

## PROGRAM DETAILS

### Brain Health: 2021 - Lifestyle Approaches and Microbiome Contributions

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#### Background

For three generations, The W. Garfield Weston Foundation has pursued its mission to enhance and enrich the lives of Canadians. With a focus on health and landscapes, the Foundation aims to catalyze inquiry and innovation to bring about long-term change. Now in its sixth decade, the Foundation continues to collaborate with a broad range of Canadian charities to further world-class research, explore new ideas, and create tangible benefits for the communities in which it works.

The Foundation through the Weston Brain Institute (the “Institute”) and the Weston Family Microbiome Initiative (“WFMI”) aims to catalyze and scale science-based approaches to significantly improve the health and well-being of Canadians. The Foundation will take a leadership role in tackling large problems that are under-addressed by supporting research that is particularly relevant to Canadian’s health and that empowers Canadians to improve their health and well-being.

A particular focus of the Foundation is to increase the number of Canadian maintaining better brain health throughout their lives (i.e., reducing incidence of disease). There is growing evidence that changes to lifestyle may prevent, treat and/or decrease the risk of some neurodegenerative diseases of aging (e.g., Alzheimer’s and Parkinson’s disease). Yet, the means by which these approaches may be successfully implemented into the daily lives of Canadians remain elusive. Similarly, there is a wealth of research suggesting that the microbiome plays important roles in health and disease. However, a nuanced understanding of the role of the microbiome in neurodegenerative diseases of aging, as well as how to modify, manipulate or exploit the microbiome to prevent or delay disease is lacking.

While lifestyle approaches and microbiome-targeted approaches each present promising opportunities for the maintenance of health during aging and the treatment and prevention of disease, the interaction and combination between lifestyle and microbiome-targeted approaches for treatment and prevention of disease is also a promising area and of significant interest. The **Brain Health: Lifestyle approaches and Microbiome Contributions** program seeks to increase the number of Canadians maintaining better brain health throughout their lives. This program aims to advance the treatment (e.g., symptomatic relief, disease modification) and/or prevention of **neurodegenerative diseases of aging** by accelerating the development and implementation of lifestyle approaches and/or identifying the contribution of the microbiome.

**Lifestyle approaches** refer to the behaviours, exposures, or environments that can be modified to 1) optimize and/or maintain brain health, or 2) prevent (e.g., change a person’s risk), or treat (e.g., symptomatic relief, disease mediation) neurodegenerative diseases of aging. **Microbiome contributions** refer to determining the mechanisms or degree to which the human microbiome (e.g., nasal, oral, gut, skin) may be involved in the process of a neurodegenerative disease of aging.

### Important things to know about the Foundation

- **We focus on funding translational research.**
- **Funds are provided contingent on meeting milestones.** If your project is awarded, funds are provided in tranches when experimental milestones are successfully completed.
- **Our application process is interactive.** You may receive feedback on your applications and, if necessary, be asked to make modifications. We also encourage you to reach out if you have questions about our funding programs.
- **Many projects are declined at the Letter of Intent (LOI) stage.** Only ~15% of LOIs are invited to the Proposal phase, so that applicants and reviewers spend their time on Proposals that have an excellent chance of being funded. Proposal funding rates have ranged from 30-50%.
- **We provide more than funding.** Our grantees may also benefit from things like the expert advice from our scientific advisors, industry exposure, networking, and international collaboration opportunities.

### Section 1 Scope

The Brain Health: Lifestyle Approaches and Microbiome Contributions seeks to accelerate the development of lifestyle approaches and understanding the contributions of the microbiome in maintaining brain health starting in midlife. Eligible projects can be **Research Questions** or **Implementation Initiatives**.

**Research Questions:** Hypothesis-based questions that help accelerate the development of lifestyle approaches or microbiome contributions to brain health.

- For lifestyle approaches, Research Questions could include: Testing novel lifestyle approaches (e.g. diet, physical activity, stress, sleep, social engagement, hearing function, cardiovascular function, weight control, smoking, treatment-responsive depression, metabolic function, or combinations of such factors) for the treatment and prevention of neurodegenerative diseases of aging.
  - Some therapeutics are also eligible if combined with a lifestyle approach as defined by the Foundation (e.g., the combination of a statin and physical activity to lower the risk of cardiovascular disease) (see Therapeutics definition below).
- For Microbiome contributions, Research questions could include: Understanding how to manipulate the microbiome for the treatment and prevention of neurodegenerative diseases of aging, and/or understanding the mechanism of action of microbiome-related approaches that have translational relevance for neurodegenerative diseases of aging (e.g. interactions between the diet and microbial metabolism, probiotic therapies that modify the functional capacity of the microbiota).

**Implementation Initiatives:** Approaches to address operational questions (e.g., how to best administer an exercise intervention to delay the conversion of people with mild cognitive impairment to Alzheimer's disease.) and/or put findings into practice (e.g., implementing the Mediterranean diet and measuring short- and long-term impact on brain and cognitive function and the potential to prevent/delay onset of Alzheimer's disease).

Projects must include one or more brain related outcome measures (e.g., fluid-based biomarker, neuroimaging outcome measure, well-established clinical/cognitive measures) as a readout of every project. Projects should show how the Research Question or Implementation Initiative will impact brain health.

*Applications that integrate both Lifestyle approaches and Microbiome contributions to brain health are encouraged but are not required.*

*Preliminary data are not required for this program. However, compelling scientific rationale is required (e.g., from the literature or preliminary data).*

The Foundation encourages applicants to contact us (416-967-7822, [brainhealth@westonfoundation.ca](mailto:brainhealth@westonfoundation.ca)) with any questions regarding the program, including whether a potential idea is in scope.

## Section 2 Funding Specifications

**Total funding:** The Foundation is able to fund many grants through this program. Grants are contingent on the receipt of high-quality applications.

### Funds available per project:

- Up to **\$1,500,000** per project over up to 36 months, as determined by the Foundation
  - For projects testing a lifestyle approach, an additional \$100,000/ project may be available to enable collection and analysis of microbiome samples.
- Funds will be granted only for direct costs that are appropriate and justifiable for the work proposed.
- Funds cannot be used for equipment or computer purchases unless prior written approval from the Foundation has been obtained.
- Funds cannot be used for administrative or indirect costs or for salaries for people who already receive salaries from their institutions.
- Travel expenses to scientific conferences/meetings to present work and publication costs associated with the awarded project can be included in the budget.
- Each item and its cost must be clearly described in the budget (at the Proposal stage only).
- The amount granted may not be for the full amount requested if the review committee only recommends part of the grant for funding.
- Up to 35% of the funds can be used for unique international resources (e.g., in-licensing IP, supporting a co-applicant or collaborator).

Any grant provided by the Foundation pursuant to this Program shall be directed to the institution and not to any individual. Responsibility for the planning, direction, and execution of the proposed project will rest solely with the Applicants.

**Multiple institutions:** In the event of collaboration between multiple institutions, it is the responsibility of the Principal Applicant to distribute/manage funds appropriately.

**Full or partial support of projects:** The Foundation can support a full project or parts of any project. If the application is for part of a larger project, the criteria for granting will be applied only to the part of the project proposed. Applicants should make clear what part of the larger project the Foundation funding would support.

**Conditional funding and milestones:** Grants are conditional on grantees meeting pre-determined milestones and providing deliverables, including submission of progress reports and participation in Foundation sponsored Research Days. Continued support is not automatic and is contingent upon the grant progress being favourably reviewed by the Foundation.

**Supplemental funding:** The Foundation encourages grantees to seek additional funds to further their work from other sources or from the Foundation. The Foundation has no guaranteed policy for renewal or continuation of grants. The Foundation may, at its discretion, seek to further support clearly successful projects. Grantees are also eligible to apply for funding through other Foundation programs.

### Section 3 Application Process

The application process consists of two stages: Letters of Intent (LOIs) and Proposals. To apply, applicants must submit an LOI to the Foundation. Selected applicants will then be invited to submit a Proposal. Each LOI and Proposal is peer-reviewed by a scientific review committee.

The LOI stage of the application process is a significant stage of evaluation. Applicants whose LOIs meet the rigorous review criteria will be invited to submit a Proposal. Typically, only a small proportion of applicants (~15%) are invited to submit full Proposals, and of those, many will be funded (~30-50%). This process ensures that LOIs are easy to submit so that good ideas are not missed, while ensuring applicants taking the time to write full Proposals have a very good chance of being funded. Proposal instructions and feedback from our scientific review committee will be forwarded along with the invitation. Budgets are only required at the Proposal phase.

If awarded, the applicant must ensure that the grant agreement is completed within 6 weeks of notification of selection; otherwise the Foundation reserves the right to cancel the grant.

### Section 4 Review Criteria

Criteria considered when reviewing LOIs:

- **Impact:** If successful, will the project accelerate the development of lifestyle approaches or microbiome contributions for brain health in a significant and sustained way?
- **Experimental approach:** Are the overall strategy, methodology and analyses well-reasoned and appropriate to accomplish the specific aims of the project?
- **Innovation:** Does the project challenge or advance current paradigms? Will the work refine, improve or be a new application of theoretical concepts, approaches, methodologies, instrumentation or intervention?
- **Fit:** Is the project, including its scale and scope, appropriate for this program?
- Other as needed

Additional criteria considered when reviewing Proposals:

- **Experimental approach:** Are potential problem areas adequately considered and addressed? Is the project reasonably powered?
- **Development plan:** What are the steps that need to be completed after this study to continue development if successful?

- **Risk appropriateness:** Is the scientific risk (likelihood that the hypothesis will not be supported) commensurate with the potential reward of the project if successful? Has executional risk (likelihood that the project cannot be completed) been addressed as much as is reasonable?
- **Team and environment:** How well-suited are the team and environment for this work? Does the work take advantage of unique features of either?
- **Budget and timeline:** Are the proposed budget, milestones and length realistic yet aggressive for the research proposed? These are secondary considerations after the other criteria have been weighed.
- Other as needed

## Section 5 Eligibility of Applicants

For this program, the Foundation is only able to accept LOIs and Proposals from institutions (or individuals affiliated with and applying through or on behalf of institutions) that are Canada Revenue Agency qualified donees located in Canada. Funds can also be used to support the Canadian portion of collaborations with members from other geographies. Applicants may appear in any role on any number of projects.

Eligible Principal Applicants must be a researcher working in Canada at least 30% of the time and hold a position at or above the level of Assistant Professor or equivalent. Co-applicants and Collaborators must be at the post-doctoral level or above and can be working outside Canada.

Proposals submitted to this Program must be approved by the institution on whose behalf or through which the Proposal is being submitted. However, LOIs do not need to be approved in this manner.

## Section 6 Reports and Assessments

Grantees must complete the following if a grant is awarded. Templates for reports will be provided by the Foundation:

- **Milestone Reports.** Payments are tied to successful completion of project milestones mutually agreed upon by the Applicants and the Foundation. A milestone report is due prior to each scheduled payment being made.
- **Progress Reports.** A progress report includes a written report with budget and, if requested by the Foundation, a telephone discussion with the Principal Applicant and/or data underlying the research (solely for use in assessing progress). Progress reports are due annually unless otherwise notified by the Foundation.
- **Research Day.** At least one Applicant on the grant must attend Research Day(s) to report on the progress of the project and have the opportunity to meet other funded researchers. Applicants will attend one Research Day per year, unless otherwise notified by the Foundation. Additional key personnel may also attend if approved by the Foundation. Please include travel expenses for one person to Toronto for a one-day, overnight trip to Toronto within the budget.
- **Foundation Member Visits.** With prior consent of Applicants, Foundation members may wish to visit researchers to see project work underway. These visits are not mandatory, and the Foundation hopes that grantees will welcome this opportunity.

- **Financial Accountability.** Grantees are expected to account for the moneys expended under any Foundation grant; any moneys spent either not in accordance with the approved research project or prior to pre-approval of any material change in the project are both recoverable and subject to restitution by the grantees to the Foundation and may be cause for immediate termination of funding. Any funding provided beyond what is needed for the agreed upon research must be returned to the Foundation.

## Section 7 Confidentiality

The Foundation treats all LOIs, Proposals, research projects and associated research information (collectively, the “Confidential Information”) in confidence using reasonable care in protecting such Confidential Information from disclosure to third parties who do not participate in the grant review process and Foundation assessments. All Confidential Information will be used by the Foundation and its scientific review committee for the purposes of reviews and assessments and will be shared only in accordance with the sharing policy as set out herein. Notwithstanding the foregoing, Confidential Information shall not include any information that:

- a) was generally known to the public prior to the effective date of this Program announcement;
- b) becomes generally known to the public through no unlawful or unauthorized act by any recipient of Confidential Information; or
- c) was independently developed by the Foundation or its scientific review committee without reference to the Confidential Information.

If the Foundation or any of its scientific review committee members is requested to disclose Confidential Information pursuant to a legal or governmental proceeding, the Foundation shall give the Applicant or other owner(s) of such Confidential Information notice of such disclosure request as soon as is reasonably practicable.

## Section 8 General Information

Institutions and individuals affiliated with and applying through or on behalf of institutions (collectively, “Applicants”) should carefully discuss the Program announcement and the terms of this document with the appropriate office at their institution before submitting an application. The submission of an LOI or a Proposal does not bind either the Foundation or the Applicants by any commitment to provide or receive funding, respectively. Successful Applicants will be required to agree to terms substantially similar to those contained in this document and the Foundation reserves the right to alter, delete or add additional terms in the grant agreement between the successful Applicants and the Foundation.

The Foundation reserves the right to accept or reject any or all applications at its discretion and to negotiate the terms of the specific grant agreement with Applicants.

The Foundation, at its sole discretion, may change the timeline of the application process.

## Section 9 Other

### ***Liability and Indemnity***

Each Applicant pursuant to this Program acknowledges and agrees in responding to the Program

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The W. Garfield Weston Foundation welcomes any inquiries concerning this program announcement. Please contact the Foundation at [brainhealth@westonfoundation.ca](mailto:brainhealth@westonfoundation.ca) or 416-967-7822.

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announcement that the Applicant shall have no claim against the Foundation, and its respective representatives, related companies or affiliates, should such Program response be unsuccessful for any reason. Each Applicant hereby remises and releases the Foundation, its representatives and affiliates, from any cause of action, complaint, or claim in connection with the Research Funding Announcement (RFA) process and its outcome.

The Foundation's role in grants awarded pursuant to this Program is that of a funder. The Foundation is not the sponsor of funded projects. As such, the Foundation will not assume any liability associated with funded projects and each Applicant who is ultimately awarded a grant pursuant to this Program releases the Foundation from any and all liability with respect thereto and further indemnifies the Foundation, and its respective representatives and affiliates, from any claim or loss whatsoever associated with the applicable grant.

### ***Intellectual Property Policy and Intellectual Property Agreements among Collaborators***

The Foundation acknowledges that any intellectual property ("IP") that arises from research funded through this Program, including discoveries, is not the property of the Foundation.

The Foundation requires that researchers and collaborators agree on any material IP issues prior to submission of a Proposal.

### ***Publication and Sharing Policy***

The Foundation expects results of funded research to be published as rapidly as possible in open access scientific literature or other forms of publication that are readily available to the general public and/or research community. Such publication should be consistent with high standards of scientific excellence and rigor and provide sufficient detail so the research community can benefit from the findings from or in connection with the funded project.

A lay person abstract of the research proposal must be submitted prior to funding. A lay person abstract of the research results must also be submitted no later than 9 months from the date of grant expiration. These abstracts may be made available to the public by the Foundation.

Any presentation, releases, papers, interviews, publication or other forms of communication dealing with the awarded project or the results from the awarded project must acknowledge the funding provided by the Foundation, in a manner proportionate to the contribution of the Foundation. Any other use of the Foundation's intellectual property, including its name, logo or trademark requires prior written permission of the Foundation.

All tools or reagents (i) funded by and (ii) that result from funded projects should be made readily available to the research community either freely or at reasonable prices within 9 months of study completion. If sharing of such tools or reagents will jeopardize the Applicant's right to secure patents or copyrights necessary to protect the Applicant's ownership, then they should be made available as soon as these rights have been secured. The Foundation may let the public know of these tools or reagents so other researchers know they are available.

The Foundation encourages sharing of data and making raw data publicly available where possible.

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The Foundation requires any clinical trial awarded under any of its funding programs be registered with [clinicaltrials.gov](http://clinicaltrials.gov), [PD.Trials.org](http://PD.Trials.org), or other appropriate public registry.

### Foundation definitions

A full list of our definitions and FAQs is available on [our website](#).

- **Brain health:** An individual's optimal level of cognitive well-being that is equal to or greater than the normal cognitive aging process and is free of brain diseases/conditions (e.g., neurodegenerative disease of aging).
- **Lifestyle approach:** Behaviour(s), exposure(s) and/or environment(s) that can be modified to 1) optimize and/or maintain brain health, or 2) prevent (e.g. change a person's risk), or treat (e.g., symptomatic relief, disease modification) neurodegenerative diseases of aging as defined by the Foundation.
  - Examples include: diet, physical activity, stress, sleep, social engagement, hearing function, cardiovascular function, weight control, smoking, treatment-responsive depression, metabolic function, or a combination of such factors.
- **Microbiome contribution:** The mechanism (to the extent it is translationally relevant) or degree to which the human microbiome (e.g., oral, skin, gut) may be involved in the pathological process of a neurodegenerative disease of aging as defined by the Foundation (e.g., due to lack or overabundance of a specific species, strain, or metabolic pathway).
- **Implementation Initiatives:** Projects investigating the implementation of a lifestyle approach and/or microbiome contribution. Project may address operational questions (e.g., how to best administer an exercise intervention to delay the transition of people with mild cognitive impairment to Alzheimer's disease.) and/or put findings into practice (e.g., implementing the Mediterranean diet and measuring short- and long-term impact on brain and cognitive function and the potential to prevent/delay onset of Alzheimer's disease).
- **Research Questions:** Hypothesis-based questions that help accelerate the development of lifestyle approaches or microbiome contributions to brain health.
- **Neurodegenerative diseases of aging:** Alzheimer's disease, frontotemporal dementia, dementia with Lewy bodies, multiple system atrophy, Parkinson's disease, progressive supranuclear palsy, vascular contributions to the listed diseases, and prodromes to the listed diseases (e.g., mild cognitive impairment as prodromal to Alzheimer's disease; REM sleep behavior disorder as prodromal to Parkinson's disease).
- **Tool for brain health:** An item that accelerates development or implementation of lifestyle approaches or microbiome contribution for brain health (e.g., wearable technology, digital biomarker, imaging techniques or reagents, biomarkers, and diagnostics.)
  - Tools must have direct impact on the development or implementation of lifestyle approach or microbiome contributions (as defined by the Foundation) for brain health and will be valued only on their ability to do this.
    - Any value the tools contribute to basic research will not be taken into consideration. For example, tools will not be valued for their ability to identify new targets or understand disease mechanisms.
  - Projects covering only the discovery/identification of a tool are out of scope.
- **Therapeutic:** A pharmacological approach (including small molecules, biologics, cell therapies, probiotics, prebiotics, and vaccines, including drug repositioning and repurposing), medical device, surgical intervention, or magnetic or electrical brain stimulation. Therapeutics can be for



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symptomatic relief, disease modification, or prevention.). Identification of novel therapeutics is in scope (e.g., high throughput compound screens); however, identification of novel therapeutic targets, including genes implicated in disease, is not in scope.

- Note about therapeutics:
  - Therapeutics tested in isolation (e.g., monotherapies) are not eligible for funding through this program, at this time, unless they specifically target the microbiome (e.g. probiotics). For this program, therapeutics are only eligible when combined with a lifestyle approach (as defined by the Foundation).
  - Therapeutics for the treatment or prevention of a neurodegenerative disease of aging (as defined by the Foundation) not combined with a lifestyle approach are eligible for funding through the Weston Brain Institute (i.e., Rapid Response, Transformational and/or Early Phase Clinical Trials programs).
  - For any questions regarding the scope of your project, please contact us at 416-967-7822, [brainhealth@westonfoundation.ca](mailto:brainhealth@westonfoundation.ca).
- **Clinical trial:** Research in which one or more human subjects are prospectively assigned to one or more interventions to evaluate the effects of those interventions on health-related biomedical or behavioral outcomes.
- **Clinical trial sub-study:** A study investigating a question not addressed by the main trial and which may involve obtaining additional measurements and data collection from a sub-group of all participants from the main trial.