Canadian Longitudinal Study on Aging as a Platform for Studying Transitions and Trajectories of Aging and Health

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The Canadian Longitudinal Study on Aging (CLSA)

A key strategic initiative of CIHR

The Canadian Longitudinal Study on Aging

More than 160 researchers - 26 institutions

Multidisciplinary - biology, genetics, medicine, psychology, sociology, demography, economics, epidemiology, nursing, nutrition, health services, biostatistics, population health
Our Aim

To study aging as a dynamic process and the inter-relationship among intrinsic and extrinsic factors from mid-life to older age.
Overall Aims of the CLSA

• The progression of **health** from middle-age to early old age to older old age

• The determinants of **well-being and quality of life**

• Risk Factors (including genetics) of **Chronic diseases**

• **Cognitive functioning** and **mental health**

• **Disability** and the compression of morbidity

• The examination of socioeconomic and health **inequalities** in an aging population

• **Social participation, social relationships and care giving** in an aging population

• **Retirement** and **post retirement** labor market activity
## Canadian Longitudinal Study on Aging

<table>
<thead>
<tr>
<th>Sampling Frame: CCHS, provincial health registration databases, and RDD</th>
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</thead>
<tbody>
<tr>
<td>CLSA Tracking (n=20,000)</td>
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<tr>
<td>45-54  55-64  65-74  75-85</td>
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<td>↓       ↓       ↓       ↓</td>
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<td>6,000   6,000   4,000   4,000</td>
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<td>CLSA Comprehensive (n=30,000)</td>
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<td>9,000   9,000   6,000   6,000</td>
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Participants (50,000)

Enrolled

Questionnaire Data (50,000)

Physical Exam and Biological Specimen (30,000)

Active Follow-up (F) Every 3 years
- Questionnaire
- Physical exam
- Biological samples

Maintaining Contact Interview (MC) mid-wave
- Update contact information
- Short Questionnaire

Passive Follow-up Every 3 years
- Health care utilization
- Disease registries
- Mortality databases

Data and Biological Sample Repositories

Researchers
Depth and Breadth of CLSA

PHYSICAL & COGNITIVE MEASUREMENTS
- Height & weight
- Waist and hip measurements
- Blood Pressure
- Grip strength, timed up-and-go, chair raise, 4-m walk
- Standing balance
- Vision (retinal imaging, Tonometer & visual acuity)
- Hearing (audiometer)
- Spirometry
- Body composition (DEXA)
- Bone density (DEXA)
- Aortic calcification (DEXA)
- ECG
- Carotid Plaque sweep (ultrasound)
- Carotid intima-media thickness (ultrasound)
- Depression
- Cognitive assessment (30 min. battery)

HEALTH INFORMATION
- Chronic disease symptoms (disease algorithm)
- Medication and supplements intake
- Women’s health
- Self-reported health service use
- Oral health
- Preventative health
- Administrative data linkage health services & drugs & other administrative databases

PSYCHOSOCIAL
- Social participation
- Social networks and support
- Caregiving and care receiving
- Mood, psychological distress
- PTSD
- Coping, adaptation
- Injuries and consumer products
- Work-to-retirement transitions
- Retirement planning
- Social inequalities
- Mobility-lifespace
- Built environments & Contextual Factors
- Income, Wealth and Assets

LIFESTYLE & SOCIODEMOGRAPHIC
- Smoking
- Alcohol consumption
- Physical activity (PASE)
- Nutrition (nutritional risk and food frequency)
- Birth location
- Ethnicity/race/gender
- Marital status
- Education
Bio specimens
42 aliquots per participant
CLSA Infrastructure

- National Coordinating Centre (McMaster)
- Biorepository and Bioanalysis Centre (McMaster)
- IT Infrastructure (McMaster)
- Statistical Analysis Centre (McGill)
- Genetics and Epigenetics Centre (UBC)
- 4 Computer-Assisted Telephone Interview Sites
  - Victoria, Winnipeg, Sherbrooke and Halifax
- 11 Data Collection Sites
  - Victoria, Vancouver, Surrey, Calgary, Winnipeg, Hamilton/Toronto, Ottawa, Montreal, Sherbrooke, Halifax and St. John’s
Baseline Recruitment and Data Collection

- First selection of 20,000 started in late 2011
  - Completed 60 minute questionnaire by telephone on about 20,000 individuals (*Includes Health care number on over 90% of the respondents*)
  - Plan to release these data in the summer of 2014
- In August 2013 our maintaining contact interviews (30 minute telephone interview)
  - Minimize loss to follow-up
  - Collect additional data
Implementation Plan for the Comprehensive Cohort (n=30,000)

- Cohort of 30,000 persons to be recruited within 25 to 50 km radius of 11 data collection sites (DCS)
  - Victoria (3000), Vancouver (1500), Burnaby (1500), Calgary (3000), Winnipeg (3000), Hamilton (3000), Ottawa (3000), Montreal (3000), Sherbrooke (3000), Halifax (3000), St. John’s (3000)
Comprehensive Cohort Rolling Recruitment

- First batch of 10,000 people to be recruited across all sites (Fall-2012 to mid-2013)
  - Maintaining contact by phone (end of 2013- end 2014)
- Second batch of 10,000 (mid-2013 to mid-2014)
  - Maintaining contact: (end of 2014-end of 2015)
- Third batch of 10,000 (mid-2014 to mid 2015)
  - Maintaining contact: (end of 2015-end of 2016)

- Completed almost 22,000 In home (IH) Interviews
- IH + Physical assessment + Health care number (over 95%) + biosample (98%) over 18,000
Data and Sample Access

• **Data and Sample Access is Open**
  • All researchers have access to data
    • No special access to the “creators” of the platform
    • Individual level data versus aggregate data
    • Genetic versus Health (Depression) versus Social data

• **Ethical and Legal Considerations**
  • How the data are used and what purpose?
  • Public sector versus Private sector access to data
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<th>Role</th>
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<tbody>
<tr>
<td>Lead PI</td>
<td>Parminder Raina <em>(McMaster)</em></td>
</tr>
<tr>
<td>Co-PI</td>
<td>Christina Wolfson <em>(McGill)</em> and Susan Kirkland <em>(Dalhousie)</em></td>
</tr>
<tr>
<td>Key Site Co-Investigators</td>
<td>Gerry Mugford and Patrick Parfrey <em>(Memorial)</em>, Hélène Payette <em>(Sherbrooke)</em>, Ron Postuma, Brent Richards, Mark Lathrope <em>(McGill)</em>, Larry Chambers and Vanessa Taler <em>(Ottawa)</em>, Lauren Griffith, Harry Shannon, Cynthia Balion, Paola Mutti, Mike Veall, Christopher Patterson, <em>(McMaster)</em>, Mary Thompson and Chang Bo <em>(Waterloo)</em>, Debra Sheets, Holly Tuokko and Lynne Young <em>(Victoria)</em>, Verena Menec <em>(Manitoba)</em>, David Hogan, Eric Smith and Marc Poulin <em>(Calgary)</em>, Max Cynader, Teresa-Liu Ambrose and Michael Kobor <em>(UBC)</em> and Andrew Wister and Scott Lear <em>(SFU)</em></td>
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<td>Scientific Working Group</td>
<td><strong>See our website – <a href="http://www.clsa-elcv.ca">www.clsa-elcv.ca</a></strong></td>
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www.clsa-elcv.ca