THE MICHAEL J. FOX FOUNDATION
FOR PARKINSON'S RESEARCH

FOX GENETIC NETWORK REQUEST FOR PROPOSAL (RFP) FROM LABORATORY VENDOR

I. Introduction

The Michael J. Fox Foundation (MJFF) seeks to establish a network of individuals with gene variants associated with Parkinson's disease (PD) and develop a model for providing genetic testing to the broader PD community. This infrastructure and network is referred to as the Fox Genetic Network (FGN). The identification of individuals carrying variants in known genes, most commonly *LRRK2* or *GBA*, is essential for upcoming clinical trials that target the enrollment of individuals with known PD variants.

II. Study Goal

The overall goal of FGN is to develop and implement efficient models for providing genetic testing to a broader community of unaffected and affected individuals who have relevant risk factors consistent with a higher likelihood of pathogenic PD-related variants. FGN creates the infrastructure to support a variety of related genetic testing efforts. We will initially consider pathogenic *LRRK2* and *GBA* variants for testing; however, due to advances in the field of PD genetics, other variants may be of interest to FGN in the future.

III. Project Overview

This is a staged proposal that creates infrastructure to support a variety of related genetic testing efforts. We begin with infrastructure, then move to a remote, telegenetics implementation nationally, and then proceed to a regional launch focused on community neurologists. The ultimate goal is to support screening efforts more broadly. Initial efforts encompass a 2-year period.

Infrastructure Planning Period (June 1, 2019 – December 31, 2019): The planning period will focus on building the infrastructure for genetic testing on a large scale for targeted pathogenic *LRRK2* and *GBA* variants and will include the following key activities: Establish a centralized recruitment center; Identify a genetic testing laboratory ; Develop an infrastructure plan for education of community neurologists and the PD community on the availability of targeted PD genetic testing focusing on "druggable" targets (*LRRK2* and *GBA*) including the development of both participant and physician facing materials; Establish all data transfer pathways and study coordination between the centralized recruitment center and the genetic testing laboratory. This RFP will identify the genetic testing laboratory.

Launch Telegenetics Nationally (January 1, 2020 – June 30, 2021): The telegenetics launch period will focus on offering telegenetics on a national level. Both individuals with PD as well as unaffected individuals who have increased likelihood of carrying a *LRRK2* or *GBA* variant will be eligible for screening and genetic counseling through the centralized recruitment center.

Chicago Regional Launch (July 1, 2020- June 30, 2021): The Regional Launch period will initially focus on piloting the proposed infrastructure on community-based neurologists caring for PD patients in Chicago. This effort will expand capabilities within targeted geographic regions for screening for pathogenic *LRRK2* and *GBA* variant carriers in PD patients populations followed by community neurologists, thus preparing broader patient groups to participate in future interventional trials. Participants will be recruited for the study locally, have a collected sample shipped to the testing laboratory, and be provided with genetic counseling on returned laboratory results.

Sample Estimates: We anticipate 400 samples to be sent to the testing laboratory from January 1, 2020-June 30, 2020 and 2,250 samples between July 1, 2020-June 30, 2021. At the end of the 2-year period, we will

evaluate whether FGN will expand at the national level, to support neurologists and other specialists in providing care and genetic testing to their patients with PD. The number of samples may increase or decrease based on the demand for testing.

IV. Request for Proposal (RFP) Timeline

July 12, 2019	RFP Released
August 9, 2019	Proposals submitted to laeheath@iu.edu
September 15, 2019	Laboratory Selection Announced

There is the potential for an in-person review of the laboratory and/or a request to demonstrate laboratory performance by testing samples with known mutation results prior to final laboratory selection.

V. Minimal Requirements

Any testing laboratory responding to this RFP must meet the following minimal requirements:

1. Has current CLIA and CAP licensure.
2. Accepts saliva samples for genetic testing.
3. Employs a laboratory information management system (LIMS) to track specimens and testing results.
4. Capable of providing an electronic file with individual genetic testing results.
5. Rapid turnaround time (TAT) based on sample volume.
6. Laboratory infrastructure capable of rapidly scaling up for increased genetic testing volume demand (up to 2,250 samples/year).
7. Ability to provide short-term storage of extracted DNA and return these extracted DNA samples to the study team.

Note: The laboratory does not need to provide saliva collection kits

VI. Requirements to Address in the Written Proposal

The written proposal must address the following critical capabilities. Under each requirement is additional information regarding specific points to address. If your organization does not have an expertise requested, please explain how you will resolve the issue either within your laboratory or through partnerships with other organizations.

1. **Basic laboratory overview**
   - *When was the laboratory established?*
   - *What is the scope of testing currently (number of samples/year; range and number of tests offered; number of tests performed each year)?*
   - *Has the laboratory worked with other research groups to provide large-scale genomic testing? If so, describe these efforts.*
   - *Describe relevant equipment.*
   - *Provide number/type of current employees.*
   - *Provide estimated testing turnaround time.*

2. **Laboratory Operations**
   - *Describe use of standard operating procedures in the laboratory.*
   - *Summarize standard quality control measures.*
   - *Describe implementation of corrective action preventive action (CAPA) plans in the laboratory.*

3. **Data discrepancies**
   - *Describe approach currently used or what would be used for resolving conflicting results between genotyping at the laboratory and other sites that may have performed outside testing.*
   - *What is the estimated rate of error in the laboratory and how was it computed?*

4. **Laboratory information management system (LIMS)**
   - *Provide information on the LIMS currently employed in the testing laboratory including its capability to track specimens through the testing process and reporting capabilities (internal and external).*
   - *Summarize security and backup capabilities as well disaster recovery plans.*
   - *Provide a list of information required for specimen intake. Can data be provided in an electronic format to upload into LIMS as an order? If so, what format is required for upload?*

5. **Laboratory approach to project launch**
   - *Provide an example of any previous approach used by the laboratory to launch a study requiring specific genetic testing. If no previous launch, provide the plan for this launch.*
   - *What was/will be the team used to develop the project (what expertise areas were involved)?*
   - *How long did/will the preparation for study launch require?*
   - *Would specific staff be assigned to FGN and able to attend regular teleconference meetings?*

6. **Genetic testing using saliva samples**
   - *Provide details regarding the scope of experience using saliva samples for genetic testing.*
   - *Provide the number of saliva samples tested each year and the rate of test failure using saliva.*

7. **Experience with Parkinson's disease genetic testing**
   - *Provide details regarding the extent of experience with genetic testing for Parkinson's disease.*
   - *Specifically address type of testing (targeted mutation, sequencing, etc.) and testing methods used for LRRK2 and GBA analysis.*
   - *Provide the number of samples tested (on a yearly basis) for each gene and type of testing.*
   - *Address scope of testing for LRRK2 G2019S and GBA N370S point mutations, specifically.*

8. **Test reports**
   - *Provide examples of genetic test reports (mutation positive and negative).*
   - *If available, provide reports for LRRK2 and GBA testing.*

9. **Electronic reporting**
   - *Describe capability to transmit electronic results file to an external group.*
   - *Describe any experience performing this function for other groups/projects.*
   - *Describe how individual subject testing reports will be made available to FGN.*

10. **Scope of testing**
    - *Describe capability of laboratory to expand testing as needed for FGN (additional genes, new custom panels, exomic testing, etc.).*
    - *Describe flexibility to accommodate changing numbers of samples (increase or decrease).*

VII. Budget

Prepare a detailed budget to address each of the following four proposed types of testing:

1. **Targeted testing for *LRRK2* G2019S and *GBA* N370S variants**

2. ***LRRK2/GBA* custom panel.** LRRK2 mutations were selected based on inclusion criteria for potential LRRK2 clinical trials. GBA mutations were selected based on inclusion criteria for ongoing GBA clinical trials and pruned to those at higher frequency among AJ PD patients.

Gene	Mutation
LRRK2	N1437H
LRRK2	R1441G
LRRK2	R1441C
LRRK2	R1441H
LRRK2	Y1699C
LRRK2	G2019S
LRRK2	I2020T
LRRK2	G2385R
GBA	84GG
GBA	IVS2+1 G>A
GBA	E326K
GBA	T369M
GBA	N370S
GBA	L444P
GBA	R496H

3. **Full sequencing for *LRRK2* and *GBA* genes for pathogenic variants**

4. **Custom panel of PD-related genes to be determined from exomic sequencing analysis** (can provide general pricing only)

Estimates should be based on the targeted volume of 400 samples from January 1, 2020-June 30, 2020 and 2,250 from July 1, 2020-June 30, 2021.

The completed proposal and any associated appendices should be submitted to Laura Heathers (laeheath@iu.edu) by 11:59 PM on August 9, 2019.

Questions should be addressed to Laura Heathers (laeheath@iu.edu).