



# The Canadian Longitudinal Study on Aging

Overview and Relevance  
to the Institute of Health  
Services and Policy  
Research

BC Seniors Regional  
Workshop  
VANCOUVER, 31 March,  
2005

## CLSA

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# Why is the CLSA an important study?

- As the age of the population continues to increase in the majority of countries worldwide, attention is turning to understanding the aging process, and how individuals and populations can age successfully.
- In order to advance our understanding of the causal pathways leading to adverse events or favourable outcomes and meet the needs of the older population of today and tomorrow, there is an urgent need to invest in the ongoing collection of information.
- The CLSA will be one of the largest, most comprehensive studies of its kind in the world.

The CLSA

# Why is the CLSA an important study? Cont'd

- Many studies on aging collect a lot of information on social factors such as wealth, retirement and pensions (e.g. HRS), but lack a similar level of detailed information on health.
- Other studies, such as the UK Biobank, propose to collect biological samples and personal information from a large number of individuals (500,000), but follow-up of participants will be limited to the use of linked datasets.
- The dynamic and multi-faceted process of aging can only be appropriately examined through large scale, longitudinal studies such as the CLSA that capture the changing individual within a changing social context and incorporate multiple levels of inquiry, the cell, the individual and society.

# What can the CLSA contribute that other studies can't?

- The CLSA is a study on *aging*, not just the *aged*. The focus is on healthy and successful aging and not just disease and disability processes.
- For the first time, the CLSA will combine large numbers of study participants followed at regular intervals with the collection of a broad spectrum of information from these individuals (biological, clinical, social, psychological).
- The major difference is the ability to study biological (especially genetics), clinical, lifestyle and psychosocial factors in the same individuals, in combination with large sample sizes, resulting in the ability to address complex interrelationships and rare outcomes and events.

# What can the CLSA contribute that other studies can't? Cont'd

- With the emergence of multi-level analytical techniques, we have the means to study the influence of contextual level factors as well as individual level factors.
- The CLSA will be able to move beyond merely *describing* change over time to actually studying the dynamic *determinants* of change within and between individuals over time.
- Canada has some unique features that make it an excellent “laboratory” for the study of aging:
  - A large “baby boom” cohort, the oldest of whom are about to enter into their senior years.
  - A publicly funded health care system.

# What can the CLSA contribute that other studies can't? Cont'd

- Administrative data bases that capture the health service utilization of the population.
- The ability to link, at the individual level, existing sources of information such as mortality, disease onset, health service utilization.
- A critical mass of Canadian researchers prepared to cooperate and contribute their expertise to a collective resource.

# Why do we need to conduct such a study in Canada?

- Aging successfully is an issue of great interest and importance to the Canadian public and to Canadian policy makers.
- Canada differs from other countries in such areas as health and social policy, health care delivery systems, multi-cultural composition and immigration policy, climate and geography, and retirement policy and pension programs.
- The CLSA will enhance research capacity and build a legacy for future generations of researchers.
- The CLSA will place Canada at the forefront of research on aging internationally.

# Potential Contributions of the CLSA

Examples of contributions that the CLSA has made:

- Strong research networks have been established. The CLSA has brought together multidisciplinary teams of researchers who had not previously worked together, thereby increasing communication and collaboration across disciplines, sectors and regions.
- An increased level of discourse and interest in the study of aging in Canada.

# Potential Contributions of the CLSA

## con'td

- An Ethical, Legal, and Social Issues (ELSI) committee has begun to address the complex ethical and legal issues with respect to the collection, storage and use of data, including biological samples, in longitudinal studies. This will chart new territory, nationally and internationally.
- An innovative study design has been proposed to jointly address policy and science.
- Although the potential to link administrative data at a national level exists, the reality is that the complexities of access and comparability have made it unfeasible for most studies. The CLSA leads the way in the procurement and use of this data at a national level.

# Potential Contributions of the CLSA

## con'td

### Potential contributions to science:

#### Healthy and successful aging

- Living and aging well with chronic health conditions
- Separate the effects of disease from the aging process
- Emphasis on function
- Quality of life
- Objective and subjective comparisons of successful aging

# Potential Contributions of the CLSA

## con'td

### •Adaptation

- The periods of greatest change and life transition are early life and late life.
- Many of the changes in early life tend to be related to gains whereas in later life, they are primarily related to losses (e.g., loss of income, death of loved ones, reduced functional ability).
- Positive adaptation to life changes may be the single most important element of successful aging, yet adaptation is an understudied area, particularly among the older population.
- The CLSA is designed to become the most comprehensive study of adaptation conducted to date.
- Moving beyond describing adaptation outcomes, the CLSA has the potential to provide critical data to help understand the complexities of the adaptation process.

# Potential Contributions of the CLSA

## con'td

### Contextual level indicators of health and aging

- One of the most important contributions to population health over the previous decades has been an improved understanding of the social determinants of health, that is, the broader social and economic context in which individuals exist.
- Canada has been a world leader in this domain of research, and Canadian researchers have contributed substantially to the scientific discourse, which diverges markedly from the individual level “risk factor” orientation to health and disease in countries such as the US.
- For example, it has been demonstrated repeatedly using cross sectional data that poorer people have shorter life expectancy and are more often ill than those who are wealthy, even after accounting for differences in known risk factors.

# Potential Contributions of the CLSA

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- Moreover, it has been shown that neighbourhood income can predict health over and above individual level income, and that the wider the income disparity within a population, the poorer the health of the population.
- These disparities have resulted in increasing attention to the social gradient in health, and the need to capture information on contextual level factors such as social cohesion, working conditions, unemployment rate, social networks, neighbourhood quality and public policies.
- An important contribution of the CLSA will be to combine individual level factors with contextual and environmental indicators over time via the linkage of existing data sources using postal codes.
- Recent advances in multi-level analytic techniques will be employed to further our understanding of this relationship, and to keep Canadian research at the frontier of this emerging field of inquiry

# Potential Contributions of the CLSA

## con'td

### Population genetics

- The sequencing of the human genome will allow finer characterizations of genotypes, and the potential to identify genetic traits associated with both disease and longevity.
- However, genes alone do not determine outcomes, particularly for common, complex diseases.
- A longitudinal study with repeated measures over an extended period of time is essential because while genes do not change over time, gene expression does.
- It should be recognized that the study of gene-environment interactions in the development of disease is beyond the capacity of even a study of 50,000, particularly without sampling families.

# Potential Contributions of the CLSA

## con'td

- However, the CLSA is well poised to contribute to the advancement of knowledge in this area in significant ways.
- We have the ability to determine the normal variation in phenotypic expression within the population.
- We also have the capacity to examine phenotypic expression in quantitative traits (i.e., continuously distributed outcomes such as blood pressure, obesity etc.) as intermediate disease endpoints.
- This notion of phenotypic plasticity addresses how different circumstances (lifestyle, physical and social environments) call forth gene expression.

# Potential Contributions of the CLSA

## con'td

- Ultimately, in order to determine disease susceptibility and resistance, to establish longitudinal profiles of early detection markers, and to identify more precise phenotypes it will require an enormously large, ethnically diverse sample with detailed genetic characterization, detailed exposure information over time, the monitoring of illness and death, and tissue banking.
- This is likely to come about as a collaborative effort to combine a number of large longitudinal studies internationally (the concept of the Last Cohort, as put forth by John Potter CEBP 2004; 13:895-7.), of which the CLSA would be ideally suited to contribute.

# Potential Contributions of the CLSA

## con'td

- **The brain and cognition**

- Change in cognitive functioning is a component of normal aging and is evident even in mid-life. Whereas some higher brain functions are uniquely sensitive to age-related change, such as speed of information processing, other abilities appear to be well-preserved among healthy older adults (e.g., comprehension of word meaning).
- As well, there are individual differences in patterns of change with some individuals exhibiting well-maintained cognitive skills into late life and others exhibiting early and precipitous decline.
- One of the major barriers to explaining individual differences in cognitive change is the need for longitudinal studies with large sample sizes that not only accurately assess multiple aspects of cognitive functioning, but also the large array of potential factors that can have an impact on cognitive functioning (e.g., cardiorespiratory fitness and other indicators of physical fitness, nutrition, level of stress, alcohol, and drug use, etc.).

# Potential Contributions of the CLSA

## con'td

- For example, recent studies have shown strong relation between physical fitness and basic cognitive functioning, such as working memory, attention, and executive functions.
- Different hypotheses have been proposed to account for the relation between fitness and cognition such as an increased vascularisation of brain tissue, and more recently it has been suggested in animal studies that physical activity may stimulate nerve cell growth.
- It has also been reported that people who maintained a high level of physical activity during their life benefit from a greater neuronal density in the frontal regions of the cerebral cortex, which are specifically affected by the aging process.

# Potential Contributions of the CLSA

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- The CLSA will move beyond describing the relationship between cognitive changes and physical activity to attempt to explain these relationships.
- By collecting cognitive measures, biologic specimens, physical measures, and lifestyle variables, the CLSA will be well positioned to not only generate hypotheses concerning the relationships between physical activity and cognitive functioning, but also to answer them.
- Identifying the primary determinants and correlates of cognitive functioning from mid-life to advanced old age has implications for quality of life and life satisfaction, marital and other family and social relationships, work and retirement patterns and the incidence and prevalence of dementia.

# Potential Contributions of the CLSA

## con'td

### **Mild cognitive impairment**

Individuals with a dementia are considered to be a qualitatively different group from the normal aging person, yet it has been argued that dementia represents magnification of certain cognitive and behavioural changes that commonly occur with aging, i.e., there is a continuum from normal cognitive functioning to severe dementia.

Several studies have tracked the development of dementia from cognitive impairment in the aged population, but no study has looked at the validity and natural history of mild cognitive impairment beginning from mid-life to old age.

# Potential Contributions of the CLSA

## con'td

- The need to accurately identify cognitively impaired persons “at risk” of developing dementia is of growing importance to clinicians and health care planners so that treatment can be focused on those most likely to develop dementia.
- The CLSA provides a unique opportunity to investigate the multitude of internal and external factors that influence the trajectory of cognitive development from mid-to late life, and to understand the natural history of mild cognitive impairment from the adult development perspective.

# Potential Contributions of the CLSA con'td

## Personality, values and well-being

- The CLSA, by examining “normal” aging, has an opportunity to move beyond assessing the aging process primarily from the perspective of functional ability or degree of health.
- Our views of the world, personality and values form who we are and shape all our social behaviour, yet, are constructs often not included in longitudinal studies.
- By including measures of social cognition, personality, and values, the CLSA has an opportunity to significantly advance our understanding of the lives of older individuals in terms of their lived experiences amid shifting sociocultural contexts (e.g., family of origin, social network, socioeconomic climate, unemployment, widowhood, divorce, etc.).

# Potential Contributions of the CLSA

## con'td

- For example, we will be able to measure aspects of the self across the lifespan, and examine the links between envisaged selves (e.g., hoped-for and feared selves) in mid life and self perceived and actual outcomes at later stages of development.
- The CLSA will also allow exploration of the associations of social cognition, personality, and values with our physical and psychological well-being.
- Research to date suggests significant yet complex associations exist between personality and physical and mental well-being.

# Potential Contributions of the CLSA

## con'td

- For example, the effect of various negative emotions appears to significantly influence immune function and regulation (which become less efficient in later life) thus increasing the risk for a myriad of health conditions.
- Individual interpretations of life meaning and sense of purpose have also been identified as potentially important factors in preventing illness, promoting health and successfully adapting to life's circumstances (resiliency as well as recovery).

# Potential Contributions of the CLSA

## con'td

### Chronic Diseases

- Chronic diseases will continue to place an ever-increasing burden on individuals and the health care system.
- While the focus of the CLSA incorporates chronic disease as an important element of aging, the investigation of a number of specific diseases will also be possible.
- The greatest potential for advancement in terms of understanding the development and management of disease will be with respect to relatively common chronic diseases such as arthritis, cardiovascular and cerebrovascular disease, diabetes and hypertension.
- These diseases have been well studied in terms of prevalence, but very limited information exists at a population level on incidence and the progression of disease over time.

# Potential Contributions of the CLSA

## con'td

- The CLSA is less well suited for the study of cancers, given the rarity of events and the distinct differences between the various types of cancers.
- Surprisingly, we know very little about the way in which disease influences physical, social and psychological functioning, and how individuals adapt to live with chronic disease.
- As individuals age the likelihood that they will develop more than one chronic disease also increases.
- The development and management of co-morbidities has not been well studied, in part because the predominant model of studying chronic disease is to focus on the in-depth measurement of one disease outcome at a time.
- The CLSA is well-poised to make a substantial contribution in these areas.

# Potential Contributions of the CLSA

## con'td

### Frailty

- The concept of frailty has emerged as a clinically relevant means of understanding the considerable heterogeneity evident in elderly people.
- It is an aging-related phenomenon that reflects both disease states and, more controversially, the notion of intrinsic (genetic and/or environmentally mediated) biological aging.
- While there is no generally accepted definition for frailty, present thinking incorporates the notion of depleted functional reserve and vulnerability to adverse outcomes (i.e., falls, disability, health care utilization, mortality).
- Various models have been proposed to further our understanding of the frailty phenomena; Fried and colleagues, and Rockwood and colleagues have developed two very different approaches that hold promise. In the Fried model, criteria for frailty have been identified and include, among others, being over 85 and dependent in one or more activities of daily living.

# Potential Contributions of the CLSA

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- Rockwood, on the other hand, does not specify criteria, but rather, determines frailty based on the accumulation of deficits in relation to chronological age.
- By this approach, frailty is said to exist when an individual has a higher than average number of deficits for age, without specifying which deficits should be present.
- Both models, however, have been developed in an elderly population.
- The CLSA is in the unique position to study frailty from a much earlier stage in life than most other studies conducted to date.
- Given that the CLSA is longitudinal, multidimensional, and data collection will begin in midlife, the opportunity to advance our understanding of the frailty construct, explore other operational definitions of frailty, and examine its multi-faceted determinants and modifiers is unprecedented.

# Potential Contributions of the CLSA

## con'td

- In particular, we will have the opportunity to examine individual trajectories to frailty, critical or sensitive periods, and the potential movement into and out of frail states.
- It will also allow us to comprehensively assess intrinsic rates of aging, and importantly, to address the question of whether gains in life expectancy can be made without payment in terms of increased frailty.
- The longitudinal cohort design will allow us to study the health profile and patterns of frailty in successive generations, including baby boomers living in an era of better nutrition, more widespread education and universal health insurance.

# Potential Contributions of the CLSA

## con'td

# Potential Contributions of the CLSA

## con'td

### Obesity and diabetes

- The development of diabetes mellitus (DM), particularly in older populations, is a dynamic process over time in which accumulation of visceral fat, decline in  $\beta$  cell insulin secretion, decline in the muscle mass, diet and physical activity are involved. In recent years, attention has turned to the role of impaired glucose tolerance (IGT) and impaired fasting glucose (IFG).
- To date, the predictive value of IGT and IFG in relation to the development of DM or micro-and macro-vascular diseases is unknown.
- In the context of the CLSA we will be able to examine the relationship between the occurrence of DM, IFG and IGT and age, and how this relationship varies by factors such as body composition, obesity, and level of physical activity.

# Potential Contributions of the CLSA

## con'td

- By tracking over time physical activity, diet, potential pre-clinical glucose levels (impaired glucose tolerance (IGT) and impaired fasting glucose (IFG)), body mass index, and genetic information, we will be able to better identify the links among the risk factors for diabetes and advance our understanding of its etiology, prevention and treatment.
- At the same time, the social underpinnings of obesity, diet and physical activity can be examined to elucidate their complex behavioural influence on the development of diabetes.

# Potential Contributions of the CLSA

## con'td

### Oral health

- The mouth, like other parts of the body, changes with age, yet we know relatively little about the extent of the change or about the impact these changes have as we age.
- For example, we do not know whether oral problems contribute to or result from other changes associated with age.
- Oral infections, discomfort, dry-mouth, pain, chewing and swallowing difficulties are common in older age, particularly among the frail elderly.

# Potential Contributions of the CLSA

## con'td

- These conditions often affect nutrition intake and can lead to involuntary weight loss.
- Furthermore, inadequate oral hygiene allows for an accumulation of oral pathogens associated with diseases such as pneumonia, osteoporosis, and coronary heart disease.
- Longitudinal studies of oral health and aging have been conducted in North America, however, all have been in the US and each with a particular focus or limitation, such as male veterans.
- The CLSA will allow expansion of these earlier longitudinal studies by using a much larger sample with more ethnic diversity and by examining multiple determinants of oral health.

# Potential Contributions of the CLSA con'td

## Sensory Losses

- The inclusion of cutting edge technology such as ocular fundus photography and otoacoustic emissions will allow for the detection of subclinical changes in vision and hearing.
- Combined with the vast array of biological, physical, social, and lifestyle factors to be collected, opportunities to prevent and treat vision and hearing impairments will result.

# Potential Contributions of the CLSA

## con'td

### Potential contributions to policy:

- With increased emphasis on evidenced-based policy making, policy makers require the best research evidence available.
- Further, policy-makers are being encouraged to adopt a more horizontal approach to policy making, that is, to consider and work with decision makers across multiple sectors and departments.
- Such an approach to policy making increases the need for research that can address multidimensional issues rather than just focus on one specific area.
- Policy makers also need more than a snapshot to understand the complex interplay of factors over time.

# Potential Contributions of the CLSA

## con'td

- Thus, there is a need for more explicit longitudinal data to be collected if Canadian policymaking is to be highly responsive to complex, emerging issues in an aging population.
- The CLSA will take a giant step forward in closing the gap between research and policy. Using a longitudinal approach on a nationally representative sample and assessing multiple variables in different domains will help to inform policy decisions prior to being implemented and help to evaluate their impact after implementation.

# Potential Contributions of the CLSA

## con'td

- Key research issues on population aging include factors determining retirement decisions, financial and non-financial work disincentives, work-life flexibility, level and cost-effectiveness of care provisions, and financial capacity of older people to maintain a sufficient standard of living.
- Basic information is required about paid and unpaid activity over the life course and about who retires, at what age they retire, why they retire and their behaviour patterns post-retirement.
- Detailed information is also required about income across the life course.
- The 20 year period covered by the CLSA will allow the tracking of life course information and events leading up to the transition from work to retirement and transitions in post-retirement.

# Potential Contributions of the CLSA

## con'td

- **Changing socio-demographic characteristics**

- The socio-demographic characteristics of baby boomers are very different from their predecessors, especially for women.
- As a result, the choices they make regarding paid and unpaid work, preparation for retirement, and retirement itself will have major implications, not only for the individuals involved, but also for Canadian society as a whole.
- For example, demographic trends (e.g. lower fertility rates and sex differences in life expectancy) interact with personal characteristics (e.g. higher divorce rates, newer forms of living arrangements) resulting in an increasing proportion of older Canadians living alone.

# Potential Contributions of the CLSA

## con'td

- Family ties differ in terms of the provision of support for individuals with children living in close proximity compared to those with children who are geographically distant, an increasingly common phenomenon.
- While high personal and societal value has been placed on maintaining independence, living alone has been found to increase vulnerability to a variety of threats to successful aging, including social isolation, financial insecurity, and losses of mobility and transportation.
- The changing profile of older adults over the lifecourse will likely have a dramatic impact on the aging process for individuals and populations.

# Potential Contributions of the CLSA

## con'td

### Labour force participation

- Evolving changes in the work force structure have dramatically altered the employment experience for much of the labour force.
- The traditional segmentation of the lifecourse into three distinct phases (education, work and retirement) is no longer the norm, to the point where we now see an intermingling of work and education (often shifting back and forth), later entry into and earlier exit out of career jobs, and a period of bridge jobs preceding final departure from the labour market.
- Many policies with respect to work and retirement are based on the model of an individual, typically male, holding a job in one organization for a long period of time.
- However, the reality is that many people work job to job or engage in periods of unemployment, particularly as they move toward retirement. The rise in prevalence of women in the paid workforce and dual income families has also created new issues for balancing work and life demands.

# Potential Contributions of the CLSA

## con'td

- The growth of non-standard paid work (e.g., self employed without employees, contract work and consultancies, casual employee status) is a recent phenomenon that has important implications for forecasting retirement, and has not been well studied.
- The consequences on the individual of this new type of employment experience are likely complex and dependent on many factors.
- For example, technological changes and innovations are likely to have both positive and negative influence older workers, and it is largely unclear whether bridging jobs are good or bad for individuals and/or organizations. Issues relevant to policy makers include understanding the impacts of alternate job arrangements on retirement, pensions, savings, and health and well-being.

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# Potential Contributions of the CLSA

## con'td

- Longitudinal studies, such as the CLSA, have the advantage of being able to track these types of changes over time and therefore, move beyond studies that merely show a change in the work environment, to actually demonstrating the impact of these changes.
- Importantly, analyses of labour market policies have rarely incorporated social, psychological and physical health dimensions.
- The pending withdrawal of the large baby boom cohort from the workforce also has implications for policies with respect to age at retirement, labour force shortages, and the loss of experienced workers. A more complete understanding of the impact of these changes will allow policy-makers to develop and implement policies with the greatest opportunity of increasing the health and productivity of the labour force.

# Potential Contributions of the CLSA

## con'td

- There is a need for longitudinal “relational” data and careful tracking over time of people’s employment characteristics and arrangements, tenure, pension characteristics, occupational and industry types, firm size, skill requirements of the job, training, and human resources/work practices provided by employer.
- In this way we will gain a much better understanding of the labour force practices that act as both supports and barriers to the participation of older Canadians in the workforce as well as their impact on the ability of older adults to maintain a sufficient standard of living.

# Potential Contributions of the CLSA

## con'td

- **Diverse transitions from work to retirement**

- Transitions from work to retirement have also become more complex.
- For example, for first time in history, the majority of women have spent their adult life in the workforce, and baby boom women will be the first female cohort with the option to construct their retirement independent of men.
- New and diverse pathways from work to retirement have been created for many families. In some cases, retirement will be prompted by adverse health events; in other cases, retirement itself may be associated with declining health and well-being, perhaps as a result of economic or social deprivation; in still other cases, retirement will be followed by a significant period of good health with no decline for many years.

# Potential Contributions of the CLSA

## con'td

- The transition to retirement may also be indirect, via caregiving, or involuntary, via difficulties in getting back into the work force after a period of being away.
- Thus, an understanding of retirement must be set within its broader social context, and the analysis of behaviour related to retirement must become more sophisticated to take into account family relationships and living arrangements.
- Increasingly, dual retirement and dual entitlements must be considered.
- Research in retirement has overwhelmingly focused on the male life course, however there are sharply contrasting histories of paid and unpaid work between women and men, which often translate into divergent value systems for key experiences and aspirations, and for how retirement is defined and viewed.

# Potential Contributions of the CLSA

## con'td

- Sex differences in lifetime patterns of paid and unpaid work have yet to be adequately studied, nor their implications for retirement understood.
- For example, women are less likely to see retirement as involving only behaviour oriented to the labour market. Cross sectional analysis, in and of itself, is insufficient to understand, for example, phased retirement or bridge jobs.
- The CLSA will collect prospective information on retirement planning, amount and types of household income and net wealth.
- Analysis of retirement behaviour needs to extend beyond the typical window to cover more of the lifecourse, and requires the collection of longitudinal data in order for policy makers to respond to the often competing needs of individuals and societies.

# Potential Contributions of the CLSA

## con'td

### Formal and informal provision of care

- As the population ages and health care delivery continues to devolve from institutions to the home setting, it can also shift the burden of care from formal to informal arrangements.
- One of the greatest challenges in health policy is to strike a balance between self care, informal support from family and friends, and formal care in the form of health and social services.
- Increasingly mobile populations and smaller family sizes reduce the likelihood that new generations of older adults will have a family member in nearby proximity.
- This not only creates the need for society to provide instrumental support in the home, but also to consider the need for social support that individuals may have previously received from family.

# Potential Contributions of the CLSA

## con'td

- Creating the structures and environment for this to happen will become an increasingly important policy issue.
- The motivation to keep individuals out of hospitals is driven both by economics as well as individuals' desire to maintain independence and receive care outside of institutions.
- However, although policies that increase the ability of older adults to remain at home may be seen as beneficial, there may be unintended consequences.

# Potential Contributions of the CLSA

## con'td

- Research that addresses both the immediate and longer term consequences on formal and informal systems of care will help policy makers better understand the factors which positively impact on the caregiving experience and allow the development of policy that better meets the needs of both those giving and receiving care.
- A recent example of a policy in this area is the caregivers' benefit to care for a terminally ill family member.
- The impact of this policy may go beyond the immediate positive consequences of allowing an ill family member to receive care.
- The long term effects and complex interplay of factors can only be adequately ascertained through a longitudinal, multidimensional study such as the CLSA.

# Potential Contributions of the CLSA

## con'td

- **Health services**

- Undoubtedly, the provision of health services will remain a major concern for the older population.
- There will likely be a shift to both a greater demand for services as the population ages as well as a change in the types of services.
- As chronic disease increases in prevalence, policies that support an acute care medical model may have to shift to accommodate the new demands of chronic disease.

# Potential Contributions of the CLSA

## con'td

- However, chronic disease is affected by the complex interplay of biological, environmental, and lifestyle factors.
- Understanding which factors have the greatest influence on the development of chronic disease and their causal connections is necessary to guide policy development.
- The CLSA, through its longitudinal approach using a multiple measures in many domains will be able to furnish some of the research evidence policy-makers will need to make informed health policy decisions.

# Potential Contributions of the CLSA

## con'td

### **Health and social care affordability**

- Health policy concerns range from access to care, wait lists, pharmacare and homecare.
- Social policy concerns range from financing Old Age Security at the national level and age-based tax credits at the provincial level, to adequate preparation for retirement at a household level.

# Potential Contributions of the CLSA

## con'td

### **Pension plan sustainability and adequate retirement financing**

- At the same time as life expectancy continues to increase, and the policy of a mandatory age of retirement is being reconsidered, Canadians have been retiring earlier and earlier.
- The ratio of pensioners to contributors is increasing over time, raising concerns of affordability of pensions.
- Potential of retirement policies to keep baby boomers in the workforce longer.

# Potential Contributions of the CLSA

## con'td

- Regulation of access to RRSPs can serve to keep higher wage earners in the labour market.
- Canada's pension plan has been overhauled in recent years, and is generally considered to be sound in comparison to other countries; good mix of income and public based pensions.
- “Cultures” of age shape alternatives for older workers; public policy plays an important role in the social construction of age. Corporate, management practices are shaped by public policy.

# The CLSA as a platform

## Future research

- Continual productivity and the generation of new knowledge.
- A wealth of data which can be used by researchers to advance their own research agendas.
- The potential to collect additional data on participants through embedded and add on studies.
- The development of novel new methods for the analysis of longitudinal data with repeated measurements.

# Capacity building

- Attract and retain researchers in Canada who are interested in methodology as well as the substantive areas covered by the CLSA.
- Train new generations of transdisciplinary researchers.

# Infrastructure

- Physical resources such as the CATI centre for future data collection.
- Improved collection, storage and analysis capabilities for biological specimens.
- Create regional data collection sites capable of handling complex data collection.

Data in the public domain.

# Ultimate contributions

- Able to view aging process prospectively from the viewpoint of complexity, allowing us to see the “big picture”.
- Gives a true description of the life course of real populations in real time, allowing us to observe processes as they occur.

CLSA will provide information which can contribute to informed decision making at many levels.



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