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GRAND CHALLENGES CANADA CATALYZES PARTNERSHIP FOR 'SAVING BRAINS'

New partners join as funding is announced for 11 novel projects to save brains of children in developing countries

Toronto, Canada – Grand Challenges Canada, funded by the Government of Canada, today welcomed three new partners to the Saving Brains Grand Challenge: Aga Khan Foundation Canada, Norlien Foundation and World Vision Canada. These organizations strengthen the existing partnership with the Bernard van Leer Foundation, the Bill & Melinda Gates Foundation, and the Maria Cecilia Souto Vidigal Foundation.

The news coincides with an announcement of more than \$2.9 million in funding for 11 new bold ideas aimed at improving the early brain development of infants and children in low-resource countries. Three innovators from Canada and eight innovators from developing countries will each receive \$270,000 for projects (detailed below) to be implemented in Brazil, Ethiopia, Grenada, India, Jamaica, Kenya, Nigeria and Pakistan.

New partners contributing to nurture and protect early brain development

Today, as many as 200 million children fail to reach their full developmental potential. This is a devastating waste of human capital that contributes to the intergenerational transmission of poverty. Grand Challenges Canada is rallying a growing number of organizations worldwide to tackle this problem by seeking and supporting bold ideas for products, services and implementation models that protect and nurture early brain development relevant to poor, marginalized populations in low- or middle-income countries.

The Saving Brains partnership will help to identify and support transition to scale for sustainable approaches that show the potential to reach the highest number of children and have the most impact on each child. Ultimately, the Saving Brains partnership aims to increase human capital by transforming impoverished communities into healthy, economically productive and peaceful societies.

“Maternal, newborn and child health remains Canada’s top international development priority. Canada is committed to working with Canadian and international partners to deliver tangible results for women and children in the world’s poorest countries. By catalyzing the Saving Brains partnership and by investing in innovative projects, our government is supporting children in developing nations so they can reach their full potential and contribute to their families and communities,” said The Honourable Christian Paradis, Minister of International Development and La Francophonie.



Dr. Karlee Silver, VP Targeted Challenges of Grand Challenges Canada, said: “Recognizing that the challenge of promoting early brain and child development on a global scale is too great for one partner alone to solve, this partnership connects organizations that each bring unique resources, skills, networks and expertise to bear on Saving Brains.”

Dr. Peter A. Singer, Chief Executive Officer of Grand Challenges Canada, said: “Together – through concerted effort, focus, measurement and learning – these partners will help many children to reach their full potential and escape the cycle of poverty.”

Khalil Z. Shariff, CEO of Aga Khan Foundation of Canada (AKFC), said: “Investments in early child development are not only critical to the individual child, but to the long-term development of their community. This partnership will help multiply the benefits of these investments and underscore their priority.”

As an agency of the Aga Khan Development Network (AKDN), AKFC provides access to a global set of resources, expertise and programming in early child development. The AKDN’s agencies have worked for decades to identify barriers to quality early childhood programming, and are well-situated to take up Saving Brains innovations to address these challenges and amplify the impact of the AKDN’s work.

Nancy Mannix, Chair, Norlien Foundation, said: “The Norlien Foundation is extremely grateful for this opportunity to partner with Grand Challenges Canada and this esteemed group of partners to improve the health and wellness of all children throughout the world, based on what we know about healthy brain development and its link to mental health and addiction outcomes. We are enthusiastic about sharing what we are learning in Alberta with the global community through this ground-breaking new partnership.”

Norlien Foundation is supporting Canadian innovation for early childhood development, with a focus on preventing intergenerational toxic stress and promoting healthy interactions between children and their caregivers, and will be an important contributor to the Saving Brains learning community.

Dave Toycen, CEO of World Vision Canada, said: “Children – particularly those who are vulnerable – need to be our priority. Our partnership with Saving Brains is an opportunity to take a positive step forward.”

World Vision has a long history of addressing global issues, such as child protection, health, nutrition and education, and will use its expertise to implement Saving Brains innovations and learning to accelerate its focus on young children.

The expanding partnership is part of a broader and new Grand Challenges collaboration called “[All Children Thriving](#)”, with partners that include USAID and the Bill & Melinda Gates Foundation, announced at a recent event commemorating the tenth anniversary of Grand Challenges.

Funding for 11 new bold ideas

Grand Challenges Canada today also announced funding, topping more than \$ 2.9 million, for 11 novel ideas that strive to alter the developmental path of at-risk children in developing nations by introducing affordable and evidence-based products, services and implementation models that protect and nurture early brain development in a sustainable manner.

Among the ideas funded today:

- High-quality and affordable early childhood care and education in the urban slums in Kenya
- A community-based Conscious Discipline program to reduce widespread corporal punishment in the Caribbean
- An interactive engagement program, based on SMS messages providing valuable parenting information to new mothers in Brazil via cell phone
- Low cost evidence-based toolkit and Parenting Program for improving brain development in newborns in Pakistan

Funding for projects in Brazil is the result of a prior agreement between the Maria Cecília Souto Vidigal Foundation and Grand Challenges Canada, with the support of the Bernard van Leer Foundation.

All new projects are part of the Saving Brains program. To date, including today's new grants, Grand Challenges Canada has supported 72 projects totalling \$32 million.

For more information, visit the new Saving Brains website at savingbrainsinnovation.net, providing in-depth information about Saving Brains and showcasing individual innovations and approaches, or grandchallenges.ca. Look for us on Facebook, Twitter, YouTube and LinkedIn.

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Proof-of-Concept Projects

A sustainable and scalable model for early childhood care and education for urban slums in East Africa

Kidogo Early Years, Canada (Implementation: Kenya)

Roughly 2.5 million children living in East Africa's urban slums face extreme poverty, neglect, poor health and unstimulating environments. These children have limited access to early childhood education and working parents are forced to leave children home alone, in the care of older siblings or in congested, unsafe "baby care" centres run out of the homes of untrained caregivers.

Kidogo Early Years is a social enterprise that seeks to transform the trajectory of these young children by providing high-quality, affordable, early childhood care and education in urban slums. Their innovative "hub & spoke" model is based on a two-fold approach: first, establishing best-practice early childhood development (ECD) "hubs" with a holistic curriculum that nurtures healthy growth and development, with caregivers trained on the principles of ECD. Secondly, Kidogo works to improve the quality of local baby care centres through its micro-franchising program with local "mama-preneurs" that would be given a "business-in-a-box", including relevant training materials, resources and support. Initially, Kidogo will establish two ECD "hub" centres and five micro-franchised "spokes", directly reaching over 250 children under the age of five, as they prove their business model. This approach aims to improve physical, psycho-social and cognitive indicators for the enrolled children, as well as contribute to improving economic opportunities for local women.

For details and images: <http://www.grandchallenges.ca/grantee-stars/0578-03>



Low cost evidence-based toolkit and Parenting Program for improving brain development in newborns

University of Manitoba, Canada (Implementation: Pakistan)

A large proportion of newborns in Pakistan experience neonatal insults, such as birth asphyxia, sepsis and prematurity, leading to preventable deaths. The children that do survive are at greater risk of medium- to long-term neurological damage. This weighs substantially on families and causes an overall reduction in human capital within communities. In Pakistan, the majority of babies are born at home with the assistance of a traditional birth attendant, called Dai. These Dai's often have little or no formal training, and are not prepared to identify and manage birth and neonatal complications.

That's why these innovators are developing a low-cost and evidence-based toolkit aimed at improving brain development in a rural setting of Pakistan. The toolkit will include a safe delivery kit, nutritional supplementation and training. A new link worker would train birth attendants to identify children at risk, as well as on appropriate cord care, hypothermia management, aspiration, and bag and mask techniques. The link worker would also deliver a simple, home-based parenting program to teach parents how to provide stimuli for brain and cognitive development in children who have suffered neonatal insults.

For details and images: <http://www.grandchallenges.ca/grantee-stars/0586-03>

Maternal and Newborn Health and Early Childhood Development in Rural Ethiopia ***Christian Children's Fund of Canada, Canada (Implementation: Ethiopia)***

In Ethiopia, there are about 11 million children under age three (Central Statistical Agency of Ethiopia, 2008). The majority of them are deprived of proper care, resulting in about 44% of children being stunted and 29% underweight (Ethiopia Demographic and Health Survey, 2011). The knowledge and skills of parents on child feeding practices and prenatal nutrition is generally very low. There is also little awareness of brain development and early childhood care among rural communities.

The goal of this project is to improve the health and physical, cognitive, linguistic and socio-emotional development of 3,000 children aged between birth and three years in 2,500 households in rural and under-served communities in Ethiopia. This will be achieved through the Learning Through Play (LTP) program, complemented by audio-visual communication technology in cost-effective and interactive ways. LTP depicts the successive stages of child development, with brief descriptions of simple play activities that show parents what they can do to promote healthy child development. This approach is designed to increase the knowledge and skills of parents and caregivers in low-resource settings, thereby enabling parents to protect and nurture early brain development during both the prenatal and early childhood periods.

For details and images: <http://www.grandchallenges.ca/grantee-stars/0589-03>



**Fostering the development of premature babies through stronger family well-being
*Federal University of Minas Gerais – UFMG, Brazil (Implementation: Brazil)***

In addition to the immediate health threats that preterm infants face, many premature infants in Brazil grow up exposed to the adversities associated with unfavourable socio-economic situations. The lack of a systematic assessment of child development, or specialized monitoring and support for premature infants after hospital discharge, may create adverse effects for these children in the short, medium and long term.

This project aims to format a model of intervention with the families of premature babies that were referred to Casa do Bebê (Baby House) at Sofia Feldman Hospital in Brazil, an initial home for premature children at a hospital specializing in care for pregnancy complications and premature babies. While staying at the Casa do Bebê, each mother will participate in at least two workshops to understand their child's needs and to build a portfolio on their baby's achievements, their wishes and expectations, in order to empower parents to best care for their infants at home. Children will be followed for 12 months, while mothers participate in group meetings to update the portfolio and discuss caretaking and developmental issues. The followed up babies will be compared to others who did not have this experience. The innovation aims to strengthen the emotional bond with parents, reduce parental stress and stimulate caretaking practices that promote the overall development of premature children.

For details and images: <http://www.grandchallenges.ca/grantee-stars/0582-03>

**Home visits to improve early childhood development and maternal mental health
*Faculdade de Medicina da Universidade de São Paulo, Brazil (Implementation: Brazil)***

Brazil has made remarkable progress with respect to child nutrition and child survival over the past decade, resulting in a drop in infant mortality and a lower prevalence of stunting. However, the country continues to struggle with large socio-economic disparities, particularly in urban areas. Many children growing up in the poor urban settlements are not only exposed to a high burden of adverse environmental exposures, but also lack social and family support. The rates of maternal depression are high, and the ability of children to interact with other adults or other children is often severely limited.

These innovators propose to evaluate the efficacy and cost-effectiveness of two platforms for delivering home visiting programs in the poor urban setting of São Paulo's western region; the platforms fit within the two current models of healthcare delivery there: a program delivered by a newly trained cadre of Child Development Agents for families receiving the traditional model of healthcare, and a program delivered by Community Health Agents employed by the government as part of the Family Health Strategy. The program will randomly select 600 mother-child pairs to follow a curriculum that is adapted to the local context. The primary intended outcome of the program is improved cognitive development of children ages 9 to 15 months old.

For details and images: <http://www.grandchallenges.ca/grantee-stars/0583-03>



Novel SMS-based technology for early brain development support and monitoring
Tá.Na.Hora Digital Health Ltd., Brazil (Implementation: Brazil)

The lack of information flow from care providers to parents and vice versa in Brazil remains a systemic problem in the management of early childhood development. There is still a huge gap in parental knowledge of best practices; information is not targeted for recipient populations and feedback to care providers is missing. These communication issues prevent parents from having the tools to ensure the best brain development for their children, while care providers struggle with the timely identification of developmental challenges.

This innovation answers the need for a scalable communication solution. Tá.Na.Hora Digital Health has developed an SMS message approach that allows for highly-customized, interactive engagement on early child development. These programs would initially provide valuable information to new mothers, send reminders, track development milestones of the child and help manage development of at-risk children. This financially sustainable approach taps into the high cell phone permeation in Brazil and the ubiquitous nature of SMS communication.

For details and images: <http://www.grandchallenges.ca/grantee-stars/0579-03>

Community-based infant massage: from saving bones to saving brains
CEL Ventures Private Limited, India (Implementation: India)

More than 60 million under-five children in India are unable to reach their developmental potential, adding to the vicious cycle of intergenerational transmission of poverty. While there could be multiple approaches to this problem, the innovators find that a critical opportunity lies in the universally prevalent practice of infant massage. Massage is a very integral part of the socio-cultural system, and is believed to strengthen bones and improve motor development of children. At the same time, infant massage has also been scientifically proven to improve neurodevelopment outcomes. The practice of massage, therefore, lies at the cusp of science and traditional wisdom, and can be leveraged as a conduit to layer a more holistic set of early child development interventions.

The practice is supported by a network of massage specialists who traditionally provide massages to mothers and newborns in the first few weeks after birth. This already established traditional network will be leveraged as 'agents of change' to train and support mothers and families in adopting the proposed package of ECD interventions. The intervention aims to improve infants' development outcomes, and to lay a strong foundation for these children's future life courses.

For details and images: <http://www.grandchallenges.ca/grantee-stars/0580-03>

FInE BrainS: Health messages and skill-building for women, to include male partners and other caregivers in education and infant care
College of Medicine/University of Ibadan, Nigeria (Implementation: Nigeria)

An old African proverb reads: "It takes a village to raise a child". What this really means is that not only the parents but other extended family members can play a vital role as caregivers to young children.



This project builds on that traditional concept by zooming in on the existing postnatal and child welfare clinics in Nigeria. Currently, these clinics leave little room for fathers and other caregivers to participate in health education and infant care. Poor stimulation and reduced social interaction at an early age can have lasting cognitive and emotional effects. The innovators will leverage existing postnatal/child welfare clinics to test an intervention that uses culturally acceptable videos and active skill-building, to deliver health messages and practical skills to women on early child development. It is expected that the mothers will, in turn, train their male partners and other caregivers within the context of the home setting. The mothers would be trained in communication and negotiation skills to better prepare them for the home engagement process with their male partners and other caregivers.

For details and images: <http://www.grandchallenges.ca/grantee-stars/0581-03>

Integrating a parenting intervention with routine care to improve early developmental Outcomes in children with sickle cell disease

University of the West Indies, Jamaica (Implementation: Jamaica)

Sickle cell disease (SCD) is a serious disorder in which the body makes abnormally-shaped red blood cells that tend to block blood flow in the limbs and organs. Most children with SCD are born in the developing world and many of them also cope with anaemia, care constrained by resources and parents suffering from the stress of caring for a child with a serious chronic disease. These are all significant risk factors for poor early cognitive development and, as such, neurocognitive deficits have been demonstrated in pre-school children with SCD. Early detection and preventive interventions are a must, since lagging educational achievement impacts on employment outcomes and the ability of people to become productive members of society.

This project assesses the efficacy of using an evidence-based early stimulation program, combined with components to help parents cope with stress, delivered during six routine monthly clinic visits to parents of children with sickle cell disease. It is hoped that this innovation will improve parental psychological outcomes, as well as child developmental outcomes.

For details and images: <http://www.grandchallenges.ca/grantee-stars/0584-03>

Engaging private clinics to promote optimal early development of young children in Pakistan
Association for Social Development, Pakistan (Implementation: Pakistan)

In Pakistan, as in most developing countries, early child development is a neglected area of public health. Malnutrition and a mother's incapability to supply effective care can contribute significantly to development delays in children.

The innovators at the Association for Social Development are creating an intervention that aims to engage private clinics to promote optimal early development of young children in poor urban environments, through an integrated package of mother and child care. The care package will have three main components: information on nutrition, information on child development and screening and management of maternal depression.

For details and images: <http://www.grandchallenges.ca/grantee-stars/0585-03>



A community-based conscious discipline program to reduce corporal punishment in the Caribbean

***Windward Islands Research and Education Foundation (WINDREF), Grenada
(Implementation: Grenada)***

Beating, slapping, whipping and paddling are only a few examples of methods used to discipline children in the Caribbean. Widespread corporal punishment is not only degrading and ineffective, but this violence negatively impacts healthy brain development during the first 1,000 days of life and beyond. The economic consequences in this globally competitive world are of great concern. Adults employing corporal punishment often lack knowledge and skill regarding effective discipline methods.

Conscious Discipline (CD) is a best practice program targeting new and expectant parents, community leaders and other caregivers. It combines addressing perceptions while teaching skills, thereby reducing child maltreatment and building self-regulation and positive attachments. The innovators will intensely train around 70 local community “champions,” who will return to their communities and teach others. By disseminating conscious discipline parenting practices, the intervention aims to improve the safety, secure attachment and problem-solving capacity of children – which are all known to maximize brain development – and will hopefully benefit the long-term political, social and economic welfare of the Caribbean Region.

For details and images: <http://www.grandchallenges.ca/grantee-stars/0587-03>

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About Saving Brains

Saving Brains is a partnership of Grand Challenges Canada, Aga Khan Foundation Canada, Bernard van Leer Foundation, the Bill & Melinda Gates Foundation, Maria Cecila Souto Vidigal Foundation, Norlien Foundation and World Vision Canada. It seeks and supports bold ideas for products, services and implementation models that protect and nurture early brain development relevant to poor, marginalized populations in low- or middle-income countries.

www.savingbrainsinnovation.net

About 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 support innovators in low- and middle-income countries and Canada. The bold ideas we support integrate science and technology, social and business innovation to find sustainable solutions to health challenges – we call this Integrated Innovation®. Grand Challenges Canada focuses on innovator-defined challenges through its Stars in Global Health program, and on targeted challenges in its Saving Lives at Birth, Saving Brains and Global Mental Health programs. Grand Challenges Canada works closely with Canada’s International Development Research Centre (IDRC), the Canadian Institutes of Health Research (CIHR) and Foreign Affairs, Trade and Development Canada (DFATD) to catalyze scale, sustainability and impact. We have a determined focus on results, and on saving and improving lives.

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