Funding New Health Technology Development

The **National Science Foundation (NSF) Small Business Innovation Research (SBIR)** program provides two rounds of seed capital to help health entrepreneurs turn their innovative medical or healthcare technology concepts into commercially viable, problem-solving solutions.

Medical Technologies

Digital Health Technologies

Healthcare Information Technologies (IT)

Eighteen Ventures
www.Eighteenventures.com

Table of Contents

SBIR Program Basics

The Small Business Innovation Research (SBIR) program offers entrepreneurs an opportunity to acquire seed grants, a Phase I award and a Phase II award, for the development of innovative, marketable healthcare or medical solutions. Phase I funding is used for six months to demonstrate the feasibility of a proposed technology concept. Phase II funding is used for two years to produce a product prototype.

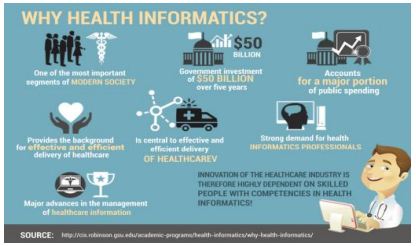
Through a competitive proposal development and submission process entrepreneurs are awarded the money. By using a company's business plan, market research & analysis findings and scientific reports/studies, applicants can apply the necessary information to prepare a winning SBIR Phase I proposal. A Phase II proposal includes the same information sources plus the results from the successful completed Phase I feasibility study.

After completing both funding phases, the company is expected to commercialize its new healthcare or medical technology. The company, in particular, uses its business plan to enter the new technology into a designated market and offer it to identified potential buyers, such as hospitals, individuals, health systems, health insurers, pharmaceutical companies or large employers. On the other hand, the company can seek additional money from private sector investors, e.g., venture capitalist, business angels or corporate venture capitalist, to help manufacture, promote and sell the new technology solution.

New Health Technology Development Opportunities

Medical technologies and healthcare IT solutions developed with NSF SBIR grants are expected to be sold in the $**3** trillion dollars U.S. healthcare market. In fact, health technology entrepreneurs have a chance to produce novel health technology solutions in a variety of industry sectors like:

Health Informatics

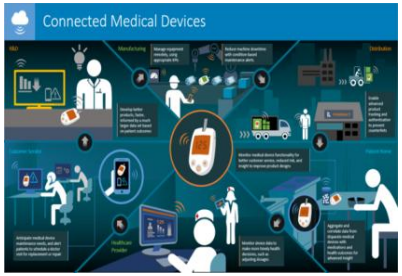


Mobile Health

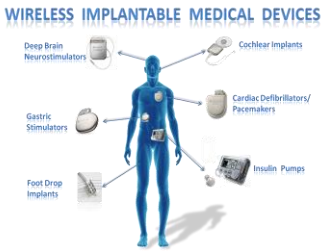
Social Robotics

Telemedicine/Telehealth

Internet Of Things



Wireless



Current NSF SBIR Request For Proposals (RFPs)

The NSF SBIR program issues broad request for proposals (RFPs) allowing health technology entrepreneurs and small businesses to self describe a specific problem and propose a creative , marketable , problem solving solution associated with the RFP. Below are some new health technology development RFPs currently offered by the NSF SBIR program.

Biomedical Engineering

Proposed project should focus on using engineering approaches to develop transformative methods and technologies that will solve problems in medicine. Proposed projects may include devices and systems that provide new strategies for the prevention, diagnosis, and treatment of health conditions (such as sensors, actuators, implantable and bioelectronic devices for therapeutic monitoring or diagnostic purposes, theranostics, or electroceuticals); advance end-of-life or palliative care; reduce drug counterfeiting; and enable new and more efficient risk-management methods to better address safety issues of drugs and medical devices; motion or structural biomechanic technologies for the improvement of human motion, and sensors, actuators, and intelligent systems for surgical robotics.

Medical Imaging Technologies

Proposed projects may include (but are not limited to) novel or improved imaging technologies and/or imaging agents to advance the diagnosis and treatment of disease, and to improve prognosis. Technologies aimed at brain imaging should be submitted under subtopic .

Interoperability and standardization of Health Record Systems, Medical Sensors, Devices and Robotics

Proposed projects may include protocols and interface standards to enable interoperable, temporally synchronized, medical prosthetic and embedded devices and devices for the continuous capture, storage, and transmission of physiological state and environmental data; assistive technology systems and devices

Start Early: NSF SBIR Phase I proposal submission deadline mid – December 2017

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From Data to Decisions

Proposed projects may include methods and algorithms that: aggregate multi-scale clinical, biomedical, contextual, and environmental data about each patient (e.g., in electronic health records - EHRs, personal health records - PHR, etc.); enable unified and extensible metadata standards; serve as decision support tools to facilitate optimized patient-centered, evidence-based decisions; evaluate the safety, effectiveness, efficiency, and clinical outcomes of mobile health applications; integrate patient information with delivery systems performance and economic models to support operations management decisions; support inferences based on individual or population health data, multiple sources of potentially conflicting information, while complying with applicable policies and preferences; enable the secondary use of health data to support the assisted and automated discovery of reliable knowledge from aggregated population health records and the predictive modeling and simulation of health and disease.

Biosensors

Biosensors are sensors that contain a biologically-based sensing element. Proposed projects might include (but are not limited to) real-time sensors, microbial component-based sensors, sensors for monitoring fluxes of metabolites, nanobiotechnology-based sensors, biomedical sensors, and micro- or nanofluidic-based sensors. Application areas of interest may include (but are not limited to) toxicity testing, food safety, drug evaluation, environmental monitoring, and bio-prospecting. Other types of sensors should refer to Sensors in the EW topic

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NSF SBIR Phase I and Phase II Funding Rounds

Funding Rounds	Funding Amount	Use of Funds
Phase I	$225,000	Money is used, for six months, to conduct research to determine whether or not the technology concept is actually feasible.
Phase II	$750,000	Money is used, for two years, to produce a technology prototype.

NSF SBIR Program Eligibility

⊙ Small companies organized for profit, with a place of business located in the United States, which operates primarily within the United States or which makes a significant contribution to the United States economy through payment of taxes or use of American products, materials or labor.

⊙ Small companies formed as an individual proprietorship, partnership, limited liability company, corporation, joint venture, association, trust or cooperative, except that where the form is a joint venture, there must be less than 50 percent participation by foreign business entities in the joint venture.

⊙ Small companies that have no more than 500 employees.

SBIR New Health Technology Developing Funding Process

(1)

Small Health Technology Firm

- NSF SBIR Request For Proposal
- Identified Healthcare Problem
- Proposed Technology Concept
- Market Research
- Scientific / Technical Information
- Business Strategy (Model)

→ **NSF SBIR Phase I**: Phase I Funding Proposal Document →

NSF SBIR Phase I Grant

- $225,000
- 6 Months of Work
- Produce Feasibly Study

(2)

Small Health Technology Firm

- NSF SBIR Phase I Proposal
- Market Research
- Scientific / Technical Information
- Business Strategy (Model)

→ **NSF SBIR Phase II**: Phase II Funding Proposal Document →

NSF BIR Phase II Grant

- $750,000
- 2 Years of Work
- Produce Technology Prototype

(3)

Small Health Technology Firm

- SBIR Funded Technology Prototype
- Market Research
- Business Strategy (Model)
- Business Plan

→ **Private Investors**

- Business Angels
- Venture Capital
- Corporate Venture Capital

→ **U.S. Healthcare Market**

Start Early: NSF SBIR Phase I proposal submission deadline mid – December 2017

NSF SBIR Program Funding Example

Health Tech Startup

NSF SBIR Grants

New EHR Software

Patient Application

(**1**) Based on its market research findings, the health technology startup identifies an opportunity to develop data-mining software for Electronic Health Records (EHRs). The proposed technology solution is intended to help physician practices better use their EHRs as a clinical decision tool to improve outcome for elderly diabetic patients.

(**2**) The startup researched NSF SBIR's awards database and reviewed its past request for proposals (RFPs) to locate information about the agency's interest in funding the proposed technology solution. The research revealed that NSF SBIR's Smart Health technology topic offered funding to develop EHR solutions.

(**3**) The startup prepared a two page executive summary that included the identified problem, the proposed solution and its potential commercial viability, the targeted technology users, the industry's competitors, and the firm's proposed research & development approach. Next the small firm sent the executive summary to the NSF SBIR Smart Health program director for review and advise.

(**4**) Following discussions the with the Smart Health program director, the startup uses market analysis findings, technical & scientific studies and its business strategy to prepare a winning NSF SBIR Phase I funding proposal. The successful completion of the Phase I project enables the company to win Phase II money for the development of a technology prototype.

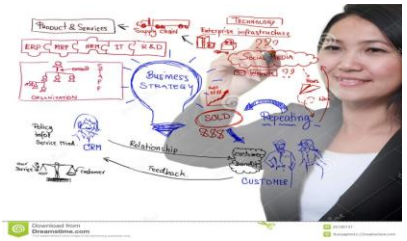
(**5**) After winning two rounds of SBIR grants to develop the data-mining software, the startup sold the technology solution worldwide to physician practices providing health services to elderly diabetic patients. The startup, moreover, owned a new market-driven novel healthcare IT solution that helped grow its business.

NSF SBIR Program Benefits

► Thirty percent (**30%)** of the grant budgets, Phase I & Phase II, can be used to hire experienced personnel or experts needed to augment the project team.

► Small companies can earn a **7%** profit off the proposed project budgets.

► Small companies retain the Intellectual Property (IP) rights from their inventions.



► Awarded companies are attractive candidates for private capital investors, e.g., Venture Capital, Business Angels, and Corporate Venture Capital.

Pennsylvania Innovation Partnership (IPart)

The Pennsylvania Innovation Partnership (IPart) offers financial assistance to Pennsylvania-based small businesses and entrepreneurs pursuing SBIR grants. Specifically, IPart provides a MicroVoucher which is used to hire a SBIR proposal preparation consultant. The consultant must come from IPart's Preferred Provider list. IPart MicroVochers pay half of the proposal preparation costs up to a maximum of $3,000. The health technology entrepreneurs pay the remaining half of the proposal development cost. Eighteen Ventures is a IPart Preferred Provider.

IPart MicroVocher SBIR Proposal Development Process

(1) Small firm hires Preferred Provider from IPart's list.
(2) Small firm and Preferred Provider draft SBIR Phase I proposal.
(3) Small firm and Preferred Provider prepare IPart MicroVoucher application.
(4) Small firm submits draft SBIR Proposal and MicroVocher application to IPart.
(5) IPart program reviews draft SBIR Phase I proposal for approval.
(6) Preferred Provider is paid directly from IPart program once the draft SBIR Phase I proposal is approved.
(7) Preferred Provider helps small firm finalize SBIR Phase I proposal for submission to a targeted agency.

About Eighteen Ventures

Based in the Miami-Fort Lauderdale, FL metro area, Eighteen Ventures (EV) is a small business development consulting firm that provides consulting services nationwide.

In particular, we help health technology entrepreneurs, (e.g., engineers, physicians, nurses, researchers, inventors, technologists, scientists and non-medical, experienced healthcare industry professionals), start and build successful small businesses. We also help health technology entrepreneurs and startups organize and prepare Small Business Innovative Research (SBIR) grant proposals for the production of innovative, marketable, problem solving healthcare or medical solutions.

Eighteen Ventures is now ready to help health technology entrepreneurs and startups prepare and submit a NSF SBIR Phase I proposal before the **mid-December 2017** submission deadline. Contact us today so that you can beat the deadline and win the funding.

Mr. Darrell Williams, Eighteen Ventures' founder President and CEO, is an experienced small business development consultant, who has been involved in the Small Business Innovation Research (SBIR) program since 1999. Mr. Williams can be reached at Darrell@eighteenventures.com or (207) 347-1214.

Health Technology Entrepreneur

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Innovative Health Technology

We help health technology entrepreneurs acquire and use SBIR grants to develop innovative healthcare technologies