



***Do you think your research idea could define a new standard of care? Submit your proposal to the PCPM Accelerator Fund.***

**Request for Applications: Penn Center for Precision Medicine  
Accelerator Fund Projects FY 2020**

**Release date: November 7, 2018**

**Proposal due date: February 7, 2019 by 5:00 PM**

#### **Purpose of the Penn Center for Precision Medicine**

Much of current “evidence-based” medicine is aimed at treating the *average patient*, based on data collected through large-scale clinical trials. In contrast, precision medicine, defined as delivering personalized therapy based on deep patient phenotyping and genotyping, is focused on treating each patient as a *unique individual*. The precision medicine paradigm is fueled by recent advances in diagnostic technology, including (but not limited to) genomics, biomarkers, imaging, and data analytics, which in turn have paved the way for ever more specific, targeted therapies. The convergence of these technologies has sparked intense interest, and precision medicine has become an area of focus at the NIH, at peer academic medical centers, in the commercial sector, and in the public eye.

The rapid introduction of new discoveries and technological advances into the routine practice of medicine has the potential to dramatically alter the healthcare landscape by shifting the focus to deeply individualized care. This, in turn, should improve outcomes and reduce the wasteful application of therapies to patients in whom they are not effective. Furthermore, by linking increasingly comprehensive phenotypic data, collected longitudinally in health as well as in disease, the practice of precision medicine is likely to transform translational research.

Penn Medicine investigators are already engaged in a wide variety of research projects that fall under the rubric of precision medicine, and the UPHS health system has made large investments in infrastructure to enable collection and analysis of patient data. The core mission of the Penn Center for Precision Medicine (“PCPM”; established in January of 2016) is to accelerate the translation of discoveries arising from these efforts into routine patient care.

Broadly, the goals of the PCPM are 1) to accelerate development of precision medicine efforts at Penn, 2) to implement precision medicine-based clinical care in the fabric of routine care provided by the health system, and 3) to measure the effects of these changes.

### **PCPM Accelerator Fund**

The PCPM Accelerator Fund was established to fund proposals aimed at bringing approaches or technologies already developed and tested to humans, to determine the viability of the proposed approaches to advance clinical care. The primary purpose of the accelerator fund is to help projects with high potential to advance precision medicine-based clinical care get “over the threshold” that separates research from clinical application and provide proof of concept that the approach could be applicable in the clinic.

### **General Guidelines**

Successful Accelerator Fund applications must focus on bringing a particular precision medicine approach to clinical care, and should be supported by preliminary data, derived by others or by the investigators themselves, demonstrating the viability of the approach under laboratory conditions. Please note that for purposes of this process, “precision medicine” is broadly defined, and includes a variety of approaches to genotype and phenotype patients and their application to personalized care (including genetics, genomics, other ‘omics, biomarkers, imaging, computational approaches, wearable devices, etc.).

When preparing applications, the following features should be strongly considered:

- Integrated team of research scientists and clinicians/clinical investigators focused on the problem **is strongly suggested**.
- Innovative approaches to important clinical problems are encouraged!
- Technologies / approaches developed within or outside of Penn are welcome and collaborations with industry are encouraged.
- Clear potential to improve diagnosis or treatment, with a focus on improved outcomes and, hopefully, improved efficiency/decreased overall cost.
- Contributions by Departments or other entities for cost-sharing will be viewed favorably.
- We envision successful applications demonstrating a new use case for precision medicine in a clinical population.
- The PCPM welcomes presubmission inquiries about proposals; please put “precision medicine proposal” in the title of your email ([joshua.lubin@uphs.upenn.edu](mailto:joshua.lubin@uphs.upenn.edu)).
- Investigators proposing use of Penn resources (e.g., biobanking, IT resources such as PennOmics, etc.), please alert PCPM ([joshua.lubin@uphs.upenn.edu](mailto:joshua.lubin@uphs.upenn.edu)) so that a presubmission discussion regarding use and availability of such resources can be arranged.
- Partnerships with the School of Engineering are also encouraged.

### **Submission Guidelines**

The first phase of the application requires submission of a detailed Letter of Intent. This document must be no more than 3 pages (including tables and figures, if any) and utilize no smaller than Arial 11-point type (font) size. Please provide 1-2 paragraphs under each heading below in the Letter of Intent.

#### *Title*

*Principal Investigator and Co-Investigators*

*Abstract (1500 characters or less)*

*Letter of intent (3-page limit)*

*a. Mission and Specific Aims*

Describe briefly the vision for the project, and the specific goals and objectives. Specify how this represents a novel direction, rather than duplicating the applicants' past or ongoing research. Please include preliminary data in this section, including at least one table/figure.

*b. Clinical Impact*

Describe briefly how the proposed work has the potential to bring a precision medicine approach to patient care. Clarify how the interdisciplinary team approach will facilitate realizing this potential.

*c. Organization and Leadership*

Describe and/or illustrate the organizational framework for the proposed project. Provide evidence for the qualities and the capability of the Principal Investigator(s) to lead this effort and to produce the expected results.

*d. List of Penn Resources Utilized*

(e.g., Biobank, computational resources, PennOmics, etc.)

*e. Metrics of Success*

How would we determine that the project is successful?

#### **Budget**

Budgets are **not** requested at the time of the initial Letter of Intent (please see below). Of note, PI salary support will **not** be permissible in the budget.

#### **Institutional Support** (does not count toward 3-page limit)

A letter of support from the PI(s) Department Chair(s) is encouraged. Institutional (Departmental or other) support from participating departments will be favorably considered in the review.

#### **Biographical Sketches** (does not count toward 3-page limit)

New NIH format biographical sketches (limit 4 pages each) should be included for the PIs and key faculty members on the team.

#### **References Cited** (1-page limit, does not count toward 3-page limit)

**Appendices** are NOT permitted as part of the Letter of Intent

## **Review Process**

### **Phase I: Letter of Intent**

The initial review process will be completed by a committee drawn from members of the PCPM's internal advisory board supplemented as needed by experts with domain-specific expertise. We expect scientific review to be completed in March 2018.

Review Criteria will include:

1. **Impact:** What is the likelihood that the proposed program of will translate precision medicine based approaches to clinical practice and have a transformative impact on patient care?
2. **Impact on Penn Medicine:** How will this project impact the delivery of patient care and/or health economics across Penn Medicine?
3. **Innovation:** Is the proposal creative and original? If successful, will the work produce dramatic shifts in clinical practice, improving our ability to deliver individualized care by using novel concepts, methodologies, and/or interventions? Will the innovation help to decrease health care costs?
4. **Investigative Team:** Do the proposed PIs have a strong track record of leadership of interdisciplinary and translational science? Does the team have sufficient interdisciplinary breadth and depth to carry out the proposed research?
5. **Approach:** Are the general strategies and translational approaches sufficiently rigorous to ensure generation clinical efficacy, financial cost/opportunity data? Are reasonable metrics of success articulated?

### **Phase II: Further Development of Selected Applications**

Based upon the initial review (above), a subset of applicants will be invited to expand their applications, providing additional scientific and budgetary details, investment strategies, and milestones. Selected finalists will work with the PCPM leadership in this stage of the review process.

### **Funding**

We expect to award funds of up to \$100K each to support several promising projects. We expect that the bulk of the work should be finished within 1 year, although funds can be extended if necessary for scientific reasons.

### **Submission Instructions**

Submission instructions, along with summaries of previously funded projects, will be posted on the PCPM website at the link below:

<https://www.med.upenn.edu/pcpm/>