

**Request for Letters of Intent**  
*Institute for Personalized Medicine*  
**Pilot Clinical Genome Sequencing Studies**  
(6-9-2014)

**Letter of Intent Receipt Date: Noon, June 12, 2014**

**A. Background:** The Institute for Personalized Medicine (IPM) issued a request for letters of intent for pilot clinical genome sequencing studies last fall. However, due to a hiatus in CURE funding, we were not able to pursue those submissions. Since some funding has now been reinstated, the IPM is reissuing that request for Letters of Intent. Those letters received in the fall will be considered along with any new submissions the Institute receives. PIs who wish to update their previously submitted Letters of Intent should make any desired changes and submit the revised version by the new receipt date.

The goal of this pilot program is to explore the feasibility of using genome sequencing, primarily whole exome, 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. We are also interested in proposals addressing the role of somatic mutation in disease onset and progression, particularly in the **area of cancer**.

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 exome sequencing and the associated bioinformatic analysis for approximately 100 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.

**C. 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.

**D. 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.

**E. Application Submission:** Following the directions below, submit the Letter of Intent and all Biosketches electronically to the Research Development Dropbox **on or before Noon on June 12, 2014**

1. **Save** the Letter of Intent and all Biosketches in a **single PDF file** labeled with **Last name of PI-IPM-Date (Jones-IPM-6-12-2014)**;
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-6-12-2014) – Do NOT put the title of your project here.**

**IMPORTANT NOTES:**

- An ePIAF is not required at this time.
- **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.

**F. Review Process:** Letters of Intent will undergo review for scientific merit and programmatic relevance by the IPM leadership. Based on the outcome of this review, it is anticipated that the PIs of selected pilot projects will be invited to prepare Strategic Plans and budget requests for final approval by the Pennsylvania Department of Health.

**G. 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 cycle. Awards will be supported with funds from the Commonwealth Universal Research Enhancement (CURE) Program.

**H. Additional Information:** Questions regarding this Request for Letters of Intent should be referred to [researchdevelopment@hmc.psu.edu](mailto:researchdevelopment@hmc.psu.edu).