

**Applicant**

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**Project Title**

Investigating the interplay between genetics, social, and environmental factors in nutrition, aging, and health in the CLSA

**Project Summary**

Canada is undergoing a dramatic process of population aging, where nearly 25% of the population is expected to be aged 65 years and older by 2030. The promotion of "aging in place", referring to having the health and social supports and services needed to live safely and independently in one's home or community for as long as desired and able, is anticipated to substantially reduce strains on health and caregiving services. However, the process of aging is impacted by a multitude of diverse biological, social, and environmental factors. Our research team has successfully developed a program to study relationships and interactions between the multiscale dimensions of health and disease as they pertain to aging, including genetic and non-genetic factors. Our previous work has identified important relationships between psychological and social (psychosocial) factors with diet and health outcomes. An important observation was that the psychosocial factors were significantly related to the outcomes independently of genetic risk for disease. As a continuation of our work with CLSA data, we propose to extend our approaches to incorporate data from CLSA follow-up assessments, link national data on the local food environment, and consider cognitive variables to further our investigation of the interplay between genetics, social, and environmental factors in nutrition, aging, and health. Key areas of interest include: 1) evaluating relationships between social factors and health outcomes related to cognitive function and chronic disease, and 2) evaluating relationships between the local food environment and chronic disease risk. We will also explore how genetic risk of neurodegenerative and chronic diseases may be modified when non-genetic factors are considered (diet, social, and food environment factors).

**Keywords**

aging, cognitive, food environment, genetics, nutrition, social determinants