

CLSA Scientific Executive Summary (2015)

Introduction

Despite long-standing awareness that the aging process is accompanied by multifaceted changes during an individual's lifetime, a clear picture of the combined effects of these changes has not yet emerged. The effects of complex interactions among changing biological, psychological, and social factors can take years to manifest and may well have a different impact on tomorrow's seniors (i.e. the baby boomers) than today's seniors. The Canadian Longitudinal Study on Aging (CLSA) is a large, national, long-term study of adult development and aging. The longitudinal design and extended follow-up will provide a unique opportunity to examine health transitions and trajectories of health and function over time, with the goal of better understanding the complex interplay among the vast array of determinants of health, from gene-environment interactions to transitions to retirement. The CLSA will advance aging research in Canada and enable researchers to move beyond providing a snapshot of the adult Canadian population toward observing and understanding the evolution of diseases, psychological attributes, function, disabilities, and psychosocial processes that frequently accompany aging. The CLSA is a collaboration reflecting the work of the lead principal investigator, Dr. Parminder Raina (McMaster University, Hamilton), and co-principal investigators, Dr. Christina Wolfson (McGill University, Montreal) and Dr. Susan Kirkland (Dalhousie University, Halifax), together with a multi-disciplinary research team comprising more than 160 researchers from 26 universities across Canada.

Study Design

The CLSA consists of a national, stratified, random sample of over 50,000 Canadian women and men aged 45 to 85 years at the time of recruitment. The participants were selected randomly for inclusion into the CLSA. Participants will undergo repeated waves of data collection at three-year intervals and will be followed for at least 20 years. The inclusion of study participants as young as 45 years of age is motivated by the desire to capture mid-life experiences prospectively, since important changes known to influence outcomes later in life may occur during this period. The lower age limit will also permit inclusion of a sample from the baby boom cohort (i.e., those born between 1946 and 1964). The upper limit includes individuals entering their senior years who are making the transition into retirement, those who are already retired, and those who have already reached old age. One of the interests in studying the oldest age group prospectively is to examine transitions into the final years of life. All participants are asked to provide a common set of information on demographic, social, physical/clinical, psychological, economic, and health service utilization aspects relevant to health and aging. Over 30,000 CLSA participants provide the core information through in-home interviews and additional in-depth information gathered through physical examinations and biological specimen collection (blood and urine) at one of 11 data collection sites across Canada: Vancouver/Surrey (two sites), Victoria, Calgary, Winnipeg, Hamilton, Ottawa, Montreal, Sherbrooke, Halifax, and St. John's). The remaining participants (over 20,000) are a nationally representative sample from the 10 Canadian provinces and provide the core information via telephone interviews. Collectively, this information will provide provincial-level estimates of health determinants, health status and health system utilization. An important supplement to the data collected during the CLSA will be linkage to health

administration databases (e.g., publicly funded drug plans, medical services plans, hospitalization, continuing care/long-term care, and/or mortality) to collect complementary information on medication use and health services utilization, and to ascertain deaths and causes of death for members of the CLSA cohort. These linkages will be done in partnership with provincial agencies for those participants who have consented to linkage (over 94%). The data collected as part of the CLSA is managed and stored to protect the privacy and confidentiality of each participant. The standards for confidentiality are overseen by the institutional research ethics review boards. The CLSA also receives advice from CIHR's Advisory Committee on Ethical, Legal, and Social Issues (ELSI).

Implications

The ultimate aim of the CLSA is to find ways to improve the health and quality of life of Canadians by better understanding the processes and dimensions of aging. The CLSA will contribute to healthy aging and the maintenance of active, independent lifestyles for all Canadians. Through the voluntary participation of over 50,000 persons aged 45 to 85 years at the time of recruitment, the CLSA will draw on a range of experiences from mid-life to older age over the next 20 years. The first follow-up of CLSA participants began in July 2015. This is creating a unique research resource that can be used to gain a better understanding of how the multiple aspects of health and aging, both individually and in combination, have an impact on maintaining health and in the development of disease. The first CLSA data became available to researchers in June 2014 and new data will become available after each follow-up. It will also provide a research platform from which to conduct other research studies including nested case-control studies. The benefits of the CLSA will be many. The CLSA will contribute to the identification of ways to prevent disease and improve health services. We will develop a better understanding of the impact of non-medical factors such as economic and social changes on individuals as they age. The wealth of data collected will also create new knowledge on the many interrelated biological, clinical, psycho-social, and societal factors that affect healthy aging. Finally, the CLSA will facilitate the rapid adoption of sound research into health practice, programs and policies, thereby producing a strengthened and more responsive health system.