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News Release

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CANADA FUNDS 11 NEW GLOBAL HEALTH INNOVATIONS IN LA FRANCOPHONIE MEMBER STATES

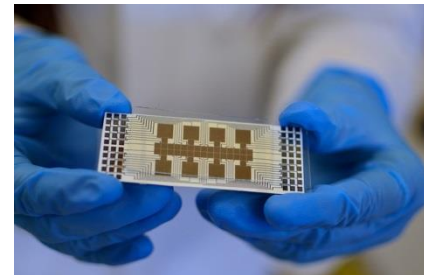
Improving maternal, newborn and child health among world's poorest people with \$1.2 million in grants for Bold Ideas

Toronto, Canada – Grand Challenges Canada, funded by the Government of Canada, today announced \$1.2 million in funding for 11 new global health innovations implemented in member states of La Francophonie.

All new projects excel in boldness and creativity and aim to address pressing health challenges, such as malaria, malnutrition and sanitation. They will help to improve maternal, newborn and child health, Canada's top development priority. At the Saving Every Woman, Every Child Summit held in Toronto in May 2014, Prime Minister Harper announced Canada's commitment of \$3.5 billion to improve the health of mothers and children for the period of 2015–2020.

The novel projects announced today include:

- Marketing and distributing a locally produced fortified infant cereal in rural Haiti, to combat malnutrition and improve health outcomes
- A decentralized and easy surveillance system for measles and rubella in Vietnam, powered by paper-based digital microfluidics, using a single drop of blood
- A mobile phone microscope capable of facilitating diagnostic testing for global health threats in resource-constrained environments, such as Cote d'Ivoire.



The announcement was made during the 15th La Francophonie Summit in Dakar (Senegal). La Francophonie is an international network of 77 states and governments that share the use of the French language. Canada's membership of La Francophonie highlights the country's linguistic duality and its attachment to the shared values of La Francophonie.

"Our government is proud to partner with Grand Challenges Canada to provide innovative health services to the most vulnerable member states of La Francophonie," said the Honourable Christian Paradis, Minister of International Development and La Francophonie. "The Harper

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government supports breakthrough projects, such as those chosen through Grand Challenges Canada's Stars in Global Health program, to deliver high-impact results and help improve the lives of thousands of mothers and children around the world. These projects are great examples of Canada's leadership in maternal, newborn and child health, and the innovative ways Canada and its partners deliver assistance."

All projects announced today are part of Grand Challenges Canada's Stars in Global Health program that seeks unique, breakthrough and affordable ideas that can be transformative in addressing disease – innovations that can benefit the developing world. Through a peer review process, eleven innovators' proposals from Canada and low- and middle-income country innovators were selected, each receiving a grant of \$112,000: five Canadian innovators and six innovators based in Burkina Faso, Cambodia, Cameroon, Egypt, Haiti and Rwanda. All projects are implemented in member states of La Francophonie.

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Maternal, Neonatal and Child Health (MNCH) Projects

Development of a non-invasive malaria parasite DNA sampling strategy for surveillance in resource-limited settings

University of Yaoundé, Cameroon (Implementation: Cameroon, Senegal)

Current malaria surveillance relies on identifying the malaria parasite by microscopy and detecting soluble parasite antigens using Rapid Diagnostic Tests. Both techniques do not detect low-level, non-evident malaria infections, and are inherently hazardous and invasive. This innovative idea aims to develop a non-invasive, thermo-stable, saliva-based and field adaptable molecular method for nation-wide surveillance of malaria in Cameroon and Senegal. The technique will stabilize Malaria parasite DNA in saliva at ambient temperatures for up to one year, saving the cost of cold storage.

Project details: <http://bit.ly/1xXvzqL>

Improving water quality for fish aquaculture in the developing world

University of Toronto, Toronto, Canada (Implementation: Vietnam)

More than 842 million people, mostly in the developing world, do not have enough food. Poor nutrition causes 45% of deaths in children under five. This innovation is introducing a passive (natural) aeration system to improve water quality and production in aquaculture ponds. The idea uses the notion that a pond has two layers. The top layer is oxygen rich, as plants in the water generate oxygen in daylight. The bottom layer is cold and oxygen depleted. Unlike aquaculture in developing countries, this system will use no electricity, passively mixing the two layers to improve the pond's overall oxygen content by up to 30%, resulting in more fish and less antibiotics use on stocks.

Project details: <http://bit.ly/1xXvx8s>

Mobile phone microscopy for global health applications

University Health Network, Toronto, Canada (Implementation: Cote d'Ivoire)

Many major global health threats (malaria, tuberculosis, parasitic infections but also cancer and nutritional issues) require quality diagnostic tests for both clinical and public health purposes;



however, such tests are not available in resource-constrained settings. These innovators have developed a mobile phone microscope capable of facilitating diagnostic testing in rural, remote and resource-constrained environments. This device has many attractive attributes for global health applications: it is portable, inexpensive and easy to use, does not require a steady electricity supply, and functions as a point-of-care test.

Project details: <http://bit.ly/1vK1rod>

A decentralized surveillance system for measles and rubella powered by paper-based digital microfluidics

University of Toronto, Toronto, Canada (Implementation: Vietnam)

Measles and rubella are major contributors to childhood mortality and disability, representing a significant global economic and social cost. Diagnosis currently relies on expensive immunoassay robots, which are only available in central laboratories. A decentralized surveillance system powered by paper-based digital microfluidics (an emerging liquid-handling technology) could be the solution. The system relies on an automated platform that can do laboratory-quality measles and rubella immunoassays using a single drop of blood. The system is fast, simple-to-use, and provides significant savings through reduced reagent and sample transport costs.

Project details: <http://bit.ly/1vK1ssm>

Locally produced, fortified infant cereal in rural Haiti to improve health outcomes

Associazione Volontari Per Il Servizio Internazionale, Haiti (Implementation: Haiti)

In Haiti, many women and children suffer from micronutrient deficiencies, and the growth of 20% of children is stunted. This project aims to build the capacity of a local social enterprise to bring to market a fortified infant cereal that meets the World Health Organization (WHO) standards. The key to success is the integrated approach with the development of a business plan and social marketing strategy that will engage local stakeholders to strengthen the supply chain by improving agricultural practices, production, marketing and distribution of the cereal. This idea leverages ties with women in the community, involving them in the marketing and distribution, and the provision of education about appropriate infant feeding practices to their peers. This will sustain product demand and promote optimal feeding practices.

Project details: <http://bit.ly/1AO2eq8>

The causal impact of kerosene smoke on child health in Rwanda

NURU East Africa Limited, Rwanda (Implementation: Rwanda)

Over two billion people in the world burn kerosene for lighting. Inhaled kerosene fumes are detrimental to human health, killing at least 1.5 million people each year. The primary users, women (who do the cooking) and children (who stay in the house), ingest the equivalent of smoking two packs of cigarette per day. This project will study the relationship between kerosene smoke and child health more closely. It will also evaluate the effects and effectiveness of clean LED lighting on health.

Project details: <http://bit.ly/1AO2eq9>

FasoPro: transforming caterpillar shea into food supplements to fight malnutrition

2iE, Burkina Faso (Implementation: Burkina Faso)



Burkina Faso remains one of the poorest countries in the world, where malnutrition affects children under five years in particular and causes 40,000 deaths per year. Social enterprise FasoPro wants to fight hunger and malnutrition by developing a diverse range of products using caterpillars' shea, a highly nutritious larva that is a widespread local resource in Burkina Faso. The approach will involve local agriculture businesses for sustainability and also improve awareness and local know-how about malnutrition.

Project details: <http://bit.ly/1xXvzqK>

HandyPod: Introducing sanitation in floating communities

WaterAid, Cambodia (Implementation: Cambodia)

An increasing number of people are living on water and without access to sanitation. Diarrheal incidence and child mortality are higher in floating villages than in land communities. The HandyPod is an innovative treatment system, using two-stage sequestration and treatment that includes aquatic plants, that is addressing the challenge of providing effective sanitation to floating communities. Technical support, marketing and sales training are provided to entrepreneurs who can scale up access to sanitation. The potential impact will be a vast improvement in the health of millions worldwide, as current solutions are non-existent or ineffective.

Project details: <http://bit.ly/1AO2eqa>

Non-MNCH Projects

Implementing a novel electronic trauma registry application

McGill University, Montreal, Canada (Implementation: Mozambique)

The burden of injury has reached epidemic proportions, especially in low-income countries. Annually, injury costs more than five million lives. The social and economic burden of injury is profound and disproportionately affects young people, the most productive demographic of the population. The introduction of an innovative electronic trauma registry allows for rapid and real-time data collection and analysis, which is essential in resource-limited settings. This will set the foundation for surveillance, education and implementation of effective policies to reduce the burden of injury.

Project details: <http://bit.ly/1AO2qOI>

Take a photo, save a life – analyzing images of eyes to detect vascular disorders

Nile University, Egypt (Implementation: Egypt)

Cardiovascular Diseases (CVD) are the number one cause of death in the world, with over 80% of all deaths taking place in low- and middle-income countries. While early detection of CVDs is possible through affordable tools such as lab tests, its efficacy is limited because the patient never checks his heart until CVD symptoms appear in late stages. This innovation aims to empower every individual through an innovative CVD detection tool running on her/his smartphone: just take a photo of your eye and your vascular health will be automatically assessed. This practically shifts the CVD screening task from health workers to individuals at their home.

Project details: <http://bit.ly/1vK1ssn>

A rapid non-invasive strategy for the detection of Onchocerca microfilaria in the skin



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McGill University, Montreal, Canada (Implementation: Cameroon)

Onchocerciasis, also known as river blindness, is the second most common cause of blindness due to infection. Although new and effective drugs for treating Onchocerciasis are available, current diagnostic methods are slow, invasive and insensitive. 'Onchoflash' is an important new diagnostic tool using fluorescent markers in the form of a skin patch that provides users an easy to read, bright readout,. This will get them more interested and involved in prevention and treatment, facilitating adaptations in their behaviour, and they will learn to better prevent and deal with onchocerciasis.

Project details: <http://bit.ly/1FofCzh>

For more information, visit grandchallenges.ca and look for us on Facebook, Twitter, YouTube and LinkedIn.

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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.

www.grandchallenges.ca

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