



# Participation in longitudinal studies in the face of cognitive decline: Identifying and addressing cognitive decline in the Canadian Longitudinal Study on Aging

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Canadian Association of Gerontology Annual Meeting  
Halifax, Nova Scotia  
October 16-19, 2013

# The Challenge

- Longitudinal studies, particularly those that target an aging population, must consider participation in the face of cognitive decline
- The CLSA will follow 50,000 Canadians for 20 years
- Involves initial and ongoing participation
- An ethical issue: informed consent requires competence
- A practical issue: meaningful data collection requires cognitive ability

# CLSA Study Overview

**50,000 women and men aged 45 - 85 at baseline**

**Tracking  
20,000**  
Randomly selected within  
provinces

**Comprehensive  
30,000**  
Randomly selected  
within 25 km of 11 sites

**Questionnaire**  
• By telephone (CATI)

**Questionnaire**  
• In person, in home (CAPI)

**Clinical/physical tests**  
Blood, urine (optional)  
• At Data Collection Site

**Interim contact, Follow up every 3 years**

**Data Linkage (optional)**



# Representative Sample Frame for Recruitment

- Statistics Canada: CCHS 4.2  
Healthy Aging Survey
- Health Ministries: Health Insurance  
Card registration databases
- Random Digit Dialing



# Development Phase: Literature Review (CJA 2009)

- Review of telephone-administered cognitive screening tools
- Medline to 2007, English and French
- 12 telephone screening tools identified
- Conclusion: no cognitive screening tool appropriate for a population based study of community dwelling older adults of such a wide age range (45-85)
- General review of literature provided no guidance on standardized protocols for determining cognitive impairment over time

# CLSA:

## Informed Consent at Study Entry

- Eligibility Criteria: all participants community dwelling, cognitively intact at baseline
- Followed Statistics Canada protocol used in CCHS
- Interviewers trained regarding informed consent
- Requires level of cognitive competence to complete and return Consent to Contact form, arrange home visit over the phone
- Participants required to understand the study, their commitment
- Interviewer review of information package
- Signed, informed consent



# Consider the Future: Proxy Consent

- Participants age 70 or older at baseline, or when they turn age 70, complete a proxy consent
- Indicate future wishes re participation in the CLSA should they be unable to participate on their own
- Provide name, contact information of proxy decision maker, proxy information provider



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# From the CLSA Information Package...

**What happens if I am no longer able to make decisions or answer questions for myself as I get older?**

- The CLSA would like to know about all aspects of the aging process.
- If you are aged 70 or older now (or when you reach age 70) we will ask you to provide the name of another person(s), such as a spouse, adult child or legal guardian. This person(s) will be able to answer questions on your behalf or make decisions for you, such as withdraw you from the study.
- There will be a separate consent package for the process for identifying this person(s).
- Information already collected from you will stay as a part of the CLSA records and be kept for research purposes.



# Participant Proxy Consent

Should I become unable in the future to take part in the CLSA on my own:

- I would like my proxy information provider to continue to answer the research questions asked by an interviewer on my behalf. *Yes / No*
- I would like to continue to do the physical tests as long as it is feasible. *Yes / No*
- If I have agreed to give blood and urine:  
I would like to continue to give blood and urine. *Yes / No*
- If I have agreed to give my health card number:  
I would like to continue to have my information collected by the CLSA linked with information about me in health care records.  
*Yes / No*

# Beyond baseline: Identifying cognitive decline / flagging cognitive impairment

- Potential data for flagging / decision making at Wave 2:
  - Interviewer and/or participant and/or proxy judgement
  - Self-reported memory problems, AD diagnosis at baseline
  - Scores from validated tests of memory and executive function at baseline

# Validation of cognitive functioning categories in the CCHS (HR 2010)

- Four measures of cognitive functioning – immediate and delayed recall (memory), animal-naming and the Mental Alternation Test (executive functioning) -- were coded into five categories
- Validated associations with health outcomes: self-reported general and mental health status, memory and problem-solving ability, activities of daily living, life satisfaction, loneliness, and chronic conditions
- Supports the use of five levels of cognitive functioning for the outcomes examined overall and by age group (45 to 64, 65 or older) and language group (English, French)

# Initiating the process from participant to proxy

- Proxy not contacted until required
- Participant informs CLSA / CLSA raises with participant
- Proxy receives participant wishes, study information package, proxy consent
- Proxy provides ongoing consent, information, as appropriate



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# Potential Challenges

- Scoring cognitive tests between waves
- Flag based on changing levels of cognitive function or lowest level of cognitive function
- Flag based on 1, 2, 3, or 4 tests
- Use of additional cognitive tests in Comprehensive
- Flag based on 1, 2, or 3 criteria
- Can have evidence of cognitive decline and impairment and still be cognitively competent

# Strengths

- Standardized protocol
- Advanced expression of participant wishes
- Increased follow up of participants
- Minimizes loss of valuable information, including outcome information
- Can serve as a guide to other longitudinal studies



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# Acknowledgements

- Psychology Working Group
- CIHR ELSI Advisory Committee to the CLSA



**CIHR IRSC**

Canadian Institutes of  
Health Research

Instituts de recherche  
en santé du Canada

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**CLSA funded by the Government of Canada  
through CIHR and CFI, and provincial governments  
and universities**

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