

Brain Awareness Week

KEY VOICES IN BRAIN HEALTH AND RESEARCH OFFER STRATEGY TO CEMENT CANADIAN LEADERSHIP

Canadian researchers are world leaders in many areas of neuroscience and mental health at a time when the explosion in knowledge about the brain is setting the stage for dramatic breakthroughs.

At the same time, Canadian excellence alone is not enough to ensure the nation remains on the leading edge of brain research. Years of chronic underfunding of R&D and the absence of a co-ordinating targeted national strategy mean that Canada's ability to keep up with brain-related advances is at risk.

A broad coalition of Canadian organizations involved in all aspects of brain health and research is proposing a solution to this challenge, the Canadian Brain Research Strategy (CBRS) – an innovative approach to brain-research investments designed to build on Canadian strengths and help Canada remain competitive globally.

"Data on the brain is accumulating at an unprecedented rate, and with new tools like AI, the world is on the verge of a new era in brain science," says Dr. Jennie Z. Young, executive director of CBRS. "For Canada to seize this opportunity, we need a holistic approach to brain health and research, one that covers the entire lifespan and recognizes the interconnectedness of brain disorders."

Canada has national strategies for dementia and for autism, Young explains. "Those strategies are necessary, and now we need to unify those efforts. We don't have the right systems in place to ensure knowledge is quickly shared so that all areas with overlapping interests benefit, as in the strong linkages between Alzheimer's disease and depression. That's why we need an

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Dr. Jennie Z. Young
Executive Director, Canadian Brain Research Strategy



New levels of collaboration and co-ordination will optimize investments and build a stronger brain research ecosystem. GETTY IMAGES

overarching national strategy."

The coalition members who came together to develop the strategy include university research centres across the country, research funding agencies, charitable health organizations, patient advocacy organizations, Indigenous Knowledges Holders and private companies. Areas of expertise range from Alzheimer's disease, epilepsy, spinal cord injury and brain tumours to mood disorders, addiction and research ethics.

A PRESSING SCIENTIFIC CHALLENGE

The stakeholders share a belief that optimizing brain health is one of the most pressing scientific and societal challenges of our time.

According to world data, more than 7.5 million Canadians reported living with a neurological or mental health disorder in 2019, a number that is growing rapidly since the COVID-19 pandemic and with aging demographics. The coalition notes that brain conditions pose a significant burden on individuals, families, care partners, our society, global productivity and the economy.

Finding solutions to prevent and treat brain conditions is critical, but brain research extends much further, Young says.

"Our brains are at the centre of everything we do and who we are. Every Canadian deserves to be able

to operate at their full potential with a healthy brain. We need to recognize that our brains are like a natural resource that needs to be supported and developed to build a more productive and healthier society."

PEOPLE AND RESEARCH INFRASTRUCTURE

The CBRS coalition has developed a detailed framework to catalyze new levels of progress in brain and mental health research.

A key premise is to strengthen the brain research "ecosystem" across the country, similar to the strategies the government supports for artificial intelligence and quantum technologies. The coalition calls for long-term, stable and flexible funding to cultivate a highly skilled brain science workforce and build infrastructure to unite research and translation efforts across Canada.

"Many organizations have been funding platforms for large datasets, but not everyone who could benefit can access the data," explains Young. "We need to expand connections, whether virtual or in-person, so research centres of all sizes benefit from these investments."

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ordination, research support personnel and other forms of infrastructure that enable more collaboration and sharing of skills and knowledge."

Young says Canada is uniquely positioned to thrive with this type of approach. "Canadian brain researchers are used to collaborating outside traditional areas and across disciplines. Taking the next step with strategic investments will help deliver more brain innovations and breakthrough treatments to all Canadians."

The complexity surrounding brain and neuroscience research requires co-ordination and close collaboration between all stakeholders as well as strong partnerships between the public and private sectors. Dedicated research funding for brain health must be a priority at intergovernmental, national and regional levels and should be both driven and supported by governments.

– World Health Organization

A DECADE FOLLOWING SEED FUNDING, BRAIN HEALTH CENTRE CONTINUES TO DELIVER RESULTS, BUILD SUPPORT

In 2014, a \$15-million gift from a private foundation built upon the reputation of a pre-existing Brain Research Centre at UBC to establish a new focal point for partnerships focused on brain research, education and patient care.

Today, the namesake Djavad Mowafaghian Centre for Brain Health at UBC continues to not only honour its namesake founding donor's vision to improve brain health, but also those of other private and public supporters who have backed what has grown to become one of Canada's leading multifaceted brain health centres.

Dr. Mowafaghian believed the facility would help pave the way for both future brain health discoveries and directly serve people living with brain disorders.

At the time, Dr. Mowafaghian, a respected Vancouver philanthropist who passed away in 2022, said, "The brain has been referred to as the last frontier of medicine; I hope that my gift will enable doctors and researchers to reach that frontier."

The centre, which now operates as a partnership between Vancouver Coastal Health and the UBC Faculty of Medicine, conducts brain research on its upper floors and provides patient care on its lower levels, including specialized clinics dedicated to Alzheimer disease, Huntington disease, Multiple Sclerosis, depression and movement disorders.

According to a "give UBC" website article published in February, which chronicled the centre's 10th anniversary, the facility has evolved into the nexus of UBC's neuroscience community. All told, it brings together over 150 interdisciplinary researchers and scientists spanning a range of faculties and departments across UBC campuses and affiliated institutions across the country.

In the past year alone, the centre's clinics also welcomed over 21,000 patients and championed dozens of clinical research studies.

The Djavad Mowafaghian Foundation's seed investment, which was further supported by contributions from the B.C. and federal governments, has attracted support from numerous private donors whose heft has further bolstered the state-of-the-art facility's capacity.

For example, the Charles E. Fipke Integrated Neuroimaging Suite (FINS) helps researchers test new therapies in clinical trials; the Neuroimaging and NeuroComputation Centre (NINC) supports big

data analysis. The Borgland Family Brain Tissue and DNA Bank houses over 6,000 human DNA samples; the Rudy North Lecture Theatre has hosted thousands of classes, seminars and public events over the past 10 years.

Djavad Mowafaghian Foundation president Hamid Eshghi is confident that his uncle's legacy will continue to grow and pay dividends to the health sciences community and society.

"This centre is poised to continue to grow and advance its mission of promoting brain health through innovative research, education and patient care in British Columbia and across Canada," said Eshghi.

His confidence appears well founded. Among the latest announcements, the Canadian Institutes of Health Research provided \$4-million in funding towards seven of the centre's projects to advance research in areas ranging from Huntington disease to bipolar disorder and stroke treatment.

At the recent anniversary commemoration, UBC president and vice-chancellor Dr. Benoit-Antoine Bacon expressed gratitude to the Djavad Mowafaghian Foundation and the late Dr. Mowafaghian "for putting your trust in UBC more than a decade ago."

"The ripple effect of your investment in this state-of-the-art facility is felt throughout B.C., across the country and beyond."

Brain health proponents believe that with further strategic investments and coordination, Canada has the potential to build an even stronger research eco-system.



Djavad Mowafaghian Foundation president Hamid Eshghi is confident that the impact of his uncle's donation to UBC will continue to grow and pay dividends to the health sciences community and society. SUPPLIED

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