



CLSA Canadian
Longitudinal
Study on Aging
ELCV Étude Longitudinale
Canadienne sur le
Vieillessement

Canadian
Association
on Gerontology  Association
canadienne
de gérontologie

**CLSA presented a CIHR-Sponsored Symposium at the
2006 Canadian Association of Gerontology (CAG) annual
conference in Québec City (October 26-28)**

**Studying Adult Development and Aging: Planning for the
Canadian Longitudinal Study on Aging**

The Canadian Longitudinal Study on Aging (CLSA) is a multi-disciplinary study of adult development and the aging process that, when launched, will be one of the most complete studies of its kind undertaken to date. A total of 50,000 men and women aged 40-84 will be followed over two decades as they enter into and comprise the senior population. The study takes a lifespan perspective and adopts a variation of the determinants of health framework to conceptualize the ways in which social and physical environments; genetic, biological and clinical factors; lifestyle and behavioural factors; social and societal factors; economic prosperity; and the health care system are inter-related to influence disease, function and well-being as individuals age. Scheduled to be launched in 2008, the CLSA will require long-term participation from the Canadian population and will entail a variety of data collection methods including telephone and face-to-face interviews, physical assessments and the provision of biological samples; linkage to administrative databases is also planned. The CLSA research team includes experts from across Canada in biology, genetics, clinical research, social sciences, economics, psychology, nutrition, health services, statistics, epidemiology, and population health. To date, more than 200 researchers across the country have contributed to the design and content of the protocol. The CLSA is also envisioned as a research platform and through its large sample, multidisciplinary focus, and longitudinal design will provide research opportunities unprecedented in Canada and internationally. This workshop, presented by CLSA investigators, will outline the development and progress to date on this CIHR strategic initiative. Presentations will address the overall study design, results from Phase 1 methodological feasibility studies, and plans for Phase 2 content validation studies.

Concept and Design of the CLSA (Dr. Parminder Raina)

Epidemiological studies of aging have typically relied on binary endpoints such as disease occurrence, institutionalization, or death. However, the use of continuously measured quantitative traits is a more efficient approach to estimate associations, and gene-environment interactions. Furthermore, the dynamic nature of aging is more appropriately examined using quantitative traits which change over the lifecourse. The framework for the CLSA focuses on the relationship between precursors (e.g., gene variants, nutrition, physical environment), change in selected quantitative traits (e.g., cognition, inflammatory biomarkers) and the consequences of the changing phenotype on the development of disease (e.g., dementia, mental health), disability (e.g., frailty, physical functioning), and psychosocial factors (e.g., emotional distress, social engagement). The proposed vehicle for recruitment into the CLSA is the Canadian Community Health Survey. All 50,000 participants will undergo repeated waves of data collection (every three years for those aged 40-84 and annually for those over age 80), with inter-assessment contact. 30,000 will be selected to participate in a more comprehensive data collection which will include clinical assessment and biological testing in addition to face to face and telephone interviews. The remaining 20,000 will undergo data collection primarily through computer assisted telephone interviews.

Key Findings from Phase 1 Methodological Feasibility Studies (Dr. Susan Kirkland)

In preparation for the launch of the CLSA in 2008, the developmental activities have been structured into two phases; the first addressed issues of methodological feasibility (Phase 1) while the second will address validation of content measures (Phase 2). We report here on key findings from the Phase 1 feasibility studies examining the logistics of the proposed CLSA study design and its implementation. The findings from three of these studies will be presented in this symposium: (1) A qualitative study to examine the views and acceptance of Canadians with respect to a long-term, multi-faceted study such as the CLSA. For this study focus group discussions were held in Vancouver, Calgary, Winnipeg, Hamilton, Montreal, and Halifax; (2) an assessment of the feasibility of data linkage with administrative health care utilization databases, from telephone interviews conducted with privacy commissioners and data stewards; and (3) an assessment of the appropriateness and feasibility of blood and urine sample collection strategies in private and hospital based clinical laboratories.

Psychology and Aging: A mini-protocol (Dr. Holly Tuokko)

Throughout the life course, some domains of psychological functioning decline (e.g., memory functions) while others remain relatively stable (e.g., personality). Some changes are related to underlying changes in physical and health status (e.g., changes in brain function) whereas others may reflect changes in attitudes, beliefs and values occurring as a function of life experience. Although some large scale longitudinal psychological research has been conducted within the area of adult development, most of this work has focused on the development of specific psychological processes (e.g., memory, intelligence) or has occurred within the context of specific diseases or disorders (e.g., dementia, heart health). The CLSA provides a unique opportunity to examine a variety of psychological constructs as antecedents or mediators of specific and global aspects of health and health-related outcomes. In this presentation we describe the rationale for selection of one psychological measure, cognition, along with selected research questions examining cognition as a precursor, mediator and outcome. Other psychological constructs to be examined in a similar fashion as part of CLSA include personality, mood, affective balance, life satisfaction and self efficacy. Phase 2 content validation studies of psychological measures will be highlighted.

Patterns of association among functional health dimensions. A Phase II validation study (Dr. H el ene Payette)

A central feature of the CLSA is the study of the patterns of association among the functional aspects of health (including biological, physiological, performance, psychological and social) and the identification of trajectories and transitions through life-long development and the aging process. The objective of this validation study is 1) to test the ability of a set of indicators of physical, psychological and social functioning to identify a limited and significant set of patterns of association among the dimensions of functional health and 2) to test for the construct validity of these patterns. Data from the NuAge sample (5-year annual observational study of 1,793 community-dwelling men and women aged 68-82 years in good health at recruitment in 2003) will be used 1) to examine the estimated variance and covariance between the indicators of physical, psychological and social functioning; 2) to identify subsets of characteristic patterns of association; 3) to identify groups of individuals with similar patterns of association; 4) to identify correlations from these analyses with variables known to be associated with health status such as gender, age, education, income, and indicators of health not included in functional health status, such as comorbidity, functional limitations, ADL, IADL.