

REQUEST FOR PROPOSALS

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Grand Challenges Canada®
Grands Défis Canada

BOLD IDEAS WITH BIG IMPACT®

Saving Brains

Scaling Impact

July 2014

Executive Summary

An individual's developmental path is shaped by the interaction of the genes they possess, and the experiences and environment to which they are exposed – especially early in life. Living in poverty increases the exposure to a number of adverse experiences and environments that can pose a risk to healthy development. These risk factors can include poor management of birth complications, lack of consistent and nurturing interactions, exposure to violence or neglect, malnutrition, severe or chronic infections, exposure to environmental toxins, and other sources of toxic stress. Failure to nurture children and protect them from these risks erodes the right of millions of children to develop to their full potential. It is also a devastating waste of human capital that leaves the next generation ill-equipped to solve the enormous challenges that lock individuals, communities and societies in poverty.

With the ultimate goal of increasing human capital, we seek **bold ideas for affordable and evidence-based products, services, and implementation models that protect and nurture early brain development in a sustainable manner**. Proposals must provide innovative solutions relevant to poor, marginalized populations in low- or middle-income countries.

Projects examining and evaluating these bold ideas are expected to engage end users and build upon local delivery systems. The project team, led by effective, results-driven leaders, should be capable of developing, testing and refining these innovations and their delivery. Ultimately, projects must have measurable outcomes and clear results, which will support learning to accelerate progress against the Saving Brains challenge. Discovery science or capacity-building initiatives alone will not be funded through this Request for Proposals.

Applicants are expected to 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.

Saving Brains seeks bold ideas with real-world impact that also have the potential to be scaled up. To this end, innovative approaches and sound evaluation are expected to test how the intervention should be delivered to **reach the highest number of children**, how the intervention should be optimized to have **the most impact on each child reached**, and how to **financially sustain this impact at scale**.

We expect to fund proposals from institutions in Canada or in eligible low- and middle-income countries. All implementation activities **must occur in eligible low- and middle-income countries**. There are two funding streams for applicants:

1. **Seed funding:** support the development and validation of innovative ideas to protect and nurture early brain development, offering up to \$250,000 CAD over a maximum of 18 months. By the end of the 18 months, projects are expected to

demonstrate proof of concept that the innovative idea is likely to have sustainable impact at scale, i.e., provide on-the-ground evidence of the impact it may have on an individual child *and* how it may be feasibly implemented and sustained in the target region. Please note that applicants in Brazil are eligible for seed funding only.

2. **Transition-to-scale funding:** support the refinement, testing and implementation of innovative solutions that have already achieved proof of concept to bring them toward scale and sustainability. GCC will offer up to \$1 million CAD in matched funding over a maximum of three (3) years through a grant, a non-grant (e.g. repayable loan or equity stake), or a combination of the two. Projects are expected to demonstrate real-world impact on early brain development with an approach that increases the intervention reach and has strong potential for sustainable impact at scale.

The value of funding is expected to vary depending on project need.

APPLICATION DEADLINE: September 8, 2014, at 18:00 ET

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1 Introduction

1.1 GRAND CHALLENGES CANADA

Grand Challenges Canada is dedicated to supporting **bold ideas with big impact** in global health. We are funded by the Government of Canada; we fund innovators in low- and middle-income countries and Canada. The bold ideas integrate science and technology, social and business innovation (we call this Integrated Innovation®); we work to catalyze scale, sustainability and impact. We have a determined focus on results, and on saving and improving lives.

“Canada has supported development innovation, pioneering new approaches to maximize impact and leverage private sector capital to address global development challenges. Canada’s strategic investments over the past several years are showing promising results...progress by Grand Challenges Canada in tackling critical barriers to solving some of the most pressing global health challenges.”

Budget 2012, Fostering Sustainable Global Growth¹

Through the 2008 **Development Innovation Fund**, Canada was the first country to adopt a Grand Challenges approach to solving global health challenges in its official development assistance envelope. Grand Challenges Canada is the primary delivery vehicle for this fund, working alongside its consortium partners, the Canadian Institutes of Health Research and the International Development Research Centre.

Grand Challenges Canada is a significant new undertaking in Canadian foreign aid. Our vision is: **Bold Ideas. Big Impact. A Better World.** Our mission is: **Saving and improving lives in low- and lower-middle-income countries through Integrated Innovation.** Our primary priority is: **Solving critical global health challenges.**

1.2 PROBLEM

The Problem

Over 200 million children in developing countries are unable to fulfill their developmental potential². While different areas of the brain develop at different times and continue to adapt throughout life, most of the brain’s development takes place within the first 1,000 days of development – during the fetal and early childhood period – making this a fundamentally important time. It is in this critical window that the brain’s neural circuits are formed and strengthened with repeated use, or else lost. Significant adversity early in life can produce physiological disruptions to the developing circuits that persist into adulthood. **In other words, experiences and environments in the early years**

¹ Federal Budget for the Government of Canada released March 29, 2012

² Grantham-McGregor et al. Developmental potential in the first 5 years for children in developing countries. *Lancet*, 2007 **36**:60-70.

substantially shape the developing brain architecture, and the range of abilities and learning capacities a child accumulates. All of these set a trajectory across the life cycle.

Unfortunately, those living in poverty or adverse conditions typically have higher exposure to risk factors for impaired cognitive development. These risk factors can include exposure to **violence or neglect**, and other sources of toxic stress; **poor health and nutrition**, including malnutrition, birth and newborn complications, severe or chronic infections, exposure to environmental toxins; and **lack of enriching environments**, including inconsistent nurturing and inadequate stimulation and learning environments.

Failure to nurture children and protect them from these risks erodes the right of millions of children to develop to their full potential. It is also a devastating waste of human capital that leaves the next generation ill-equipped to solve the enormous challenges that lock individuals, communities and societies in poverty.

1.3 THE SAVING BRAINS CHALLENGE

The ultimate goal of the Saving Brains program is to increase human capital through the development and delivery of bold ideas with real-world impact **that protect and nurture early brain development at scale in a sustainable manner.** These ideas should be innovative, affordable, cost-effective and evidence-based products, services, and/or implementation models.

Despite the fact that children across the world grow up in diverse contexts, effective products, services, policies and delivery models can be developed that mitigate risks to early brain development in multiple settings, even when resources are limited.

Innovation is needed to **reach the highest number of children**, to have **the most impact on each child reached** and to **sustain the impact at scale.** Projects are therefore expected to work towards an effective intervention that is feasibly delivered in a given context and addresses the main adversities that limit early brain and child development in that context. It is anticipated that, to do this successfully, it will be necessary to have a holistic view of the child's environment (i.e., across health, nutrition, enrichment and protection), engage end users and build upon local delivery systems. The project team, led by effective, results-driven leaders, should be capable of developing, testing and refining these innovations and their delivery. Ultimately, projects must have measurable outcomes and clear results, which will accelerate progress against the Saving Brains challenge.

1.4 THE SAVING BRAINS PARTNERSHIP

Since 2011, Grand Challenges Canada has committed over \$30 million (CAD) to two phases of Saving Brains. The **focus phase** seeks to better define the long-term impact of known early life interventions, and the return on investment in potential interventions with respect to human capital. The current phase, the **solution phase**, seeks innovative

products, services, policies and implementation models to nurture and protect early brain development through the **Scaling Impact** requests for proposals. This is the third Scaling Impact request for proposals.

Since 2014, Saving Brains is supported by a growing partnership that includes Grand Challenges Canada and the Bill & Melinda Gates Foundation as global partners, and Maria Cecilia Souto Vidigal Foundation as a regional partner in Brazil. Grand Challenges Canada continues to develop the partnership and expects to announce additional partners in the coming months who will support projects selected under this request for proposals and bring other resources and expertise to bear against the Saving Brains challenge.

2 Approach

2.1 FUNDING STREAMS

Applicants from eligible countries³ may submit proposals to either of two funding streams: seed funding or transition-to-scale funding. **Applicants from Brazil can only submit proposals to the seed funding stream.** The value of the funding is expected to vary and will be commensurate with the proposed project. The level of funding requested should be sufficient to assure completion of the goals in the stated timeframe. Grand Challenges Canada reserves the right to fully or incrementally fund selected application(s), to partially fund selected applications(s), and to increase or decrease budgets as it deems appropriate at its sole discretion.

Seed Funding

Seed funding supports the development and validation of innovative ideas to protect and nurture early brain development, offering up to \$250,000 CAD each over a maximum of eighteen (18) months. Projects are expected to demonstrate proof of concept by the end of the 18 months indicating that the innovative idea is likely to have sustainable impact at scale, i.e., provide on-the-ground evidence of the impact it may have on an individual child *and* how it may be feasibly implemented and sustained in the target region. Children living in poverty often face multiple risk factors, and innovations that address multiple aspects of early brain and child development in a holistic manner are strongly preferred (i.e., address a combination of health and nutrition, enrichment, and protection as determined by the target population's context). Please note that Brazilian applicants are eligible for seed funding only.

Success for seed funding is defined as:

³ Eligibility is based on considerations such as the World Bank's classification of low- and middle-income countries, and the Department of Foreign Affairs, Trade and Development (DFATD) Countries of Focus. A full list of eligible countries is outlined in Appendix A.

- Demonstrated proof of concept of the idea to (i) nurture and protect early child development in individual children, and (ii) be feasible to implement sustainably at scale in the target region
- Identification and engagement of key stakeholders, influencers and partners that will enable the innovation to go to scale
- Identification of barriers to scale, and possible approaches to addressing these barriers
- Demonstrated capacity to monitor progress and evaluate project impact
- Demonstrated capacity to harvest and apply learning, generate and absorb best practices, and contribute to a learning community.

Transition-to-scale Funding

Transition-to-scale funding supports the refinement, testing and implementation of innovative solutions that have already achieved proof of concept to bring them toward scale. It is expected that innovations at this level address multiple aspects of early brain and child development in an integrated manner (i.e., across health, nutrition, learning and maltreatment).

A key component of this funding stream is partnerships. The proposed projects need to include partnerships to optimize sustainability and impact. To be eligible for transition-to-scale funding, proposals will require partnerships that contribute (i) expertise relevant to the scale and sustainability of the idea, and (ii) 50% of the funds. Grand Challenges Canada, at its discretion, may choose to match this funding up to \$1 million CAD through a grant, a non-grant (e.g. repayable loan or equity stake), or a combination of the two over a maximum of three (3) years. Projects are expected to demonstrate large-scale, real-world impact on early brain and child development. Saving Brains is particularly interested in funding projects where its funds provide value beyond what can be funded through traditional funding sources, or where Saving Brains funding can be a catalyst for scale.

On a case-by-case basis, Grand Challenges Canada reserves the right to determine the extent to which the 50% matching funds principle is applied. **Matching funds should be 'new cash'. Matching through in-kind contributions is not preferred.**

Please note that the matching funds are not required to be in place at the time of applying and approval decisions can be made without the funding in place, however submission of a letter of support from the intended partner is strongly recommended. Matching funds need to be secured in order for funding to be disbursed. Please also note that funds from the Government of Canada cannot be considered as matching funding.

Success for transition-to-scale funding is defined as:

- Demonstrated large-scale impact on early brain and child development through delivery of a solution that addresses multiple aspects of child development in an integrated manner (i.e., across health, nutrition, learning and maltreatment).

- Demonstrated ability to identify and adapt aspects of the solution that need improvement for greater impact during the lifetime of the grant
- Identification of a clear path to sustained impact at scale.

2.2 AREAS OF INTEREST

Projects should address major risks to early brain development that would be relevant to the target population, which might include:

- Child neglect, abuse or maltreatment
- Exposure to contaminants/pollutants
- Exposure to violence, including community violence and intimate partner violence
- Inadequate stimulation and/or learning
- Inadequate socialization and/or interaction
- Infection
- Malnutrition
- Maternal mental health conditions
- Newborn health, including intrauterine and neonatal insults
- Pregnancy complications
- Sensory impairments
- Toxic stress.

Of particular interest to Grand Challenges Canada are innovations to target:

- Child neglect, abuse or maltreatment
- Exposure to violence, including community violence and intimate partner violence
- Barriers that limit the scale, sustainability and quality of service delivery by frontline workers

Also of interest to Grand Challenges Canada are solutions that target different stages of the lifecourse relevant to early brain development, including preconception, pregnancy, birth, and the newborn and young childhood periods.

Project Types

Grand Challenges Canada funds a variety of project types, including but not limited to:

- Products, including diagnostics, drugs, medical devices/equipment, information and communication technologies
- Services, including education or training programs and health care delivery systems
- Implementation models, including financial or business models, policies, and social enterprises.

Of particular interest to Grand Challenges Canada are sustainable social enterprises that support early brain development.

Grand Challenges Canada **WILL NOT** fund discovery science or capacity-building initiatives alone in this Request for Proposals.

Focus on Results

Funded projects are expected to demonstrate real-world impact on early child development in the developing world. To this end, projects should have monitoring and evaluation systems in place to clearly quantify effects on early brain development, identify shortcomings and maximize impact.

Communicating results is also an important part of the project's accountability to Grand Challenges Canada and other key stakeholders. While communicating results through scientific publications is important, this should not be the primary objective of funded projects without a well-articulated justification that this is on the critical path to impact.

Inclusion of Core Outcome Metrics

To establish a shared language for the discussion and comparison of results across projects in the Saving Brains portfolio, a set of core outcome metrics has been developed. Use of metrics to capture core outcomes should be incorporated into project plans from the proposal stage for both seed and transition-to-scale funding. Proposals should include a plan to measure at least one metric in each of the following domains:

- Physical growth, such as length/height-for-age, weight-for age, head circumference
- Gross/fine motor skills
- Cognitive function
- Receptive language
- Expressive language
- Socio-emotional capacities

This set of core outcome metrics serves as a minimum set and does not limit the scope of outcomes that can be captured. Measurement of additional outcomes relevant to specific hypotheses is expected. Refinement of these core outcome metrics are expected based on results from the Saving Brains community and the wider early childhood development community. In special circumstances, where impact on cognitive development cannot be measured in the life of the grant, the link between the outcomes measured and the core outcome metrics should already be well established.

Integrated Innovation

Projects are expected to 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 innovation has a greater chance of going to scale and achieving global impact and sustainability if it is developed from the outset with appropriate social and business innovations. Similarly, it recognizes that social or business innovations will not be effective on their own. (Please refer to www.grandchallenges.ca/integrated-innovation.)

Proposed solutions should therefore include a combination of:

- **Scientific/Technological Innovation:** Has a base in the psychological, natural, health or behavioural sciences or in engineering or economics. It can be simple, i.e., there is no requirement for high-tech solutions.
- **Social Innovation:** Recognizes and/or addresses the broader social, structural and/or political determinants of health. It address local and/or cultural contexts that factor into implementation and scaling
- **Business Innovation:** Maximizes the value, relevance and unique quality of the solution to create demand and financial sustainability. It addresses barriers to affordability and accessibility.

Scale and Sustainability

Grand Challenges Canada is looking for solutions that have the potential to be scaled up, as well as a willingness on the part of the project team to see the innovation realize impact at scale in a financially sustainable manner. A clear path to scale will take into account the following factors: the state of local infrastructure; social, political, and economic forces; the capacity of the institution and its leadership; available funding and revenue streams; and other potential barriers to scale. Projects are recommended to leverage local systems where this will lead to efficiencies and to engage end users to increase the likelihood of scale-up.

Effective Leadership and Project Teams

To achieve impact at scale, bold ideas need to be championed by effective, results-driven leaders with the capacity to convene and engage with key influencers. Effective project teams will have expertise, or access to expertise, in the following areas: early childhood development; monitoring and evaluation; data analysis and statistics; working in the implementation region/country; and psychological assessment (if applicable). Multidisciplinary/cross-sector teams are encouraged, where necessary, to ensure relevant scientific, social, and business expertise.

Understanding of Local Context

To help ensure both impact at scale and sustainability, it is essential that projects have an understanding of the local infrastructure and context (social, political and economic). In doing so, projects can better understand the health status and needs of the community, and identify risks to project success. Where they exist, local systems that support child health development, reach the target population or address broader determinants of health should be leveraged and built upon. Determinants of health include: poverty, inequity (including gender inequity), and access to water and sanitation resources.

Stakeholder Engagement

Early brain development is influenced by multiple factors: the family and dwelling; local communities; early childhood health and development programs and services; and

regional, national and global environments⁴. As a result, it is anticipated that caregivers, families, communities, businesses, healthcare providers, policy-makers, governments and international agencies can all have a role to play in guiding and supporting the project. Stakeholders, especially end users and those who will ultimately make decisions about the use of the solution, should be engaged at the outset and throughout the life of the project. This helps to ensure that the solution will be poised for initial adoption and subsequent adaptation for greater impact. Additionally, stakeholders can offer insight on their community, and identify the factors necessary for project success.

Gender, Governance and Environment

Gender Equality: Grand Challenges Canada is committed to furthering principles of gender equality in the projects it funds. More specifically, Grand Challenges Canada is supportive of the following objectives: (1) advancing women's equal participation with men as decision-makers in shaping the sustainable development of their societies; (2) supporting women and girls in the realization of their full human rights; and (3) reducing gender inequalities in access to and control over the resources and benefits of development. Applicants should incorporate the fulfillment of these objectives in the project and consider including considerations for the role and engagement of local stakeholders, including end users for which innovations are meant to improve health outcomes.

Good Governance: Grand Challenges Canada is committed to furthering principles of good governance in the projects it funds. This includes the promotion of good governance principles of participation, inclusion, equity, transparency, accountability, efficiency and effectiveness in the applicant's project. Applicants should incorporate good governance throughout the project.

Environment: Grand Challenges Canada requires that applicants commit to ensuring that the project will not have an adverse environmental effect (including, but not limited to, long-term and cumulative effects). Where possible, applicants should endeavour to have positive environmental effects throughout the project.

2.3 SAVING BRAINS PLATFORM

The Saving Brains Platform is made up of mentors and experts in the field of early brain and child development, innovation systems and learning communities. As a responsive resource to maximize the impact of Saving Brains projects and to enhance the collective impact of the Saving Brains program, the platform is tasked with the following activities:

- Articulate a common theory of change that elaborates causal pathways based on scientific knowledge and practical experience
- Develop shared metrics and evaluation frameworks

⁴ Irwin LG, Siddiqi A, Hertzman C. Early child development: a powerful equalizer – final report of the early child development knowledge network of the Commission on Social Determinants of Health. Geneva: World Health Organization, 2007. <http://whqlibdoc.who.int/hq/2007/a91213.pdf> (accessed Nov. 2, 2012).

- Foster an ongoing learning community to accelerate innovation, scale and sustainability through sharing results and lessons learned
- Encourage policy translation through cross-sectional leadership development
- Facilitate private sector engagement.

2.4 SAVING BRAINS COMMUNITY

Saving Brains is a grand challenge that no single team or institution can solve on its own. As a result, Grand Challenges Canada developed and continues to nurture a learning community that is focused on the challenge of Saving Brains. This community includes Saving Brains innovators (all seed funding and transition-to-scale funding recipients), the Saving Brains Platform, experts from leading institutions in the field of early child development, and funders that meet approximately twice per year. Through sharing results and discussing lessons learned, the community is generating a body of evidence and practical knowledge on how to develop, refine, and evaluate innovative solutions. Together, the community is also creating a suite of interventions for nurturing and protecting early brain development. The Saving Brains community encourages and fosters collective action, as projects working together have greater impact than they would alone.

3 Activities and Deliverables

In addition to engaging in activities related to their proposed project, key members of the funded projects will be expected to actively participate in the Saving Brains community, which includes:

- Participating in a community of innovators that will meet approximately twice yearly
- Contributing to and apply learning from the Saving Brains Community, including where moderated by the Saving Brains Platform
- Actively participating to define a common theory of change to achieve the common goal of protecting and nurturing early brain development
- Incorporating the core outcome metrics into project plans and actively participate in optimizing the set of core outcome metrics
- Actively engaging with the Saving Brains Platform to develop capacities to create systems change for impact, including leadership development and evaluation frameworks
- Committing to the Grand Challenges Canada Global Access, Data and Ethics policies (see www.grandchallenges.ca/resources/), including entering into a Global Access Agreement with Grand Challenges Canada, as described below in Section 5.5
- Providing regular progress reports and a final report, and participate in site visits to evaluate progress against project goals – instructions for the reports will be provided to funding recipients
- Disseminating knowledge through publications in peer-reviewed literature, conferences, social media, etc.

4 Rules and Guidelines

The Canadian Institutes of Health Research oversees the peer review process. Grand Challenges Canada's Board of Directors makes the final funding decisions.

4.1 ELIGIBILITY CRITERIA

For your application to be eligible:

1. **ONLY** institutions from the list of countries given in **Appendix A** are eligible to apply to this Saving Brains Request for Proposals. Applications from institutions in countries not listed in Appendix A will not be considered.
2. All project implementation sites must be in countries listed in Appendix A (other than Canada).
3. A project can have a maximum of two Project Leads, both of which must have primary affiliations to institutions in eligible countries listed in Appendix A. At least one Project Lead must be affiliated with the institution from which the proposal is being submitted.
4. Applicant institutions from **Canada** must apply with a co-Project Lead primarily affiliated with an institution in an eligible country listed in Appendix A (other than Canada)
5. A majority (greater than 50%) of the budget must be spent in an eligible country (other than Canada) in order to be eligible.
6. Projects implemented in **Brazil** must be proposed by a Project Lead with a primary affiliation to an institution in Brazil. Applicants from Brazil must implement their project in Brazil. Eligible applicants in Brazil are only eligible for the seed grant competition.
7. A Project Lead may only be listed on one (1) application. An institution from an eligible country may however be the applicant on multiple applications, if all applications have different Project Leads.
8. Applications must include all required information and attachments. Only complete applications will be considered for peer review.
9. Grand Challenges Canada may, at any time and at its sole discretion, modify eligibility criteria with respect to individual applicants, Project Leads, eligible countries, to the extent that such modifications do not materially undermine the review process. (See Section 4.4.)

Eligible applicants include individual non-profit organizations, for-profit companies, or other recognized institutions that are legally registered or incorporated in an eligible jurisdiction, as listed in Appendix A, and that can successfully execute the activities in their respective technical area and are capable of receiving and administering funding.

Please note that collaborations between project leads from eligible non-Canadian institutions (from countries listed in Appendix A) and Canadian institutions are encouraged but not required. Institutions and innovators in eligible countries and non-eligible countries may be listed as collaborators, and may be listed in the “Collaborator” section of the application.

All seed grant applicants are encouraged to secure co-funding.

Transition-to-scale funding requires matching funds through partnerships to be secured by the time of funding. Grand Challenges Canada reserves the right to determine the extent to which the 50% matching funds from partnerships are deemed acceptable. Matching funds should be ‘new cash’. **Matching through in-kind contributions is not preferred and Grand Challenges Canada will not match other Federal Government of Canada funds.**

Please note that Grand Challenges Canada must approve any changes in institution or project lead from the originally funded grant.

4.2 APPLICATION INSTRUCTIONS

Applicants must apply through an application website. A link to the website will be available on the Grand Challenges Canada website:

<http://www.grandchallenges.ca/saving-brains/>

Questions

Questions about this request for proposals may be submitted by e-mail to savingbrains@grandchallenges.ca. Answers to the questions will be posted at www.grandchallenges.ca/saving-brains/ by the end of the day on July 25th, August 8th, and August 29th. Any questions submitted after August 29th may not be answered.

Technical Support for Online Application

Technical support for the online application is available 24 hours a day. Please contact support by tech@fluidreview.com.

Seed Funding

For a seed grant (up to \$250,000 CAD), applicants will submit a proposal that describes their innovative idea, goal, objectives and activities, approach, framework for measuring success, and budget.

Transition-to-scale Funding

For a transition-to-scale funding (up to \$1 million CAD of matched funds), applicants will submit a Letter of Intent (LOI) that describes their innovative solution, goal, objectives and activities, approach, framework for measuring success, potential partners who will contribute expertise and matching funds, and budget. Successful applicants at the LOI stage may be invited to develop a full proposal that expands upon these components as well as on the financial sustainability of the innovation. Instructions will be provided at the time of invitation.

Proposal Development Resource

Applicants are encouraged to access Grand Challenge Canada's Online Proposal Development Resource at www.grandchallenges.ca/proposaldevelopment, which contains material to help researchers and innovators around the world to develop their project proposals and to plan for how their innovation will go to scale, be sustained and have global impact.

4.3 APPLICATION TIMELINE

Seed grants (up to \$250,000 CAD):

Key Dates	Event
September 8, 2014	Application deadline for seed funding at 18.00 ET
January 2015	Notification of application status
May 2015	Anticipated start date of projects

Transition-to-scale grants (up to \$1 million CAD of matched funding):

Key Deadlines	Event
September 8, 2014	Deadline to submit Letters of Intent for transition-to-scale funding at 18.00 ET
January 2015	Notification of application status and next steps
Mid-late 2015	Anticipated start date of projects

4.4 REVIEW PROCESS

The Canadian Institutes of Health Research oversees the review process. The final funding decisions will be made by the Board of Directors of Grand Challenges Canada at the Board's sole discretion, including its reserved rights set out in Section 4.11. The applicant's performance on other projects funded by Grand Challenges Canada is taken into account at all points in the process. The review process is outlined below:

Eligibility Screen

Grand Challenges Canada will screen applications and Letters of Intent (LOIs) on the basis of the eligibility criteria outlined in Section 4.1. Applications and LOIs that do not meet the eligibility criteria will be removed from the competition at this stage.

Innovation Screen

If a large number of applications are received, eligible applications and LOIs will be internally scored for strategic relevance to the Saving Brains call for proposals. The innovation screen will evaluate only the proposed innovative idea or intervention (not the feasibility or quality of the project plan) for novelty and relevance to the Saving Brains problem. Proposals that lack innovation and relevance will be removed from the competition at this stage. A maximum of 50 applications for seed funding and ten LOIs for transition-to-scale funding will proceed to the Peer Review stage, based on scores from the innovation screen.

Applications for seed funding will be scored against the below criteria using responses to application questions in the section “Section II: Innovation and Relevance” as indicated on the application (the two criteria below are equally weighted):

1. Innovation.
 - Is the innovative idea clearly articulated?
 - Does the innovation represent more than an incremental increase over current approaches?
 - Is a coordinated application of integrated scientific/technological, social and business innovation clearly demonstrated, as defined in Section 2.2?
2. Relevance.
 - Does the proposed solution address the problem and the Saving Brains challenge, as described in Section 1.2 and 1.3?
 - Does it apply to poor, marginalized populations in low- or middle-income countries?
 - Is there a clear description of the potential scale at which it could be applied?

LOIs for transition-to-scale funding will be scored against the below criteria using responses to application questions in the section “Section II: Innovation and Relevance” as indicated on the application (the three criteria below are equally weighted):

1. Innovation.
 - Is the innovative idea clearly articulated?
 - Does the innovation represent more than an incremental increase over current approaches?
 - Is a coordinated application of integrated scientific/technological, social and business innovation clearly demonstrated, as defined in Section 2.2?

2. Relevance.
 - Is evidence of proof of concept for the solution provided?
 - Does the innovation address the problem and the Saving Brains challenge, as described in Section 1.2 and 1.3?
 - Does the innovation address multiple components of the child's environment (i.e., across health, nutrition, enrichment and protection)?
 - Does the innovation apply to poor, marginalized populations in low- or middle-income countries?
3. Sustainability. Does the proposed solution have a clear plan for financial sustainability beyond the requested transition-to-scale funding?

Peer Review

The Canadian Institutes of Health Research is responsible for conducting the peer-review of the seed applications and transition-to-scale LOIs that remain after the screens. A review committee of external scientific, social and business reviewers, including experts from low- and middle-income countries, will advise on the merit of proposals, based on the evaluation criteria. (See Section 4.5)

Investment Committee – Transition-to-Scale Applications

After peer review, transition-to-scale applications will be assessed by an Investment Committee. Applicants whose LOIs are ranked “excellent” at the peer review stage may be invited to expand upon their LOI in writing and/or discussions with Grand Challenges Canada. Grand Challenges Canada will use this information and additional due diligence collected through interviews with partners to draft an investment memo, which will be made available to the Investment Committee prior to their meeting.

The Investment Committee will evaluate proposals taking in to consideration the peer review of the LOI and investment memo to make funding recommendations to Grand Challenges Canada's Board of Directors.

Once approved by the Board of Directors for funding, Grand Challenges Canada will conduct additional due diligence and negotiate the terms of the funding. Refinements to the proposed project plan, structure, amount and type of funding and oversight may be required based on this due diligence.

4.5 EVALUATION CRITERIA

Seed and transition-to-scale funding have different evaluation criteria, as outlined separately below.

Seed Funding

1. Impact

- Does the innovation have the potential to have an important impact on early brain development in low-resource settings?

- Is the innovation appropriate for wider implementation and scaling in low-resource settings?

2. Integrated Innovation

- How bold, novel and/or a departure from incremental improvements is the innovation over current approaches?
- How clearly does the plan identify the barriers to scale and sustainability?
- How well does the proposed idea integrate scientific/technological, social and business innovation?
- Will key stakeholders and/or potential users of the knowledge/goods/services be engaged in the proposed project?

3. Project Execution Plan

- Is the project designed to demonstrate proof of concept of the idea?
- How well articulate, feasible and technically sound is the execution plan?
- How appropriate, feasible and technically sound are the metrics to evaluate progress toward achieving proof of concept? Are the timelines proposed appropriate and feasible?
- Is there a feasible plan to identify and apply learning for improved outcomes as the project unfolds?
- Is there evidence provided to indicate the likelihood of success, and a rigorous assessment of risks and associated mitigation strategies?

4. Leadership Capability to Champion Change

- Does the Project Lead have the commitment and leadership potential needed to bring solutions to scale, as demonstrated by letters of support for the Project Lead and other evidence?
- Are the proposed Project Lead and key team members appropriately trained, experienced and positioned in the local community to carry out the proposed work (i.e., scientific, social and business expertise)?
- Do the proposed partnerships and composition of multi-disciplinary teams increase the likelihood of success?
- Have the Project Lead and key team members demonstrated the ability to convene necessary stakeholders who can influence systems change (e.g., business, academic and public sectors), including those new to the project and its goals, as demonstrated by letters of support for the project?

5. Value for Effort

- Are the scope of the proposed work and the funds requested reasonable and commensurate with the proposed study goals?
- Does the proposal represent a particularly thoughtful and efficient use of resources?

Transition-to-Scale Funding

1. Impact

- Does the innovation have the potential to have an important impact on early brain development in low-resource settings? How extensive is the expected improvement for early brain development in the target population?
- Has sufficient proof of concept been demonstrated for the solution? Is the solution ready for refinement, testing and implementation toward scale?
- Does the plan address in an integrated manner the multiple aspects of children's development necessary to achieve impact (i.e., across health, nutrition, learning and maltreatment)?
- Does the proposal have the potential to achieve impact in terms of the number of children reached through the proposed scaling activities?

2. Integrated Innovation

- How bold, novel and/or a departure from incremental improvements is the innovation over current approaches?
- How feasible and achievable is the plan to take the solution to scale?
- How well does the proposed idea integrate scientific/technological, social and business innovation?
- Will key stakeholders and/or potential users of the knowledge/goods/services be engaged in the proposed project?

3. Partnerships for Scale and Sustainability

- Does the applicant have sufficient alliances or partnerships to scale and sustain the solution (e.g., relevant stakeholders, joint ventures, selling/distribution agreements, channel partnerships, licensing arrangements, etc.?)
- Do influencers/key stakeholders required for systems change and/or to sustain innovation at scale have an active role in the project?
- Is the matching partnership strategic in its ability to enable the solution's transition to scale and sustainability?
- Will the partnership help the applicant take an Integrated Innovation approach?

4. Execution Plan

- How well articulate, feasible and technically sound is the execution plan? Are the timelines proposed appropriate and feasible?
- Are the proposed goals and objectives based on sound scientific analysis, technical rigour and/or existing evidence?
- How appropriate, feasible and technically sound are the metrics to evaluate and measure progress on protecting and nurturing early brain development?
- Is there a feasible plan to identify and apply learning for improved outcomes as the project unfolds?
- Is there evidence provided to indicate the likelihood of success, and a rigorous assessment of risks and associated mitigation strategies?

5. Leadership Capability to Champion Change

- Has the Project Lead demonstrated the commitment and leadership needed to bring solutions to scale, as demonstrated by letters of support for the Project Lead and other evidence (i.e., a track record of successfully scaling innovations and making them sustainable)?
- Are the proposed Project Lead and key team members appropriately trained, experienced and positioned in the local community to carry out the proposed work? Does the team embody appropriate scientific, social and business expertise?
- Have the Project Lead and key team members demonstrated the ability to convene necessary stakeholders who can influence systems change (e.g., business, academic and public sectors), including those new to the project and its goals, as demonstrated by letters of support for the project?

6. Value for Effort

- Are the scope of the proposed work and the funds requested reasonable and commensurate with the proposed study goals?
- Does the proposal represent a particularly thoughtful and efficient use of resources?

4.6 ALLOWABLE COSTS

Funds may be used for the following cost categories:

1. Personnel: *Please note that salary support is an allowable cost.*
2. Travel: *Please note that, for transition-to-scale applications, \$20,000 per year must be included within the budget to cover the costs of two project team members attending two community meetings per year.*
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/Subcontracts
8. Indirect costs: *Please note that Grand Challenges Canada will provide a limited amount of indirect costs based on the nature of the applicant institution, to a maximum of 12% of direct costs of the grantee's administered grant value (1–7 outlined above). For transition-to-scale grants, this amount must also be matched and is considered part of the total project amount.*

Please provide budget estimates according to the categories outlined above and the detailed instructions included in the application.

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) and may be publicly disclosed. We will report publicly on the number of applications 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 based on the above. If you have any doubts about the wisdom of disclosure of confidential or proprietary information (including information related to inventions), 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 by email at savingbrains@grandchallenges.ca.

4.9 INTELLECTUAL PROPERTY

Since the output of this program may lead to innovative technologies and/or products for those that need them most in the developing world, the successful development of these products may require involvement and support of the private sector, and may also involve collaborations with multiple institutions, 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 application 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:

- Breakthrough solutions to global challenges are made accessible to those in need, particularly in the developing world. Accessibility relates to both price and availability.
- Knowledge gained through discovery is broadly, and as promptly as possible, distributed between related projects and to the global scientific community.
- Commercialization of resulting outputs is encouraged, as long as the first two principles are achieved.

Grantees will be required to sign a Global Access Agreement with Grand Challenges Canada, in line with the Guiding Principles, for the use of intellectual property and other outputs arising from this program, including a non-exclusive, perpetual, irrevocable, royalty-free, fully-paid, sub-licensable and assignable license in respect of all outputs arising from the work carried out by grantee, or at the grantee's direction, in connection with this Grand Challenges Canada grant, to permit Grand Challenges Canada (and its sub-licensees) to use, educate, conduct research, develop, make, have made, import, export, sell, offer for sale or distribute products, processes or solutions in developing markets for the purposes of global access. For further information, please refer to Grand Challenges Canada's intellectual property policy at www.grandchallenges.ca/resources/.

4.10 DATA ACCESS

Grand Challenges Canada is committed to optimizing the use of data to translate knowledge into life-saving solutions. To fulfill this objective, data must be made widely and rapidly available to the Grand Challenges Canada research community and the broader global health community through ethical and efficient data access practices. In accordance with global access, data access represents an elaboration of the second guiding principle of the Global Access Policy, which states that knowledge gained through discovery is broadly, and as promptly as possible, distributed between related projects and to the global scientific community.

Grantees may be required to develop and submit a Data Access Plan (DAP) that specifies how data access will be implemented and the timeframe for data release. Data refers at a minimum to final, annotated quantitative and qualitative datasets and accompanying information, such as metadata, codebooks, data dictionaries, questionnaires and protocols.

Grand Challenges Canada recognizes the value of intellectual property and commercialization, and the benefits of first and continuing use of data, but not prolonged or exclusive use. In some cases, intellectual property protection, laws or regulations

may delay or preclude access to data. In such cases, the grantee will provide justification to warrant a partial or complete waiver of the data access requirement.

4.11 RIGHTS OF GRAND CHALLENGES CANADA

This Request for Proposals is part of a discretionary granting program. Submission of an application does not create a contractual relationship between the applicant and Grand Challenges Canada. Furthermore, all applicants acknowledge that this program is being tested through this Request for Proposals and that all terms are subject to change. In particular, Grand Challenges Canada reserves the right, in its sole discretion and without notice, to:

1. Cancel this Request for Proposals at any time and for any reason.
2. Amend and reissue the Request for Proposals at any time and for any reason. This Request for Proposals is valid commencing on July 11th 2014, and supersedes any previous Request for Proposals of this nature. The terms and conditions of this Request for Proposals apply to all applications submitted from July 11th 2014, going forward and may be replaced by a revised Request for Proposals in the future. We recommend checking for any revisions to the Request for Proposals prior to the submission of your Letter of Intent and proposal.
3. Accept or reject any application that is nonconforming because it does not meet the eligibility criteria, does not comply with the application instructions, and/or does not comply with the instructions for allowable costs.
4. At Grand Challenges Canada's sole discretion, not fund an application based on performance on a previous Grand Challenges grant or project, or based on the award of a grant to the applicant for the same or similar research by one of Grand Challenges Canada's partners or collaborating institutions.
5. Disqualify any application at any stage where there is an indication that the proposal was, in any way, plagiarized.
6. At Grand Challenges Canada's sole discretion, accept or reject any or all applications, regardless of an application's ranking based on the evaluation criteria, with or without providing an explanation.
7. Award a fewer number of grants than expected.
8. Award applications with different funding amounts, different durations, and/or different conditions than set out above.
9. Verify any information provided by applicants through independent research or by contacting third parties deemed to be reliable by Grand Challenges Canada and use that information to inform Grand Challenges Canada's funding decision.
10. Modify eligibility and evaluation criteria, including but not limited to criteria assessed at the triage stage, at any time.
11. Use video or other visual representation submitted by applicants on the Grand Challenges Canada website or other media and/or social media channels for public engagement.
12. Not provide critiques or feedback regarding the reasons a proposal was or was not selected.

13. Design grant awards to link to possible funding partners, including private sector investors.
14. Provide grants in collaboration with funding partners. This may involve separate grant agreements with each institution (i.e. one with Grand Challenges Canada and one with our partner institution), as well as distinct transfers of funds. The project deliverables, however, will be aligned.

4.12 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.⁵
2. Research involving animals must be conducted in a manner that ensures their humane care and treatment.
3. Certain research endeavors, including but not limited to research with recombinant DNA, biohazards and genetically modified organisms, may be subject to enhanced regulation and oversight.

While not necessary for the Letter of Intent, and as applicable to the individual project, Grand Challenges Canada will require that for each venue in which any part of the project is conducted (either by your institution or a sub-grantee or subcontractor), all legal and regulatory approvals for the activities being conducted will be obtained in advance of commencing the regulated activity. We will further require you 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 www.grandchallenges.ca/resources.

Questions about the Saving Brains program or the application process should be addressed to savingbrains@grandchallenges.ca. Responses to frequently asked questions will be periodically posted on our website at www.grandchallenges.ca/saving-brains/.

⁵ Modified from the core principles articulated in Tri-Council Policy Statement 2 (www.pre.ethics.gc.ca/eng/policy-politique/initiatives/tcps2-eptc2/chapter1-chapitre1/#toc01-1b).

APPENDIX A: COUNTRY ELIGIBILITY

Applicants from the following list of countries are eligible to apply to this call for proposals. This list of countries is based on considerations such as the World Bank's classification of low- and middle-income countries, the Department of Foreign Affairs, Trade and Development (DFATD) Countries of Focus, and also includes Canada.

This list is subject to revision by Grand Challenges Canada without notice. Notwithstanding inclusion below, all eligible jurisdictions remain subject to approval by Grand Challenges Canada on the basis of compliance with all relevant Canadian and international laws and policies. Whenever possible, Grand Challenges Canada will provide reasonable notice of a determination of ineligibility for applicants located within jurisdictions listed below.

<i>Afghanistan</i>	<i>Kiribati</i>	<i>Sudan</i>
<i>Armenia</i>	<i>Kosovo</i>	<i>Suriname</i>
<i>Bangladesh</i>	<i>Kyrgyz Rep.</i>	<i>Swaziland</i>
<i>Belize</i>	<i>Lao PDR</i>	<i>Tajikistan</i>
<i>Benin</i>	<i>Lesotho</i>	<i>Tanzania</i>
<i>Bhutan</i>	<i>Liberia</i>	<i>Thailand</i>
<i>Bolivia</i>	<i>Madagascar</i>	<i>Timor-Leste</i>
<i>Brazil¹</i>	<i>Malawi</i>	<i>Togo</i>
<i>Burkina Faso</i>	<i>Malaysia</i>	<i>Uganda</i>
<i>Burundi</i>	<i>Mali</i>	<i>Ukraine</i>
<i>Cambodia</i>	<i>Mauritania</i>	<i>Uzbekistan</i>
<i>Cameroon</i>	<i>Micronesia, Fed.Sts</i>	<i>Vanuatu</i>
<i>Canada</i>	<i>Moldova</i>	<i>Vietnam</i>
<i>Cabo Verde</i>	<i>Mongolia</i>	<i>West Bank</i>
<i>Central African Rep.</i>	<i>Morocco</i>	<i>Yemen, Rep.</i>
<i>Chad</i>	<i>Mozambique</i>	<i>Zambia</i>
<i>Colombia</i>	<i>Myanmar</i>	<i>Zimbabwe</i>
<i>Comoros</i>	<i>Nepal</i>	
<i>Congo, Dem.Rep.</i>	<i>Nicaragua</i>	
<i>Congo, Rep.</i>	<i>Niger</i>	
<i>Côte d'Ivoire</i>	<i>Nigeria</i>	
<i>Djibouti</i>	<i>Pakistan</i>	
<i>Dominica</i>	<i>Papua New Guinea</i>	
<i>Egypt, Arab Rep.</i>	<i>Paraguay</i>	
<i>El Salvador</i>	<i>Peru</i>	
<i>Ethiopia</i>	<i>Philippines</i>	
<i>Gambia, The</i>	<i>Rwanda</i>	
<i>Georgia</i>	<i>Samoa</i>	
<i>Ghana</i>	<i>São Tomé and Príncipe</i>	
<i>Grenada</i>	<i>Senegal</i>	
<i>Guatemala</i>	<i>Sierra Leone</i>	
<i>Guinea</i>	<i>Solomon Islands</i>	
<i>Guinea-Bissau</i>	<i>Somalia</i>	
<i>Guyana</i>	<i>South Sudan</i>	
<i>Haiti</i>	<i>Sri Lanka</i>	
<i>Honduras</i>	<i>St. Lucia</i>	
<i>India</i>	<i>St. Vincent and the Grenadines</i>	
<i>Indonesia</i>		
<i>Jamaica</i>		
<i>Kenya</i>		

¹ Applicants from Brazil are only eligible for seed grants. Projects with activities based in Brazil must be led by an eligible Brazilian applicant.