

Request for Letters of Intent
Institute for Personalized Medicine
Pilot Clinical Whole Genome Sequencing Studies

Workshop for Potential Applicants: Noon on November 28, 2012
Letter of Intent Receipt Date: Noon on December 17, 2012

A. Background: The Institute for Personalized Medicine (IPM) invites Letters of Intent for pilot studies to explore the application of whole genome sequencing to clinically relevant diseases and treatments.

The goal of this pilot program is to explore the feasibility of using whole genome sequencing to identify genetic variants that are associated with clinical outcomes, treatments, particular disease presentations, or diseases with a significant genetic component. Ideally, the patient populations studied should comprise either (1) members of one or more families in which the disorder or response to treatment shows a familial pattern of inheritance, or (2) two cohorts of patients that have phenotypically distinct disease presentations or responses to treatment, e.g., an extreme trait design.

The primary goal of the projects selected will be to discover new genetic contributions to the onset, course, or treatment of disease. However, an ancillary goal of these pilot studies will be to develop strategies to implement genomic data and other clinical data into patient care using the EMR and other existing or novel clinical information systems. For example, we anticipate that genomic sequencing may well identify genomic variants within individual patients that could inform responses to various drug treatments unrelated to the primary disease of interest. Such ancillary data could encompass identification of alleles in genes for which pharmacogenomics data already exist or which may come to light in the near future.

Also of interest is the economic impact of the decreasing costs of genomic sequencing and its potential to reduce the overall cost of health care. Studies that examine the integration of genomic data into the clinical workflow and the influence it would have on preventative therapies and improved cost-effectiveness are encouraged.

For pilot studies that are selected for support, IPM will provide whole genome sequencing and the associated bioinformatic analysis for up to 20 patients. The Institute will also provide support for recruiting and consenting patients and collecting biological samples, as well as support for integrating the genomic data into the medical records.

B. Eligibility Criteria:

1. The Principal Investigator (PI) of the Letter of Intent must have an academic appointment at the rank of Assistant, Associate or Full Professor in the College of Medicine. Among others, virtually all physicians employed by The Milton S. Hershey Medical Center have primary academic appointments in the College of Medicine;
2. Investigators may submit only one Letter of Intent as PI in response to this Request. However, there is no limit to the number of applications where an investigator may serve as co-investigator or collaborator.

C. Workshop for Potential Applicants: All PIs who plan to submit a Letter of Intent are invited and encouraged to participate in a Pre-Application Workshop **on November 28, 2012 from 12:00 to 1:00 PM in C2860**, the Anesthesia Library in the BMR. At that time, the requirements of this Request will be reviewed briefly and there will be an open forum for discussion of related questions.

D. Guidelines for Letter of Intent: Letters of Intent should include a) a cover page including a descriptive title of the proposed pilot project and contact information for the Principal Investigator, and b) a statement of 2-3pp that addresses each of the following issues in the order listed:

1. Describe the proposed patient population;
2. Identify the disease phenotype(s) proposed for study;
3. Identify the number of new patients presenting with this disease per year and the total number followed at the Penn State Hershey Health System;
4. Describe the extent of existing medical record and phenotypic data on the proposed cohort;
5. If the disease is thought to be familial, summarize the evidence that it has a genetic underpinning;
6. If you propose to examine distinct cohorts at two different phenotypic extremes, describe the basis of the phenotypic discrimination and the support for a genetic basis;
7. Summarize what is currently known about the genetic underpinnings of the disease, i.e., provide a very brief literature survey of key papers;
8. Explain the extent to which identification of a biomarker associated with the disease might have the potential to reduce associated healthcare costs.

E. Biographical Sketch and Other Support: For the PI and any other faculty members involved in the proposed pilot project, provide an NIH Biographical Sketch, including the personal statement, (<http://www.pennstatehershey.org/web/researchdevelopment/home/forms>) including current Other Support information. For all active and pending awards, list the sponsor, project title, project period and current year direct costs budget and clearly indicate whether there is or is not any duplication with the studies proposed for support by the proposed pilot project.

F. Application Submission: Following the directions below, submit the Letter of Intent and all Biosketches electronically to the Research Development Dropbox, and provide 4 paper copies of the submission to Research Development in C1630 **on or before noon on December 17, 2012.**

1. **Save** the Letter of Intent and all Biosketches in a **single PDF file.** ;
2. **Navigate** to the Research Development Dropbox website (<https://rddropbox.hmc.psu.edu/DocDrop/>) and use your Penn State Access ID to login;

3. **Upload** your application as a single PDF as follows: In the dialogue box under **Document Title: Last name of PI-IPM-Date (Jones-IPM-12-17-2012)**; and
4. **Deliver** 4 printed copies of the letter of intent package to Research Development (Room C1630).

IMPORTANT NOTES:

- A **Proposal Internal Approval Form (PIAF)** is not required at this time, but in the event that a proposal is invited and selected for award, a PIAF and Hershey Blue will be required.
- **IRB approval is not required for submission of a Letter of Intent** but if a proposal subsequently is recommended for award, IRB approval may be required.

H. Review Process: Letters of Intent will undergo an initial review for scientific merit and programmatic relevance by the IPM leadership. Based on the outcome of this preliminary review, it is anticipated that the PIs of two or more pilot projects will be invited to make oral presentations of their proposals to the Institute leadership. The PIs of pilot projects that are recommended for award will then be invited to prepare Strategic Plans and budget requests for final approval by the Pennsylvania Department of Health.

I. Awards: Contingent on the receipt of meritorious applications, it is anticipated that approximately 2 or more pilot projects will be selected for award in this initial cycle. Awards will be supported with funds from the Commonwealth Universal Research Enhancement (CURE) Program.

J. Additional Information: Questions regarding this Request for Letters of Intent should be referred to researchdevelopment@hmc.psu.edu.