Translational Medicine and Therapeutics (ITMAT)

"Connected Health and Population Health Improvement pilot program"

Submission Requirements

Overview

The proposal must center on novel approaches to testing and delivering interventions to improve health outcomes or health behavior for people at high risk for poor health outcomes. The purpose of this RFA is to support research teams to do quick turnaround studies focused on improving the management of population-based health within Penn Medicine patients. These are designed to be relatively short-term projects to create a cycle for rapid learning and iterative improvement, with a planned duration for each pilot of 3 to 5 months. This type of initiative is important to accelerating the rate of progress in preparing for the rapidly evolving shifts in health care financing towards health care systems taking on population risk, as existing governmental funding mechanisms typically have significant lag times between idea inception and funding. This type of academic work – in which promising approaches are tested in application to improving health among patients in our health system and communities – will help to rapidly develop evidence on how to efficiently manage population health that would be useful for both UPHS and for the nation.

Guidelines

- **The project period for this pilot program is 5 months.**
- Given the limited duration of the available budget period during this first solicitation for pilot grants under this funding opportunity (see below); priority will be given to projects that are ready for rapid implementation. **NO COST EXTENSIONS ARE NOT ALLOWED.**
- We encourage proposals to use the Way to Health platform. Way to Health is an integrated research platform that integrates information from wireless technologies, communications tools, and other applications to allow investigators to test ways of improving health behaviors and helping people keep on track to better health. For more information about readily available features on the platform please go to www.waytohealth.org. If you have further questions, please contact Christianne Sevinc (Christianne.Sevinc@uphs.upenn.edu) to schedule a meeting. We will provide the Way to Health platform free of charge for funded grantees provided you use existing functionalities (see attached for further information). We will provide website development and maintenance as well as project management of the Way to Health site. For this round of projects we will not accept applications that require new functionalities to be built, given the tight timeframe.
- ITMAT grants are available to registered members of the Institute for Translational Medicine and Therapeutics (ITMAT) including Associate Members who hold Instructor A or Research Associate positions. You can register to become a member at http://www.itmat.upenn.edu/membership.shtml
- Proposals must have at least two Co-Principal Investigators, ideally from different disciplines or Schools within the University of Pennsylvania. Novel collaborative applications between faculty located in different Schools at Penn are encouraged. We also encourage teams to include clinical collaborators from within Penn Medicine.
- All proposals are due by **Nov 18, 2016 at noon** for a project start date of **January 1, 2017.** *LATE SUBMISSIONS WILL NOT BE ACCEPTED NOR WILL EXTENSIONS BE GRANTED.*

Required Documents

- **Submission:** Please submit online at www.med.upenn.edu/apps/itmat/pg. *PLEASE ENSURE THAT YOU CHOOSE THE CONNECTED HEALTH AND POPULATION HEALTH IMPROVEMENT PILOT PROGRAM WHEN*

SUBMITTING YOUR GRANT. Please refer to Document Submission Section for specific instructions related to this system.

- **Abstract Page:** The abstract text should be no longer than 250 words.
- **Budget:** Please use the excel template budget page and provide detailed expenses.
- **Budget Justification:** Please provide a short justification for all personnel, supplies, and equipment that will be expensed to this project. Please provide a distinct justification if resources are to be spent on services provided from outside Penn.
- **NIH Biosketch:** An NIH format biosketch must be submitted for the *PI and the Co-PIs only*.
- **Research Proposal:** The research proposal should be no longer than two single-spaced pages with one-inch margins and should include the essential background information relative to the project. Please use Arial size 11 font. Please indicate the importance of this funding to the feasibility of your research proposal and potential for future funding. Please indicate if any other funds are available to you for the proposed research. Since we will prioritize funding projects done in Penn Medicine clinical settings, it will be important to identify a clinical operations leader from UPHS or CHOP who will partner with you on your project. References should be attached to your research proposal and will not count toward your two page limit. Please provide a timeline of implementation to ensure meeting the end date of May 31, 2017. *NO OTHER SUPPORTING DOCUMENTATION WILL BE CONSIDERED.*
- Copies of **IRB approval letters** will be required if an application is funded. Funding will be delayed until these approval documents are received. Applicants are encouraged to submit documentation of IRB "approval in concept" along with their submission.

Budget Guidelines

- Budgets in the range of $10,000-50,0000 will be funded in direct costs for a maximum duration of 5 months beginning on January 1, 2017 with an end date of May 31, 2017. All funds must be expensed by this end date. **NO COST EXTENSTIONS ARE NOT ALLOWED**. We expect to fund approximately 5-10 pilots through this initiative.
- Budgets must be submitted on approved excel template.
- Please refer to the attached document which describes Way to Health functionality as well as a price list for the most commonly used devices.
- The free use of the Way to Health platform is for 5 months from the start of the grant period (e.g., January 1, 2017). If grants extend beyond the 5 month period, additional charges may be incurred.
- While the pilot program supports WTH website development, maintenance and project management, it does not include the research staff to run the projects on the platform.
- Include the cost of devices and any participant incentives in their project budgets.
- Name, title/role, percent effort, salary, and benefits must be defined in the budget for each grant participant. Note that salary support for faculty is discouraged. Applicants proposing faculty salary support should provide clear justification for why the pilot requires this. Please use the NIH salary cap limit.
- Supplies should be detailed by type and number in the budget and the budget justification.
- Equipment expenditures and service contracts should be detailed in the budget and budget justification. Please keep in mind that equipment is defined as any item costing more than $5,000 with an estimated useful life greater than one year.

Other

- Any publications that are the direct result of this funding must reference:
    - **"Supported in part by the Institute for Translational Medicine and Therapeutics of the Perelman School of Medicine at the University of Pennsylvania."**

- **"Research reported in this publication was supported by the National Center for Advancing Translational Sciences of the National Institutes of Health under Award Number UL1TR001878. The content is solely the responsibility of the authors and does not necessarily represent the official views of the NIH."**
  - **Refer to the Way to Health Platform in the methods section of any manuscripts that emerge from this work.**
- A progress report will be requested every year for 4 years so that we can track the success of supporting projects that result in the receipt of a grant, publication, or technology transfer. These summaries should be uploaded to ITMAT's Pilot Grant System at www.med.upenn.edu/apps/itmat/pg. You will need your PennKey logon and password to access this system.
- **You will be prohibited from applying for ITMAT pilot funding if you do not reference the funding support on publications and if you do not submit progress reports.**

Document Submission
All applications should be submitted via ITMAT's Pilot Grant System at www.med.upenn.edu/apps/itmat/pg.
PLEASE ENSURE THAT YOU CHOOSE THE "Connected Health and Population Health Improvement Pilot Program" WHEN SUBMITTING YOUR GRANT. You will need your PennKey logon and password to access this system. If you do not have a PennKey, obtaining one will take at least 48 hours so do not wait until the last minute. We will not accept applications late because of this. Once you start an application, you can proxy someone (grants manager, post doc, etc.) to finish it for you.
- Each investigator and Co-Investigator must be an ITMAT member.
- Each Investigator and Co-Investigator must have the approval of their respective Business Administrator.
- *Penn Faculty should select the Business Administrator or Grants Manager that normally signs off on all of their research proposals.*
- *CHOP Faculty* must select Bernice Saxon, Brent Bell, Michael Campbell, or Robert DeNight as their Business Administrator. *PLEASE ONLY CHOOSE ONE.*
- *Wistar Faculty* must select Jessica Blodgett as their Business Administrator.
- *University of the Sciences Faculty* must select Sarah E. Robinson as their Business Administrator.
- If your grants are managed by a division within the *Department of Medicine, please select Susan Wahl as your Business Administrator.* She will coordinate divisional/departmental approval.
- *Please ensure that the documents you upload are the final documents. ITMAT will not update or replace files. This means that prior to hitting the submit button, all documents must be final.*
- When contacting the ITMAT business office, please use the same discretion you would employ if contacting an external sponsor.
- Please ensure that you have liaised with all of the Co-Investigators on your application. This will avoid proposals being rejected by their Business Administrator.
- All documents must be uploaded by *noon* on the due date of the proposal to ensure time for all approvals. All approvals must be completed by *5 pm* on the due date. *We suggest you do not wait until noon to start uploading documents.*
- Once all approvals are completed, the grant will be received by ITMAT.

Application or Funding Questions
For programmatic or budget questions please contact Joelle Friedman, Associate Director of the LDI Center for Health Incentives and Behavioral Economics (CHIBE), at joellef@mail.med.upenn.edu.
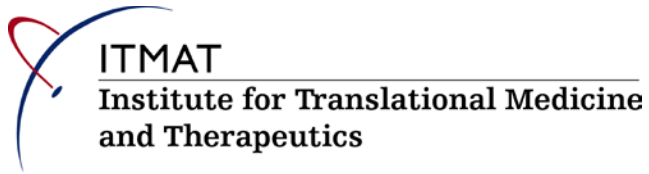
For technical questions related to completing the online application please contact Jessica Bickhart, Bickhart@mail.med.upenn.edu or Jason Molli, molli@exchange.upenn.edu

Way to Health

Way to Health (WTH) is a web-based platform that automates many of the research functions necessary for conducting randomized controlled trials of health behavior interventions. This was designed by faculty and staff at the LDI Center for Health Incentives and Behavioral Economics (CHIBE) at the University of Pennsylvania to create an **efficient, scalable, and low cost** way to test behavioral interventions using a platform that can be **deployed anywhere** in the United States. Given that as much as 40% of premature mortality in the US may be due to unhealthy behaviors and the ongoing shifts in health financing away from fee-for-service towards alternative payment models, evidence on how to efficiently improve behaviors using technology has both health and economic benefits. To date we have used the platform with participants in 45 states, and the platform offers a wide range of built-in functionalities to facilitate the **systematic testing of behavioral interventions to promote health**. The platform is linked to a wide range of wireless technologies but can be used with any combination of wearable devices and smart phone apps to create an ecosystem that provides feedback to patients, their peers, social supporters, or, through an exception handling process, their providers, all with the goal of improving health in ways that **leverage technology** to do so at lower cost than would otherwise be possible.

Highlights

- Online and mobile participant enrollment (remote or in-office), survey administration, and integrated biomedical devices ensure complete data at the point of collection, reducing the time spent acquiring and cleaning data

- Computerized randomization of participants, including the capacities for stratified, blocked, weighted, and adaptive randomization strategies

- Compatibility with EPIC allows for easy review of lab test results and ability to send appointment reminders

- Compatibility with Clinsteam allows clinical teams to automatically pull ER discharge data

- Automated communication with participants via voice, text, or email means you can enroll a large number of participants and your team spends less time on the telephone or writing e-mail messages

- Capability to test a variety of financial incentive structures, including basic and escalating lotteries

- Test social incentives and gamification through team interventions using points, levels, and metals to encourage behavior change

- Electronic record of participant payments automates transactions and reduces research team paperwork

- Online research and electronically-secured data are more secure than paper records

- Expands study participant pool by facilitating enrollment and management of participants from anywhere

Readily available options
- Way to Health can test the effects of a number of intervention types…

  - Lottery incentives
  - Group/team incentives
  - Gamification
  - Deposit contracts
  - Reminders
  - Peer networks
  - Pre-commitment contracts
  - Bi-directional messaging
  - Feedback
  - Rewards v. penalties
  - Loss v. gain framing

- …on a number of biomedical measurements
  - Blood pressure
  - Medication adherence
  - Heart rate
  - Nicotine metabolites
  - Weight
  - Steps
  - Inhaler use
  - Cholesterol
  - Blood sugar
  - Sleep
  - CPAP use

- **…**with the following integrated biomedical devices (price list below)
  - Wireless scales
  - Smart pill bottles
  - Glucometers
  - Pedometers
  - Heart rate trackers
  - Blood pressure cuffs
  - Sleep trackers
  - SMS receiver

- … with a multitude of clinical targets
  - Cholesterol
  - Diabetes
  - Arthritis
  - Insomnia
  - Hypertension
  - Patient compliance
  - CHF
  - Preeclampsia
  - Post-op morbidity
  - Asthma
  - Hepatitis
  - Skin cancer

Flexibility for innovation
- An experienced web development team means that the WTH platform can be customized to meet your needs. This requires greater resources than using only the readily available (core) functions, but allows considerable flexibility (additional fees may apply for significant changes).

Additional core capabilities
- Enroll a pre-specified number of participants to a study or specific arms, and create cohorts

- Design and carry out

- Build and deploy surveys to determine study eligibility and ongoing data collection

- Assign automatic medical alerts for pre-specified clinical parameters such as excessive weight loss, abnormal blood pressure or blood sugar readings

- Schedule reminders for participants to complete a survey or other study-related tasks such as lab work

- Enable personalized adherence snapshots for quick and effortless participant progress and adherence tracking

- Set up automated bi-directional text communication with participants and view conversations in each participant's individualized inbox view

- Link participants to a friend or family member to serve as a support partner and to receive notifications on adherence

- Download daily generated data reports or view data in real time

- Secure data by assigning roles for specific users
  - Research staff can export de-identified data directly from the website
    - Research Coordinators can view identifiable data to follow up with participants when necessary

- Pre-test all study features before deploying to real participants

- Utilize mySQL relational database management system with state of the art data authentication security

- Enable participation among users of all common browsers: Firefox, Chrome, and Internet Explorer

Customizations available *(Additional fees may apply. Contact WTH Team for details.)*

- Set and reset health-related targets (e.g. monthly weight target, target quit dates, walking target)

- Display progress charts, study instructions, payments, and study resources to participants on customized dashboards

- Other customizations and feature enhancements available upon request

To discuss how Way to Health can work with your research plans, contact the Way to Health Research Operations Team at support@waytohealth.org

Device Price List

	Category	Vendor	Price
Integrated Devices	Physical Activity	Withings app	$0
		Fitbit app	
		Moves iOS and Android app	
		Withings Activite Pop	$97.46
		Withings Activite Steal	$112.46
		Fitbit Flex 2	$99.95
		Fitbit Charge 2 HR	$149.95
		Misfit Shine	$69.99
		Misfit Shine 2	$99.99
	Blood pressure	Withings cuff	$97.46
		SMS blood pressure receiver	$0
	Medication adherence	Adheretech	Starts at $342
		Wisepill*	Starts at $165
	Sleep tracking	Fitbit Flex 2	$99.95
		Misfit Shine	$69.99
		Withings Activite Pop	$97.46
	Weight tracking	Withings Body Scale	$97.46
	Blood glucose	iHealth glucometer (excludes cost of test strips)	$17.97
	Other:		
	CSV Upload- import data from a non-integrated device		
	Bi-directional SMS- adherence assessment and intervention		

*Wisepill has been integrated with WTH, but has not been tested in-house by research teams.