of this study is to characterize the intestinal microbiome in subjects with Parkinson's disease and to determine safety and trends in improvements in diversity of colonic microbiome following administration of lyophilized PRIM-DJ2727. PRIM-DJ2727 is filtered fecal microbiota product from screened healthy donors that will be lyophilized and encapsulated in enteric-coated capsules. A placebo group will receive similar oral capsules at the same dosing schedule during the same time period.

Southeast PADRECC, Richmond, Virginia:

- **Eye Movement Research in PADRECC:** This long-standing study was started approximately 10 years ago. Many thousands of subjects have been enrolled into the study, resulting in a massive data sample across the spectrum of movement disorders. Utilizing a 5-minute-long data recording from an eye tracking device, the specific oculomotor parameters can be used to differentiate numerous neurological movement disorders. Preliminary results are showing ~97.5% accuracy in diagnosing and differentiating PD and other movement disorders. As this data has become stronger over the years, Drs. Gitchel and Baron and their university collaborator have applied for an international patent which is currently pending. Additionally, the intellectual property resulting from this research has been licensed to a company who is rapidly developing this into a commercially viable product which will be marketed as a clinical and pre-clinical biomarker for PD and other movement disorders. When the company announced the development of our product at CES, our product was awarded the Innovation Award for "Technology that will create a better world". The product has been cleared by the FDA as a class 2 medical device
- **BOSS-PD, Urinary incontinence in PD:** The Richmond PADRECC is a sub-site to a MERIT funded study out of the Atlanta GRECC and incontinence clinic. This study aims to determine the non-inferiority of pelvic floor muscle exercises to drug therapy that may cause cognitive slowing. PI – Jessica B. Lehosit, DO; Co-investigator – George T. Gitchel PhD.
- **Bile Acids and Gut Microbiome;** Locally funded with Dr. Bajaj (PI), investigating the microbiome of patients with cirrhosis. Patients with PD are being recruited as a secondary arm to the study due to their known gut motility and microflora changes.
- **Optimization of Nucleus Basalis of Meynert stimulation for the treatment of dementia**
Supporting Agency: VCU Presidential Research Quest Fund (PeRQ). Performance Period: 7/2017-12/2018. This pilot study is intended for studying various parameters affecting memory through nucleus basalis of Meynert (NBM) stimulation and collecting data for a larger grant. Our goal is to gain a better understanding of how we can effectively stimulate this nucleus to overcome the devastating effects of dementia in those with Parkinson's.
PI – Kathryn L. Holloway, MD

Philadelphia PADRECC, Philadelphia, Pennsylvania:

- **Exercise and PD: a) Effect of Exercise on Recovery in Drug-Induced Parkinsonism and Parkinson Disease (DIPEX)** Supported by the VA Rehabilitation R&D service (Morley CDA), this project is

looking to study exercise as a therapy to improve symptoms and, potentially, slow disease progression in PD. Patients with early PD are randomized to exercise or control groups. The exercise group is asked to perform aerobic walking up to 5 times per week. Effects on motor symptoms and cardiovascular fitness are tested after 8 and 52 weeks while brain scans to measure PD progression are measured at baseline and after 52 weeks. **b) *Understanding Physical Activity and Exercise in Parkinson Disease (Activity/FitBit Study)***. This project is studying physical activity habits and attitudes about exercise of people with Parkinson's disease (PD). By understanding a veteran's physical activity habits, we can better design an exercise program that meets their needs to remain physically active. An extension of this study is examining the use of wearable technologies (Fitbit) to measure and improve physical activity levels in PD patients

- **Inflammatory PD Clinical Biomarker Profiling in T Cells (FOX):** Dr. Morley and the PADRECC are collaborating with a local biotech company (Longevity Biotech) on a project recently funded by the Michael J. Fox Foundation to study whether the immune system plays a role in PD. The team will recruit pairs of patients and their caregivers to study whether immune cells and other blood markers are different in PD and are associated with disease severity or other PD characteristics.
- **Neurorestoration in Parkinson's Disease:** Dr. John Duda and his colleagues Kacy Cullen, PhD, and Isaac Chen, MD, PhD from the Center for Neurotrauma, Neurodegeneration, and Restoration (CNNR) at the Crescenz VA Medical Center, continue to investigate whether one of the main brain pathways affected in Parkinson's disease, the nigrostriatal pathway, can be generated in a petri dish and transplanted in animal models to reverse the motor symptoms in PD. While studies are early, the success of their efforts to date have led to several publications and special recognition at several different scientific meetings.

EDUCATION

Training the next generation of neurologists, movement disorders and ancillary specialists.

Each PADRECC hosts clinical rotations for neurology, pharmacy, PM&R and psychiatry residents; geriatric, psychiatry, palliative care, PM&R and geriatric psychiatry fellows. Northwest, Philadelphia, Southwest and San Francisco PADRECCs collaborate with the Office of Academic Affiliation to participate in the Advanced Fellowship in Movement Disorders Program. San Francisco has an additional slot for fellowship in Stereotactic and Functional Neurosurgery. Each fellow is required to complete a rigorous curriculum which includes didactic clinical training, mentored clinical outpatient and inpatient service, mentored research, and teaching.

- **20** Movement Disorders Fellows currently trained in the PADRECCs
- The PADRECCs hosted clinical observations for **208** residents, medical students and other clinical specialty fellows. The increased use of telehealth allowed the PADRECCs to continue offering clinical rotations.
- PADRECC clinicians serve as faculty for the neurology residency program didactic lecture series at the affiliate university.
- All PADRECCs participate in Journal Club and local case conferences.

- PADRECC clinicians presented **18** Grand Rounds.
- PADRECC personnel gave **115** lectures.

National Education Activities for Providers and Trainees:

- PADRECC/Consortium Website
- PADRECC/EES Movement Disorders teleconference series (educational credit)
- PADRECC/EES patient education video series (VA Parkinson's Channel, YouTube)
- Bimonthly *Transmitter*
- Monthly service area case conference calls
- Annual *VA Parkinson's Report* newsletter
- Bi-Annual National VA PD Consortium Conference
- Updated the PD Pocket Card "Parkinson's Disease Quick Reference Guide or Initiating Therapy" in collaboration with the Clinical Care Committee and Employee Education System (EES)

PADRECCs Education Activities for Patients

The PADRECCs provide Veteran and caregiver education regarding their disease and therapies in several ways. During clinic visits for example, Veterans appropriate for Deep Brain Stimulation have extended appointments to allow time for in-depth explanation and discussion. They also receive written and visual education materials. Written materials: Each PADRECC has a superb variety of education material provided by our community partners and our own clinical staff. In addition, the PADRECCs have support groups and formal education programs.

- **52** Support groups
- **12** Patient/caregiver education programs
- **38** Presentations to community support groups or health fairs