CDMRP
Department of Defense

Parkinson's Research Program

Vision: To stop Parkinson's disease by funding research through a partnership of scientists and consumers

Mission: Support research to understand, prevent, diagnose, and treat Parkinson's disease in patients, including Service members and Veterans

Program History

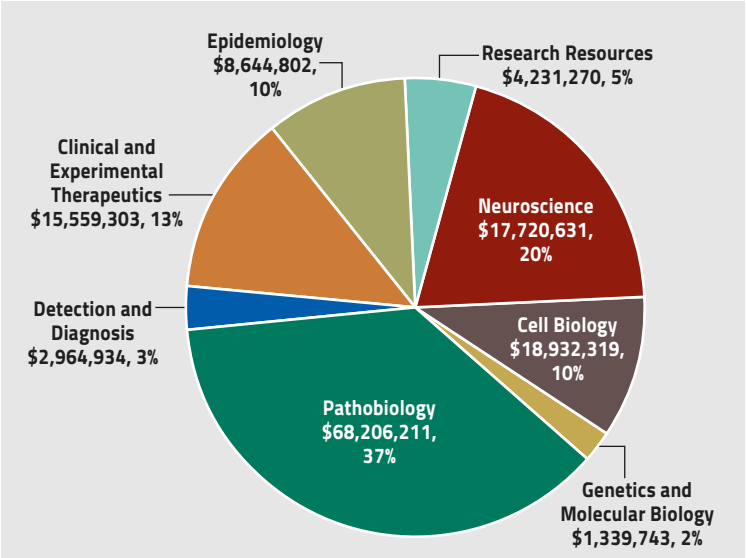
The Department of Defense (DoD) Parkinson's Research Program (PRP) is the only federally funded program dedicated exclusively to the treatment and cure of the second most common neurodegenerative disease, a disease the Department of Veterans Affairs estimates affects more than 80,000 Veterans, a proportionately greater rate than that of the general population. The PRP, which is funded under the Neurotoxin Exposure Treatment Parkinson's Research appropriation, was initiated in fiscal year 1997 (FY97) to provide support for research of exceptional scientific merit leading to an understanding of the cause, prevention, and treatment of Parkinson's disease (PD). From FY97 through FY18, approximately $436.75 million (M) have been appropriated by Congress for Parkinson's research. The FY19 appropriation is $16M.

Military Relevance

A preliminary study found that military deployment is associated with a 1.8-fold increased risk of PD. Peer-reviewed studies have identified several risk factors for the development of PD that are related to military Service. Significant among these risk factors are:

- exposure to chemicals (including pesticides, insecticides, and solvents);
- traumatic injury to the head;
- depression;
- prolonged physiological and mental stress;
- repeated or prolonged disruption of sleep architecture; and
- repeated or prolonged disruption of autonomic nervous function.

To address these risk factors, the PRP has invested in research to better understand traumatic injury to the head, depression, and exposure to environmental chemicals. Research into military Service-related risk factors is critical for past, present, and future military generations who may be affected by the disease.



FY10-FY18 PRP Portfolio Investment by Scientific Classification System Code

Consumer Perspective

J. Sam Erwin, M.S., M.A., ATR, Consumer Peer Reviewer

I remember the day and the time, September 28, 1999, 1:30 p.m., when the movement disorder specialist gave the diagnosis of PD. It was not a surprise to me since my symptoms of stiffness, pain, and inflammation led me to a rheumatologist at the beginning. The tremor, loss of balance, and dragging footsteps took me across the hall to the movement disorder specialist. A couple of years into living with this diagnosis, I struggled with lack of knowledge and understanding of how I could continue to progress through my life. An invitation led me to my training at the Parkinson's Foundation Patient Engagement in Research program as a Parkinson's Advocate in Research. This program looks for individuals with an interest in research and a willingness to work with researchers. The objectives of being an advocate are to prioritize research, improve studies, and influence stakeholders in research. These objectives became important to me as I continued to attend a variety of events, including for the Congressionally Directed Medical Research Programs (CDMRP) PRP. As a Veteran and spouse of a Veteran, I recognize the need to expand the knowledge and understanding of the impact the environment has on the Soldier. This led me to several conferences, seminars, and workshops on living with a chronic, progressive disease and introduced me to the many organizations and programs. This is how I was brought to the world of advocacy and the continuation of my education. My presence as a consumer with the Parkinson's Foundation and the CDMRP PRP is not the same as a scientist's, whose knowledge could lead you into the workings of the brain, neurons, and other processes of the body. My presence brings the human factor to the discussion to remind the stakeholders, scientists, and peer reviewers that these individuals are trained to be strong in duty, yet at times passive in matters of health when it comes to doing their duty. It is a privilege to sit across the table with individuals impacted by PD and listen to their stories. It is a pleasure to represent them at the research table. I hope to expand the table and the number of individuals I have an opportunity to be with, bringing closure to the gaps present in the communication of information. Thank you for the opportunities given to me to speak with the many legislatures, medical staff, scientists, my peers, and, most importantly, the family members who seek to understand but also to be heard.

Research Highlight

Preventing Parkinson's Disease: Identifying Parkinson Disease Before Motor Signs

Alberto Ascherio, M.D., Ph.D., Harvard T.H. Chan School of Public Health

The clinical diagnosis of PD is preceded by years of silent neurodegeneration. When diagnosed, key brain regions have already lost more than half of their dopaminergic neurons. Dr. Alberto Ascherio of the Harvard T.H. Chan School of Public Health initiated a longitudinal investigation in apparently healthy individuals to better understand PD's prodromal signs. The study, funded by the DoD PRP, takes advantage of two unique populations, the Nurses' Health Study (NHS) and the Health Professionals Follow-Up Study (HPFS), with over 150,000 men and women followed since 1976 (NHS) and 1986 (HPFS). The study includes assessments of physical and mental function and biennial questionnaires to assess their diet, physical activity, and medical history, including use of medications. Over the past several years, Dr. Ascherio's team has been able to identify a subset of over 20,000 individuals at higher than average risk of PD and to screen these individuals for probable REM sleep behavior disorder, olfactory loss, diminished color vision, excessive daytime sleepiness, and other characteristics that may indicate prodromal PD. They have also assessed these same features among cohort participants who were recently diagnosed with clinical PD. As reported in their recent publication,[1] the features appear to act synergistically – the odds of having clinical PD were over 160-fold higher among individuals with three selected features and over 1,300-fold higher among those with more than five features. Preliminary findings also showed that individuals who engage in regular physical activity and those who adhere to a Mediterranean diet are less likely to develop features of prodromal PD. Dr. Ascherio hopes to longitudinally follow the cohort participants; to refine and validate a predictive algorithm for future clinical PD; to obtain a genetic risk score that will complement the phenotypic and behavioral data already collected; and to integrate the prodromal features and genetic risk score with information on established and novel risk factors for PD. He expects to be able to develop an efficient screening strategy for the identification of those who are unknowingly suffering from the progressive neurodegeneration that leads to clinical PD. Such screening would radically improve the possibility of identifying and testing novel neuroprotective treatment and lead to prevention of the disease and treatments for those already suffering PD motor signs.

[1] Hughes K, Gao X, Baker JM, Stephen C, Kim IY, Valeri L, Schwarzschild MA, Ascherio A. 2018. Non-motor features of Parkinson's disease in a nested case-control study of U.S. men. J Neuro/Neurosurgery Psychiatry 89:1288-1295.

Point of Contact: CDMRP Public Affairs, 301-619-9783
usarmy.detrick.medcom-cdmrp.mbx.cdmrp-public-affairs@mail.mil