



2019 Stepping Strong Innovator Awards: Request for Applications

The Gillian Reny Stepping Strong Center for Trauma Innovation announces the **2019 Stepping Strong Innovator Awards Request for Applications**. The awards fund research and innovation to improve the treatment and care of traumatic injury and its associated recovery. We fund high-reward projects by the best, most creative and collaborative physicians, bioengineers and bench researchers in trauma. Preference in the application process will be given to multidisciplinary projects with collaborators at Brigham and Women's Hospital or Massachusetts General Hospital.

The Stepping Strong Center expects to provide up to five grants of up to \$100,000 each in 2019, including a dedicated award for traumatic injury prevention and another dedicated award for bone repair and healing.

The Stepping Strong Center's mission is to catalyze multidisciplinary collaborations that inspire groundbreaking innovation, effective prevention and compassionate intervention to transform care for civilians and military heroes who endure traumatic injuries and events.

The Stepping Strong Center Areas of Focus

The Stepping Strong Center funds innovative projects that are patient-centric, with an emphasis on new approaches to research and clinical care, better methods for training health care professionals, programs to educate society about traumatic injury and its prevention, and advocacy for traumatic injury research, prevention and awareness. Projects must identify and propose a plan to address an unmet need in a multi-disciplinary, collaborative manner to accelerate the translation of the idea into a clinical paradigm.

The Stepping Strong Center will accept proposals for a broad-range of research ideas, innovations or programmatic approaches related to the prevention of traumatic injury, for better assessment and treatment of traumatic injury pre-hospital; to develop drugs, therapeutics or devices to treat traumatic injury, or to create tools and procedures to improve rehabilitation after traumatic injury. Proposals can be early-stage research into new areas or approaches to trauma; innovations that require the assistance of engineers or industry, or those that are ready to conduct proof of concept and require funding to reach a commercialization stage. Some examples of the areas in which the Center is looking for applications include, but are not limited to:

- Innovations or research projects in nanomedicine, materials and biotech that lead to devices, drugs or therapeutics for more effective treatment and rehabilitation for traumatic injury. Areas could include, but are not limited to, regenerative medicine, synthetic biology; antimicrobial surfaces/coatings; precision drug delivery; sensors inside living systems; diagnostics; artificial bone/muscle/cartilage; new biological medical materials; improvements in medical diagnostics; tissue engineering; wound healing monitors



- Research to evaluate best practices in traumatic injury prevention in the areas of distracted driving, gun safety, fall prevention, mass casualty planning and preparation and other areas where traumatic injury is significant, but preventable.
- New programmatic approaches to educate the general public about traumatic injury prevention, such as distracted driving awareness, gun safety, fall prevention, mass casualty planning and preparation and other areas where traumatic injury is significant, but preventable.
- Innovations and research that utilize data analytics, artificial intelligence and machine learning to improve the treatment and care of traumatic injury patients pre-hospital, in the hospital and during rehabilitation, including areas such as trauma patient screening and triage, personalized treatment plans for traumatic injury patients; patient monitoring, intelligent assistants for patients, virtual nursing support, the utilization of source ID tools for traumatic injury; regional trauma care management, better predictive analysis of traumatic injury and cost-data economic assessments of traumatic injury care.
- Innovations and research that utilize data analytics, artificial intelligence and machine learning in the basic sciences and medical research in the areas of tissue regeneration, including bone, muscle, joint and tendon that could lead to eventual drug development, therapeutics or medical device possibilities, imaging, the use of AI/ML to develop disease diagnostics, conduct medical image analysis, health outcome prediction, clinical decision making and predict personalized health outcomes; or the use of AI/ML to expedite drug discovery, to aid in understanding traumatic injury physiologically, designing smart devices and tools that improve the treatment of traumatic injury.
- New approaches for using connectivity and information technology solutions, such as the Internet of Things, sensors and analytics to better treat and monitor traumatic injuries, including areas such as tissue healing, imaging, 24/7 patient monitoring and data collection after a traumatic injury: real-time communications about symptom alerts, treatment triggers, equipment maintenance monitoring; self-health monitoring and medication management by patients after receiving trauma injury treatment; providing better health care information access and surgical supply chain optimization
- Innovations or research projects that integrate robotics or autonomous systems to treat and rehabilitate patients with traumatic injury, such as robotic surgery, micro-robotics for in-body treatment/targeted drug delivery; robotic caregivers for injury patients, autonomous systems built into prostheses, limb-aids or exoskeletons ; autonomous systems to help health care professionals with operationally challenging tasks, such as remote medication dispensing, physical therapy, treating infections, collect stem cells, or patient transportation.



About The Gillian Reny Stepping Strong Center for Trauma Innovation

The Gillian Reny Stepping Strong Center for Trauma Innovation's mission is to catalyze multidisciplinary collaborations that inspire groundbreaking innovation, effective prevention and compassionate intervention to transform care for civilians and military heroes who endure traumatic injuries and events.

Trauma is one of the most demanding global and under-recognized medical challenges in our nation. In the U.S. alone, traumatic injuries are the third leading cause of death across all age groups and the No. 1 cause of death for Americans between 1 and 44 years old. For those serving in the military, 82 percent of soldiers return from battle with at least one wounded limb. Yet, despite these dire statistics, trauma care research still only receives less than one percent of funding from the National Institutes of Health.

The Gillian Reny Stepping Strong Center for Trauma Innovation was established in 2014 by the Reny and Epstein families, who were injured survivors of the Boston Marathon bombings and were grateful for their care at Brigham and Women's Hospital. The Stepping Strong Center is a major initiative with a global vision to change how we think about traumatic injury. Through its support for trauma research, and collaboration, the center aims to move the field beyond the current paradigm and to translate new ideas directly to transform outcomes and improve patient's lives.

Since its inception, the Stepping Strong Center has taken a multidisciplinary approach to advancing research and clinical programs that allow BWH and Boston-area researchers to accelerate innovations in trauma care and saving lives. The **Stepping Strong Research Scholars** are engaged in exploring topics to advance bone and skin regeneration in trauma patients; the **Stepping Strong Innovator Awards** program supports groundbreaking projects that address clinical problems that impact both civilian and military patients; the **Stepping Strong Plastic Surgery Trauma Fellowship** trains the next generation of plastic surgeons in advanced techniques for treating acute and complex traumatic injury. And the recently-launched **Stepping Strong Injury Prevention and Intervention Program** will collaborate directly with community organizations to raise awareness and prevent traumatic injury from occurring. Our physician-scientists are collaborating with medical experts from world-class neighboring institutions, including Massachusetts Institute of Technology, Beth Israel Deaconess Medical Center, Children's Hospital, Tufts University and Massachusetts General Hospital. Our Medical Executive Committee consists of leading physicians and researchers from 11 academic institutions.

The Stepping Strong Center's grants have proven to be the critical early stage funding that innovators and researchers have needed to launch or validate their innovative ideas. To date, the Stepping Strong Center has provided \$3.3 million to twenty-one multi-disciplinary, multi-institutional research teams. In just five years, these researchers have leveraged their Stepping Strong Innovator Awards to secure an additional \$14.6 million in outside funding from private philanthropy, corporations and federal agencies.



Application Process

Applications will be evaluated and ranked for funding priority based on a review process at BWH that will evaluate clinical relevance, scientific merit and fit with the Stepping Strong Center's mission. Please note that the selection process will involve the Center's Leadership team and may involve review by others selected by the Center's leadership, including Harvard Medical School faculty (both clinicians/researchers), faculty at other institutions, donors, venture capitalists, representatives of the biopharma/device industry, and other friends of the Stepping Strong Center. The final selection will be made by the Center leadership following input from the reviewers and a presentation session to the selected reviewers.

Preferential assessment will be given to proposals that include collaborators based at Brigham and Women's Hospital or Massachusetts General Hospital. Please contact the Stepping Strong Center directly if you would like assistance identifying potential collaborators at either hospital.

Timeline:

Initial Selection Process	Dates
RFP announcement	May 30, 2019
Full applications due	August 16, 2019
Finalists notified	September 13, 2019
Finalists' presentations to selection committee	Mid-October
Award Recipient Announcement	November 13, 2019
Funding start date	January 1, 2020

Eligibility

- All health care professionals, including clinicians, academic researchers, nurses, allied health professionals, post-doctoral fellows and medical students, along with private sector researchers and inventors, are invited to apply. Please contact the Stepping Strong Center if you have questions about your eligibility
- Applicants may conduct research jointly with non-profit research institutes, government labs (such as NIH) or private companies.
- Previous applicants of the Stepping Strong Innovator awards are eligible to re-apply, whether or not they have previously been awarded a Stepping Strong award.
- Individuals may serve as the Principal Investigator (PI) of only one proposal but may be co-PIs on multiple proposals per year.
- The project should be targeted towards clinical relevance and application potential. A trauma clinician collaborator is strongly encouraged unless the PI himself/herself is a trauma clinician.
- Recipient (or collaborator in the case of an external recipient) must remain at Brigham and Women's Hospital or Massachusetts General Hospital for duration of the award; award may otherwise be forfeited.
- If a project is selected as a finalist, at least one member of the team must participate in the presentation session, to be scheduled for October 2019 at Brigham and Women's.



Review criteria

- Projects must address a clinical problem related to trauma care or prevention and will be evaluated for clinical significance, impact or commercialization potential.
- The project must be scientifically meritorious and aligned with innovative research in areas related to trauma injury and its associated recovery, including approaches to injury prevention, to improve pre-hospital treatment of wounds, and advance the treatment, care and healing of traumatic injuries in the areas stated earlier and any other facets of trauma care that impact both civilian and military patients.
- The project will be reviewed for its connection to the Stepping Strong Center's mission and vision.
- Project will be reviewed for the strength and multidisciplinary nature of its team - including clinicians, medical researchers, engineers, and a willingness to work with new mentors and advisors; and investigators with the requisite skills and experience to carry out the project successfully.

Review Process

- Applications will be solicited per the timeline above. Following a review by a committee appointed by the Stepping Strong Center, finalists will be selected to participate in a presentation session. The presentation session, in October, will be conducted with a review committee composed of reviewers who are internal and/or external to BWH.
- Partners Innovation will review finalist applications to review intellectual property prior to any release of their documents to the review committees.
- A portion of the review committee throughout the selection process will be composed of clinicians who treat trauma patients. Additional committee members will be recruited from other relevant departments, institutes and external sources
- The announcement of the Innovator Award winners will occur on November 13, 2019.
- The funding start date will be January 1, 2020

Responsibilities

- Recipients will be obligated to provide a quarterly update to the Stepping Strong Center for Trauma Innovation
- Grantees will notify the Stepping Strong Center when other grants are received because of this funding.
- Grantees will notify the Stepping Strong Center as well as Brigham and Women's Communications Department if they are contacted by media sources to talk about their work.
- Grantees will acknowledge The Gillian Reny Stepping Strong Center for Trauma Innovation in media appearances, publications, posters, grants and other professional recognition resulting from this funding support, when such events are due to occur.
- Be available to present at Stepping Strong Center events, meetings, symposium and individual with donors, etc.



Application Format

Full applications (**due August 16, 2019, 12:00 pm EST**) will be submitted through an online submission system and must include the following:

1. Title of research project to be supported
2. Applicant's last and first names, employing institution, department, academic/professional title, email address and telephone number
3. Scientific theme/field your proposal addresses
4. A compelling lay clinical impact summary (no more than 300 words)
5. A scientific abstract (no more than 300 words).
6. Proposal (5-page limit, excluding references), including:
 - a. Introduction
 - b. Specific aims
 - c. Background, significance and preliminary data (if available) about patient and market size worldwide
 - d. Research approach (include experimental details, approximate timeline and contributions of each team member)
 - e. What target result for your research will engender the most interest from the research community, in relation to the current gold standard clinical treatment available?
 - f. Opportunities for research to have clinical significance, societal impact or to be commercialized as a product, drug or therapeutic.
 - g. Future strategies for raising funding beyond the Stepping Strong Innovator Award
7. Bio sketch of Principal Investigator, co-investigators and significant key personnel in NIH format
8. Detailed budget for one year for a maximum of \$100,000, including indirect costs
9. Copy of current human or animal use protocol approval letter (if applicable)

By applying for the Stepping Strong Innovator Awards you agree to release and hold harmless BWH, the Gillian Reny Stepping Strong Center for Trauma Innovation and its subsidiaries, affiliates, societies, advertising and promotion agencies, partners, representatives, agents, successors, assigns, employees, officers and directors from any liability, illness, injury, death, loss, litigation, claim or damage that may occur, directly or indirectly, whether caused by negligence or not, from (i) such Applicant's participation in the Stepping Strong Innovator Award Competition and/or his/her acceptance, possession, use, or misuse of any award or any portion thereof, (ii) technical failures of any kind, including but not limited to the malfunctioning of any computer, cable, network, hardware or software; (iii) the unavailability or inaccessibility of any transmissions or telephone or Internet service; (iv) unauthorized human intervention in any part of the entry process or the promotion; (v) electronic or human error which may occur in the administration of the promotion or the processing of entries.

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