PARKINSON'S PROGRESSION MARKERS INITIATIVE
Play a Part in Parkinson's Research

PPMI News

The newsletter for PPMI participants

Issue 12, Winter 2017

Contents

Winners of First PPMI Data Challenge Show Models of Subtypes and Progression

With the generous ongoing contributions of its participants, PPMI has built a rich dataset to investigate the varied experience of Parkinson's disease (PD). To encourage that investigation, earlier this year study sponsor The Michael J. Fox Foundation (MJFF) launched a data challenge offering $25,000 each to data scientists who could provide the best answer to one of two critical questions:

What factors at baseline predict clinical progression?

What are the subtypes of Parkinson's?

Recently MJFF announced the winners as Duygu Tosun-Turgut, PhD, assistant professor of radiology and biomedical imaging at UC San Francisco and co-director of the Center for Imaging of Neurodegenerative Diseases at the San Francisco Veterans Affairs Health Care System; and Fei Wang, PhD, assistant professor of health care policy and research at Weill Cornell Medicine.

In her submission, Dr. Tosun-Turgut reports that an MRI scan of brain structure and functionality and Unified Parkinson's Disease Rating Scale-3 (motor examination) total score at baseline are, together, the best factors for predicting slow progression versus fast progression.

Dr. Wang outlines three Parkinson's subgroups: (i) progression of motor and cognition dysfunction; (ii) progression of cognitive dysfunction (especially long-term memory) but not motor progression; and (iii) progression of motor dysfunction (especially right-hand tremor) but not cognitive progression.

Their analytical models could accelerate testing of new Parkinson's treatments by assisting in trial design and participant screening.

"PPMI offers a rich pool of open-access data from which to make connections that advance our understanding of Parkinson's disease and impact how we approach drug development," said Mark Frasier, PhD, MJFF senior vice president of research programs. "The Prize encouraged scientists from other disciplines to lend their expertise to our efforts to find a cure. Drs. Tosun-Turgut and Wang have provided a strong basis to build on."

GE Healthcare, one of 19 PPMI industry partners, provided one of the $25,000 prizes. (MJFF provided the other.)

Since its launch in 2010, PPMI has made its data available to the broader research community in real time; study data has been downloaded more than 770,000 times. The Foundation hopes to host more challenges with PPMI data in the future and thanks you for your continued commitment to the study. ■

Following Facebook to PPMI Genetic Screening

Jessica and Kylie O'Brien

For Jessica O'Brien, Facebook was a place to post pictures of her dogs, until it became a starting point in her journey to understand Parkinson's disease (PD).

After Jessica's father was diagnosed in 2002, she grew interested in PD and the role of genetics. With their Ashkenazi Jewish heritage, Jessica and her father are more likely to carry genetic mutations linked to Parkinson's.

"Knowing someone in your family was diagnosed, you can't help but feel more vulnerable," she said.

A Facebook ad mentioning PD and genetics caught Jessica's attention. The ad led to a brief survey for individuals interested in participating in PPMI, which is studying mutations in the *LRRK2* and *GBA* genes, both of which are more common in the Ashkenazi Jewish population.

To speed study recruitment, study sponsor The Michael J. Fox Foundation (MJFF) turned to Facebook. In May 2015, MJFF launched a targeted Facebook recruitment program, which helped enroll a significant number of participants at a lower cost than traditional outreach methods (e.g., in-person events).

Jessica completed the survey linked in the Facebook ad and found she was eligible to continue with the process. Potential study participants are sent a kit, which they mail back with a sample of their saliva. PPMI tests to see if the potential volunteer carries a *LRRK2* or *GBA* mutation, and a genetic counselor reviews the results with you when ready.

"I knew if I had a genetic mutation associated with Parkinson's, I couldn't yet take a drug to help prevent the disease," she said. "But I could participate in research and help scientists develop treatments for people like my dad."

Eight weeks later, Jessica's test for PD-linked mutations came back negative. Although Jessica isn't eligible to participate in PPMI, she's happy she went through the process.

"I'm relieved but also inspired to take action," Jessica said. "I may look into participating in other studies."

PPMI is currently seeking individuals of Ashkenazi Jewish descent who (1) are age 18 or older and have Parkinson's or (2) are age 45 or older and have a first-degree relative with PD. Read more on the next page about recently expanded eligibility for people with Gaucher disease, as well. ■

PPMI Facebook Recruitment in the News

Two publications covered PPMI's success in recruiting participants for its genetic cohort through Facebook ads targeted to users based on their interests and preferences, age, and proximity to clinical study sites.

MedCity News

"Targeted Facebook ads slash recruitment costs for Michael J. Fox Foundation"

Not only did the researchers see a 33 percent increase in the number of enrolled participants in the pilot, the cost of recruitment plummeted … "It surpassed our expectations," said Sohini Chowdhury, MJFF senior vice president of research partnerships.

MM&M MEDICAL MARKETING & MEDIA

"The Michael J. Fox Foundation uses Facebook to recruit Ashkenazi Jews for Parkinson's study"

MJFF plans to enroll 138 people who first contacted the organization between January and June 2016, compared to the 70 participants who were enrolled between February 2014 and June 2015, prior to the launch of the Facebook campaign.

PPMI's Infrastructure, Methods, Volunteers Have Field-Wide Impact

As PPMI matures and, thanks to your participation, the dataset and biosample inventory grow, its importance as critical research infrastructure for the field at large is increasing. Recent initiatives highlight how PPMI is leveraged to inform innovative research design.

PPMI Provides Cohort for NIH

The National Institutes of Health, with partners including industry and The Michael J. Fox Foundation, is planning a project to leverage the datasets and samples of existing cohorts, with PPMI as a cornerstone, and create a large-scale Parkinson's biomarker discovery effort that would complement the PPMI validation effort . The longitudinal nature of PPMI as well as its diverse population uniquely position it to aid the NIH project.

Recruitment/Retention Success Inspires Trial Sponsors

Your willingness to enroll and continue in the study has markedly changed the discussion of trial populations. Clinical sites are now familiar with recruitment of early-stage Parkinson's patients – most likely the same population recruited for trials of disease-modifying therapies. In addition, approaches to identify individuals with genetic mutations (e.g., Facebook) has opened a completely new doorway to finding such niche populations.

CSF Contributions Boost Trial Feasibility Expectations

A major concern raised at the onset of PPMI was around the frequent collection of CSF in the study. As you know, if one can explain the value of CSF collection, individuals are willing to undergo the procedure. PPMI demonstrated a 98% success rate in collecting CSF at the baseline visit, and among those who have reached the five-year visit, 71% still provide CSF samples. PPMI provides proof-of-concept that studies can enroll and retain volunteers even with CSF collection, important as many disease-modifying trials will collect CSF.

PPMI Dataset and Biospecimens Sharing Is Valued Globally

Since the PPMI database went live in March 2011, researchers around the world have downloaded de-identified study data over 770,000 times. Another valuable resource is the samples. A small percentage of samples are reserved for PPMI usage, but the majority is available for researchers to use to validate potential biomarkers. Around 100 requests for samples have been submitted to date, and multiple investigators have received samples.

PPMI Established New Biosample Protocol Standards

When PPMI commenced there were no standardized, field-wide accepted protocols for biosample collection, processing and storage. Six years later, the field has adopted the PPMI biosample protocols not just in observational research but in clinical trials that are collecting and analyzing biosamples. This means it's easier to conduct research and compare results across studies.

PPMI leadership continues to work to grow the reach and impact of your contributions to the study. Thank you for showing the scientific community what is possible with dedicated volunteers. ■

PPMI Expands Genetic Screening Eligibility

In early 2015, PPMI began recruiting people with a mutation in the *GBA* gene, those with and without Parkinson's disease (PD). Mutations in this gene, associated with PD, are also the cause of Gaucher disease and are more common in people of Ashkenazi Jewish descent.

To speed enrollment of this population, the study is now offering genetic screening to people of Ashkenazi Jewish ancestry age 45 or older who have Gaucher disease or a first-degree relative with Gaucher.

PPMI also has raised the age minimum for Ashkenazi Jewish first-degree relatives of someone with PD; interested volunteers must be age 45 or older to be genetically screened. People of Ashkenazi Jewish ancestry with PD themselves, age 18 or older, are also eligible for screening.

Gaucher is a disorder where fatty substances build up and cause enlarged organs. The disease is caused by *GBA* mutations on both copies of the gene (we get a set from our mother and father). A mutation on either or both *GBA* genes can lead to Parkinson's, and PPMI is investigating that connection.

The study is also recruiting people with mutations in the *SNCA* and *LRRK2* genes. Mutations in the former are very rare, while people of Ashkenazi Jewish, North African Berber or Basque descent are more likely to carry a *LRRK2* mutation.

Learn more about *GBA*, the connection to Gaucher and Parkinson's disease, and the PPMI genetic testing process at www.michaeljfox.org/genetics. ■

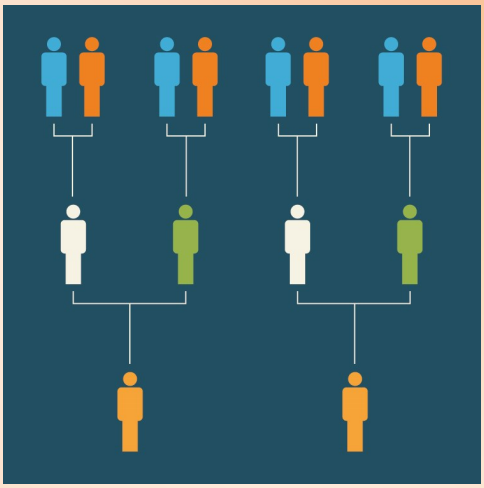
PPMI Opens Brain Donation Program

PPMI volunteers like you are among the most well-characterized research participants in history. However, until now, investigators have not been able link the detailed PPMI clinical, imaging and biosample assessments to precise changes happening in the brain.

To address this, PPMI has launched a new pathology core. Led by James Leverenz, MD, at the Cleveland Clinic, the core will coordinate donation of the brain for research after the passing of a PPMI participant.

Interested in learning more about this new PPMI program? Contact the Cleveland Clinic Coordinating Center at 844-767-8629 or talk to your local PPMI investigator.

Be a PPMI Genetics Ambassador



Recruitment is underway for the genetics arm of PPMI! There is no better advocate for PPMI than those of you who are already participating in the study, and you can play a critical role in spreading the word about this effort.

How can I help?
Ask your friends and family members to visit www.michaeljfox.org/genetics and encourage them to take our screening survey.

PPMI is seeking individuals who are of Eastern European (Ashkenazi) Jewish descent with Parkinson's or Gaucher disease or a first-degree relative with either to take the survey to help determine eligibility for the genetics arm of the study. Learn more on page 3 about other populations PPMI is recruiting.

Want to stay informed of the latest scientific developments in PPMI? Visit www.PPMI-info.org. This is the portal for the scientific community to learn more about PPMI and to access the data and samples coming out of the study.

PARKINSON'S PROGRESSION MARKERS INITIATIVE
Play a Part in Parkinson's Research

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