

REQUEST FOR PROPOSALS

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Grand Challenges Canada™
Grands Défis Canada^{MC}

BOLD IDEAS FOR HUMANITY.™

Rising Stars in Global Health

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Executive Summary

In this Request for Proposals for Rising Stars in Global Health, Grand Challenges Canada is seeking to apply its Canadian Rising Stars in Global Health funding model to help support talented young innovators from low- and lower-middle-income countries. Grand Challenges Canada hopes to harness the creativity, energy and experience of exceptional, emerging innovators from low- and lower-middle-income countries to develop innovative solutions for global health.

Grand Challenges Canada is looking for bold solutions that integrate scientific/technological, social and business innovation, have the potential for real world impact, and demonstrate a path to scale and sustainability. Proposals must therefore take an Integrated Innovation approach, defined as “the coordinated application of scientific/technological, social and business innovation to develop solutions to complex challenges”. This approach does not discount the singular benefits of each of these types of innovation alone, but rather highlights the powerful synergies that can be realized by aligning all three. Integrated Innovation recognizes that scientific/technological innovations have a greater chance of going to scale and achieving global impact and sustainability if they are developed from the outset with appropriate social and business innovations.

Through this Request for Proposals, Grand Challenges Canada has committed up to \$18 million CAD for this initiative, to be awarded over three years. We expect to fund approximately 60 proof-of-concept proposals (up to 30 per round, \$100,000 CAD each) from applicants in low- and lower-middle-income countries. From this group, we expect to provide approximately 12 scale-up grants (up to 6 per round, up to \$1 million each) to applicants who have most compellingly demonstrated success at the proof-of-concept stage and received approval for additional funding. Obtaining co-funding for projects is encouraged for all applicants. However, grantees from low- or lower-middle-income countries that are also G-20 members must secure 50% or greater in co-funding through all funding phases prior to receiving the award.

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1. Introduction

This is a funding program targeted at innovators in low- and lower-middle-income countries.

Grand Challenges Canada is committed to unlocking the potential of low- and lower-middle-income country innovators, who will work with and inform their Canadian counterparts to tackle health challenges and contribute to lasting solutions for global health. With funding and support, Grand Challenges Canada will enable low- and lower-middle-income country scientists to introduce innovation and address persistent global health problems.

Global health problems hit individuals and communities in the poorest and most underdeveloped parts of the world the hardest. The solutions to those problems are most salient when they emerge from the communities most affected. These “home grown” solutions to global health are grounded in local intelligence, culture and conditions, and thus best fit the developing world environments for which they are targeted and can have the greatest impact.

Some of the most potentially creative, bold and impactful ideas to improve global health have come from the developing world: the powerful anti-malarial properties of artemisinin were discovered by a Chinese scientist, and the use of “smelly socks” as an outdoor trap for mosquitoes is currently being tested by a young Tanzanian scientist.

The Rising Stars in Global Health program aims to build on the knowledge, the inventiveness and the unparalleled energy of young scientists in the developing world to identify innovative solutions to issues of global health.

Just as the Canadian Rising Stars in Global Health has inspired emerging Canadian innovators, this Rising Stars initiative aims to inspire young, enthusiastic innovators from the developing world who will use scientific/technical, social and business innovation to address the most pressing global health problems.

1.1 GRAND CHALLENGES CANADA

In the 2008 Federal Budget, the Government of Canada announced the Development Innovation Fund that will:

“Support the best minds in the world as they search for breakthroughs in global health and other areas that have the potential to bring about enduring changes in the lives of millions of people in poor countries.”

“For example, new vaccines and cures could save millions of lives lost to tropical diseases. Higher-yield, drought-resistant crops could prevent future famines. And lower-emission energy sources could power industrial development and job creation with a minimal carbon footprint.”

Grand Challenges Canada, a new Canadian not-for-profit organization, is the vehicle to deliver the Development Innovation Fund, in a consortium with the International Development Research Centre (a Canadian Crown corporation) and the Canadian Institutes of Health Research (a Government of Canada agency). Grand Challenges Canada is hosted by the McLaughlin-Rotman Centre for Global Health at the University Health Network and the University of Toronto.

The **vision** of Grand Challenges Canada is to develop a consortium of world-leading Canadian and international scientists, research organizations and business leaders to develop breakthrough solutions to global challenges and ensure that these solutions are available to those who need them the most.

Grand Challenges Canada's **mission** is to identify global grand challenges, fund a global community of researchers and related institutions on a competitive basis to address grand challenges, and support the implementation and commercialization of the solutions that emerge.

Grand Challenges Canada's core **values** include scientific excellence, collaboration and partnership, and accountability for results.

Grand Challenges Canada adopts an **Integrated Innovation** approach to its work. Integrated Innovation is the coordinated application of scientific/technological, social and business innovation to develop solutions to complex challenges. This approach does not discount the singular benefits of each of these types of innovation alone, but rather highlights the powerful synergies that can be realized by aligning all three. Integrated Innovation recognizes that scientific/technological innovations have a greater chance of going to scale and achieving global impact and sustainability if they are developed from the outset with appropriate social and business innovations. (Please see [http://www.grandchallenges.ca/integrated-innovation/.](http://www.grandchallenges.ca/integrated-innovation/))

Grand Challenges Canada is funded by Canada's international development assistance envelope. Canada is the first country to take a grand challenges approach to global health innovation through foreign aid.

1.2 PROGRAM GOAL AND KEY OBJECTIVES

We are aiming to attract and capture early career innovators in global health from low- and lower-middle-income countries according to World Bank classification (<http://data.worldbank.org/about/country-classifications/country-and-lending-groups>).

This program recognizes the unique challenges faced by early career innovators in securing research funding generally, and particularly in global health.

The goal of this Request for Proposals is to support the development of bold and innovative solutions from exceptional emerging innovators from low- and lower-middle-income countries who have the potential to be world leaders in global health.

2. Approach

2.1 PROGRAM SCOPE

Grand Challenges Canada seeks **proposals for innovative solutions** integrated with delivery mechanisms that could be easily implemented in developing countries to improve global health. Grand Challenges Canada seeks **ideas that are bold and creative**, and that have the potential to make a substantial impact on a global health problem. The proposed innovations would need to:

1. Have a strong likelihood of achieving substantial and measurable health gains in an under-resourced population
2. Maximize delivery, uptake, acceptability, sustainability and impact by integrating scientific/technological, social and business innovation. We call this “Integrated Innovation”. (See Integrated Innovation white paper available at [http://www.grandchallenges.ca/integrated-innovation/.](http://www.grandchallenges.ca/integrated-innovation/))

Desirable attributes include:

- Solutions appropriate for settings with limited electricity and limited access to clean water sources
- Solutions that are environmentally sensitive
- Durable technologies that minimize maintenance and training, with potential application to many diseases
- Approaches that can be used effectively to improve health in communities with no or basic health clinics
- Adaptations of widely-used technologies (e.g., mobile phones) to meet health needs
- Solutions with a strong potential for widespread acceptance that can be easily assimilated into cultural practices and existing health delivery mechanisms
- Technologies embedded within a solid business plan to drive market penetration and uptake in poor countries
- Technologies that can be translated quickly into approved products
- Advocacy capacity and/or business models designed to help improve access to innovative technologies
- Extreme affordability.

We will *not* consider funding for solutions that are not applicable to a low-resource developing world setting.

3. Funds Available

Through this Request for Proposals, Grand Challenges Canada has committed up to \$18 million CAD for this initiative, to be awarded over three years. We expect to fund approximately 60 proof-of-concept proposals (up to 30 per round, \$100,000 CAD each) from applicants in low- and lower-middle-income countries.

From this group, we expect to provide approximately 12 scale-up grants (up to 6 per round, up to \$1 million each) to applicants who have most compellingly demonstrated success at the proof-of-concept stage and received approval for additional funding. Obtaining co-funding for projects is encouraged for all applicants.

4. Rules and Guidelines

Grand Challenges Canada staff members will be substantially involved in shaping this initiative over time. The Canadian Institutes of Health Research (CIHR) oversees the peer review process, and the Grand Challenges Canada Board of Directors makes the final funding decisions.

4.1 ELIGIBILITY CRITERIA

Applicants must:

- Be no more than 10 years from having completed a PhD or a Masters level degree (without a health professional degree), a health professional degree (MD, MBBS, RN, ND, Chiropractor), LLB, LLM, MBA or MPH at the time of taking up the award; the 10 years can be counted from the completion of a Master's degree that follows a health professional degree; MDs must be no more than 10 years from having completed residency training at the time of application; all relevant degrees must be completed at the time of taking up the award.
- Be affiliated with a recognized low- or lower-middle-income country for-profit or not-for-profit institution/organization capable of supporting the proposed activities and administering grants.
- PLEASE NOTE: Obtaining co-funding for projects is encouraged for all applicants. However, grantees from low- or lower-middle-income countries that are also G-20 members must secure 50% or greater in co-funding through all funding phases prior to receiving the award. (http://www.g20.org/about_what_is_g20.aspx)
- Be willing to engage the public on their project and, more generally, on global health topics.
- Have the support of a mentor, who will provide guidance and facilitate career development.

PROPOSAL SUBMISSION

4.2 APPLICATION INSTRUCTIONS

The full proposals will consist of a written proposal and curriculum vitae (CV) and a 2-minute video explaining the target global health problem, the proposed solution, and why it is a creative, bold, and innovative approach.

If a video is not feasible, another visual representation is acceptable (e.g. poster, animated PowerPoint presentation, etc.) explaining the target global health problem, the proposed solution, and why it is a creative, bold and innovative approach. You can submit your online media in either English or French, or both. Any video must not

exceed two minutes; **any videos that are longer than two minutes will be truncated at the two-minute mark.**

Please note that applicants are responsible for notifying their affiliated organization/institution(s) upon application to the Rising Stars in Global Health program.

4.3 REVIEW PROCESS

A review committee, overseen by the Canadian Institutes of Health Research (CIHR), will make a recommendation of up to 30 applications to the Grand Challenges Canada Board of Directors. The Board of Directors makes the final funding decision.

4.4 APPLICATION SCHEDULE

Please see grandchallenges.ca for application guidelines and submission instructions. Completed proposals must be submitted by 11:59 p.m. (ET) on March 23, 2012.

4.5 EVALUATION CRITERIA

1. Investigator Potential

Does the applicant demonstrate the potential to be a world leader in global health? Scientific contributions to date, evidence of excellence in scholastic activities will be used as metrics of career potential. Are the proposed activities appropriate to the training and experience level of the principal applicant (and, where applicable, collaborators)? Does the applicant have the support of a mentor who is capable of facilitating career development in global health research?

2. Global Health Impact

Is the proposal likely to have a significant impact on global health? Does the proposal address a concern of priority to resource-poor countries? Are the proposed activities likely to have a positive impact on the health of the proposed target population? Does the proposal clearly explain the pathway to impact, including how it will save lives or reduce disability?

3. Integrated Innovation

Does the proposed solution integrate social or business innovations with scientific or technical innovation? Is the approach truly novel and a departure from incremental or evolutionary improvements over current approaches?

4. Technical Merit/Execution Plan

Is the proposed concept and approach based on sound scientific analysis and technical rigour? Are the proposed milestones appropriate, feasible and technically sound? Does the approach represent an efficient use of resources? Does the environment in which the work will be performed contribute to the probability of success? Does the approach take advantage of unique features of the scientific environments, including partnerships with industry?

5. Public Engagement

Is the applicant able to present their approach to the public in an engaging manner? Does the applicant state their willingness to engage the public on global health issues and their research in an ongoing and creative manner? The video (or online media) submitted by the applicants will be made available to the public with online voting to engage the public on which ideas are the most engaging, bold and innovative. The applicant's video (or online media) will also be provided to the Peer Review Committee.

6. Boldness and Creativity

Is the proposed idea innovative and bold? Is it “out-of-the-box”? Does it have the potential to leap-frog conventional approaches? Can the innovation and delivery mechanisms be easily implemented in developing countries to improve global health? Is the proposal creative enough to have the potential to tackle the problem from a different angle to make a substantial impact on a global health problem?

4.6 ALLOWABLE COSTS

Grant funds may be used for the following cost categories:

1. Personnel: *Please note that salary support is an allowable cost*
2. Travel
3. Consultants
4. Direct Supplies
5. Equipment: *Please note that partial or full support for equipment may be requested. Funding for infrastructure will be limited.*
6. Other Research Costs
7. Sub-grants/Sub-contracts
8. Indirect costs: *Please note that Grand Challenges Canada will provide a limited amount of indirect costs based on the nature of the applicant organization, to a maximum of 13% of direct costs of the grantee's administered grant value (1 to 7 outlined above).*

Please provide budget estimates according to the categories outlined above. Note that proposals with thoughtful and efficient use of resources will be preferred over proposals representing comparable efforts that do not have the same value for the investment.

4.7 PRIVACY NOTICE

To help us in the evaluation and analysis of projects, all proposals, documents, communications and associated materials submitted to the Grand Challenges Canada (collectively, “Submission Materials”) will become the property of Grand Challenges Canada and will be shared with other members of the Grand Challenges Canada consortium (the International Development Research Centre and Canadian Institutes of

Health Research). We will report publicly on the number of Letters of Intent received and the countries from which they originated.

The proposals will be subject to confidential external review by independent subject matter experts and potential co-funders, in addition to analysis by our staff. Please carefully consider the information included in the Submission Materials. If you have any doubts about the wisdom of disclosure of confidential or proprietary information, we recommend you consult with your legal counsel and take any steps you deem necessary to protect your intellectual property. You may wish to consider whether such information is critical for evaluating the submission, and whether more general, non-confidential information may be adequate as an alternative for these purposes.

We respect confidential information we receive. Nonetheless, notwithstanding your characterization of any information as being confidential, we may publicly disclose all information contained in Submission Materials to the extent as may be required by law and as is necessary for potential co-funders and external reviewers, such as government entities, to evaluate them and the manner and scope of potential funding consistent with appropriate regulations and their internal guidelines and policies.

4.8 WARRANTY

By providing any Submission Materials, the sender warrants Grand Challenges Canada that they have the right to provide the information submitted. Applicants with questions concerning the contents of their Submission Materials may contact Grand Challenges Canada at: risingstars@grandchallenges.ca.

4.9 INTELLECTUAL PROPERTY

The output of this program may lead to innovative technologies, services and/or products to promote human capital formation in developing countries, and the successful development of these products may require involvement and support of the private sector, and may also involve collaborations with multiple organizations, including academic and/or non-profit research institutions. It is the intent of this program to support the formation of appropriate public-private partnerships that are essential to meet these urgent global health needs. Intellectual property rights and the management of intellectual property rights are likely to play an important role in achieving the goals of this program. Grand Challenges Canada's Global Access Strategy will guide our approach to intellectual property, and we urge all applicants, even at the Letter of Intent stage, to consider their willingness to submit a full proposal in compliance with the Grand Challenges Canada Global Access Strategy, the guiding principles of which are as follows:

1. Breakthrough solutions to global challenges are made accessible to those in need, particularly in the developing world. Accessibility relates to both price and availability.
2. Knowledge gained through discovery is broadly, and as promptly as possible, distributed between related projects and to the global scientific community.

3. Commercialization of resulting outputs is encouraged, as long as the first two principles are achieved.

Grantees will be required to develop and sign a Global Access Agreement with Grand Challenges Canada in line with the guiding principles. For further information, please refer to Grand Challenges Canada's intellectual property policy at <http://www.grandchallenges.ca/grand-challenges/gc1-explorations/rising-stars-program-information/>.

5. Research Assurances

It is the policy of Grand Challenges Canada that research involving human subjects, research with animals, and research subject to additional regulatory requirements must be conducted in accordance with the highest internationally recognized ethical standards. In order to receive funds from Grand Challenges Canada, initially and throughout the course of a research project researchers must affirm and document compliance with the guiding ethical principles and standards outlined below.

1. Research involving human participants must be conducted in a manner that demonstrates, protects and preserves respect for persons, concern for the welfare of individuals, families and communities, and justice.¹
2. Research involving animals must be conducted in a manner that ensures their humane care and treatment.
3. Certain research endeavours, including but not limited to research with recombinant DNA, biohazards and genetically modified organisms, may be subject to enhanced regulations and oversight.

Grand Challenges Canada will require that, for each venue in which any part of the project is conducted (either by your organization or a sub-grantee or sub-contractor), all legal and regulatory approvals for the activities being conducted will be obtained in advance of commencing the regulated activity. We will further require grantees to agree that no funds will be expended to enroll human subjects until the necessary regulatory and ethical bodies' approvals are obtained. For further details, please see the Grand Challenges Canada Ethics Policy at <http://www.grandchallenges.ca/grand-challenges/gc1-explorations/rising-stars-program-information/>.

Questions about the Rising Stars in Global Health program or the application process should be addressed to risingstars@grandchallenges.ca.

¹ Modified from the core principles articulated in TCPS 2 (<http://www.pre.ethics.gc.ca/eng/policy-politique/initiatives/tcps2-eptc2/chapter1-chapitre1/#toc01-1b>)