



Canadian Longitudinal Study on Aging: A Platform for Interdisciplinary Research

Harry Shannon

on behalf of

Parminder Raina, PhD, McMaster University, Hamilton

Christina Wolfson, PhD, McGill University, Montreal

Susan Kirkland, Dalhousie University, Halifax

and the CLSA Research Team

Canadian Association for Research on Work and Health

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Overview

- CLSA Research Platform
- First Follow-up
- Data Access



Canadian Longitudinal Study on Aging (CLSA)

- Strategic initiative of CIHR; on Canadian research agenda since 2001
- More than 160 researchers and collaborators – 26 institutions
- Multidisciplinary – biology, genetics, medicine, psychology, sociology, demography, economics, epidemiology, nutrition, health services
- Largest research platform of its kind in Canada for breadth and depth
- Following 50,000+ Canadians aged 45-85 at baseline for 20 years



CLSA Infrastructure

11 Data Collection Sites



2010 - 2015

2015

2018

CLSA Overview

TIME

20 Years

Participants
aged 45 to 85
at baseline
(51,000+)

Enrolled

Baseline

FU-1

FU-2

FU-3

FU-4

FU-5

FU-6

Questionnaire data (telephone
and in-person interviews)
(>50,000)

Physical assessments
and biological
specimens
(>30,000)

Active follow-up (FU) every 3 years

- Questionnaire
- Physical assessments
- Biological specimens

- Health-care utilization
- Disease registries
- Mortality databases

Data and Biological Sample Repositories

Researchers

Recruitment Sampling Frame

- Partnered with Statistics Canada
 - CCHS 4.2 Healthy Aging Survey
 - 2006 census as an area frame to select households
 - Agreed to share contact information
- Partnered with provincial Ministries of Health
 - Health Card Registration databases
 - Mailouts, return Consent to Contact form
- Supplemented with Random Digit Dialing
 - Pre-recruitment, agree to recontact

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 intima-media thickness (ultrasound)
- Cognitive assessment (30-minute battery)
- Biospecimen collection (blood and urine)

HEALTH INFORMATION

- Chronic disease symptoms (11 chronic conditions)
- Medication and supplement intake & compliance
- Women's health
- Self-reported health-care utilization
- Oral health
- Administrative data linkage health services, drugs and other administrative databases

PSYCHOSOCIAL

- Social participation
- Social networks and support
- Caregiving and care receiving
- Mood, psychological distress
- PTSD
- Injuries and consumer products
- Work-to-retirement transitions
- Personality traits
- Retirement planning
- Social inequalities
- Mobility-lifespace
- Built environments and contextual factors
- Income, wealth and assets

LIFESTYLE & SOCIODEMOGRAPHIC

- Smoking
- Alcohol consumption
- Physical activity (PASE)
- Nutrition (nutrition risk and food frequency)
- Ethnicity/race/gender
- Birth location
- Marital status
- Education



Canadian Longitudinal Study on Aging
Étude longitudinale canadienne sur le vieillissement

CLSA Work-related content

- Current or last job (and industry)
- Duration in that job
- Main occupation through career (job and industry)
- Reasons for retirement (or ending retirement)
- Possible use of Job Exposure Matrices

CLSA Data Collection

Data Collection Site

Physical Assessments:

- Height, Weight, BMI
- Bone Density, Body Composition, Aortic Calcification
- Blood Pressure
- ECG
- Carotid Intimal-Medial Thickness
- Pulmonary Function
- Vision & Hearing
- Performance testing



Biospecimen Collection:

- Blood
- Urine

Cognitive Assessments:

- Neuropsychological Battery
 - Memory
 - Executive function
 - Reaction time

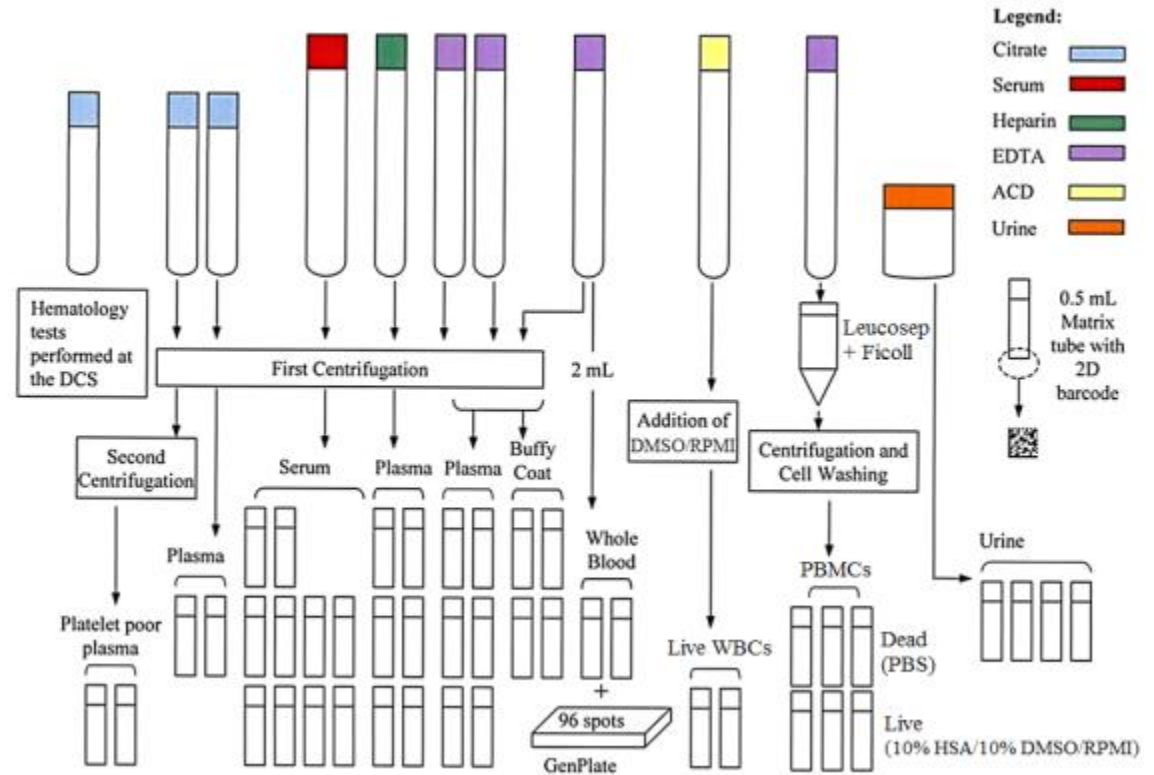


Canadian Longitudinal Study on Aging
Étude longitudinale canadienne sur le vieillissement

Biospecimen processing

42 aliquots per participant

- 50 mL blood
- Urine sample
- Hematological tests completed on site
- Remainder frozen, within 2 hours



First Follow-Up: New Content

- Child maltreatment
- Elder abuse
- Epilepsy
- Arterial stiffness
- Decedent information
- Transition to institutions
- Unmet health-care needs
- Work limitations
- Preventive health behaviours
- Enhanced hearing, oral health and transportation
- Sexual orientation and gender identity
- Subjective cognitive decline
- Loneliness



Data and Biospecimen Access

- **Fundamental tenets:**
 - The rights, privacy and consent of *participants* must be protected and respected at all times
 - The confidentiality and security of *data and biospecimens* must be safeguarded at all times
 - CLSA data and biospecimens are resources that will be used optimally to support research to benefit all Canadians
 - No preferential or exclusive access



Who can apply?

- Researchers based in academic settings and research institutes in Canada
- International researchers may choose to collaborate with Canadian researchers to access data or biospecimens as long as the data and/or biospecimens are analyzed in Canada
- Graduate students and postdoctoral fellows based at Canadian institutions



What data are available?

- **Data from 51,000+ participants are now available to the research community including:**
 - Questionnaire data from all 51,000+ participants
 - Comprehensive physical assessment data and hematological biomarkers from 30,000+ participants who visited data collection sites

Data Released in 2014

60-minute Telephone Interviews

(21,241 participants)

Questionnaire:

- Age & Sex
- Socio-Demographic Characteristics
- Home Ownership
- Education
- Veteran Identifiers
- Height & Weight
- Smoking & Alcohol Use
- General Health
- Women's Health
- Vision
- Hearing
- Instrumental Activities of Daily Living
- Basic Activities of Daily Living
- Chronic Conditions
- Functional Status
- Cognition (released in 2015)
- Depression
- Satisfaction with Life
- Post-traumatic Stress Disorder
- Social Networks
- Social Support – Availability
- Social Participation
- Care Receiving – Formal & Informal
- Caregiving
- Injuries
- Falls and Consumer Products (e.g. assistive devices)
- **Retirement Status**
- **Retirement Planning**
- **Pre-Retirement Labour Force Participation**
- **Labour Force**
- Income



Spring 2016 Data Release

In-Home Face-to-Face Interviews

(30,000+ participants)

Questionnaire:

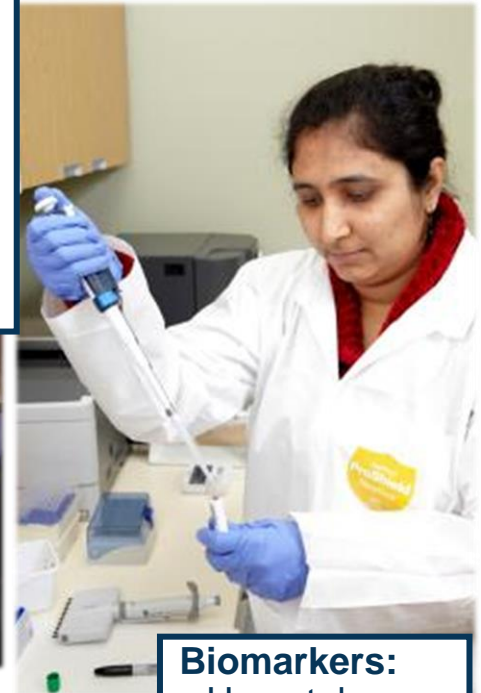
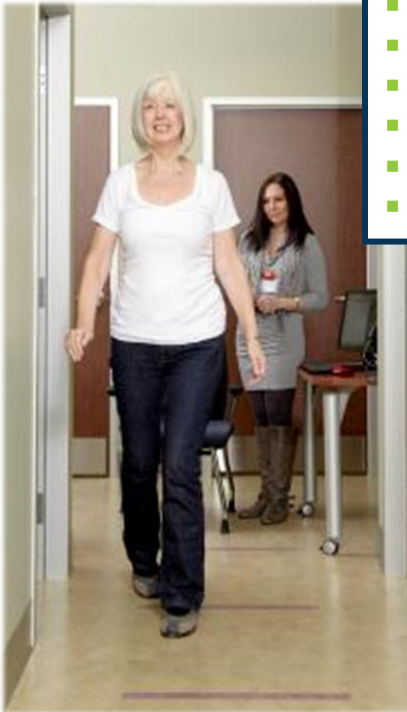
- Age & Sex
- Socio-Demographic Characteristics
- Home Ownership
- Education
- Veteran Identifiers
- Smoking & Alcohol Use
- Nutrition: Short Diet Questionnaire
- General Health
- Women's Health
- Vision
- Hearing
- Basic Activities of Daily Living
- Instrumental Activities of Daily Living
- Life Space Index
- Sleep
- Satisfaction with Life
- Post-traumatic Stress Disorder
- Care Receiving – Formal & Informal
- Caregiving
- Injuries
- Falls and Consumer Products (e.g. assistive devices)
- **Retirement Status**
- **Pre-Retirement Labour Force Participation**
- **Labour Force**
- **Retirement Planning**
- Income

Spring 2016 Data Release

Data Collection Site Visits (30,000+ participants)

Physical Assessments:

- Height
- Weight
- Waist-Hip Ratio
- Blood Pressure
- ECG
- Spirometry
- Hearing
- 4m Walk
- Timed Up and Go
- Standing Balance
- Chair Rise
- Visual Acuity
- Tonometry
- Grip Strength



Biomarkers:

- Hematology

Questionnaire:

- Social Networks
- Social Support – Availability
- Social Participation
- Disease Symptoms
- Contraindications



Spring 2016 Data Release

Hematology (30,000+ participants)

- White blood cells
- Lymphocytes (absolute and relative number)
- Monocytes (absolute and relative number)
- Granulocytes (absolute and relative number)
- Red blood cells
- Hemoglobin
- Hematocrit
- Mean corpuscular volume
- Mean corpuscular hemoglobin
- Mean corpuscular hemoglobin concentration
- Red blood cell distribution width
- Platelets
- Mean platelet volume



Spring 2016 Data Release

30-minute Telephone Interviews (51,000+ participants)

Questionnaire:

- Falls
- Pain and Discomfort
- Oral Health
- Snoring
- Parkinsonism
- Health Care Utilization
- Medication Use
- Dietary Supplement Use
- Nutritional Risk
- Physical Activities
- Psychological Distress
- Personality Traits
- Social Inequality
- Online Social Networking
- Transportation, Mobility, Migration
- Built Environments
- Wealth



Preparing an application

- Consult the Data and Sample Access Policy and Guiding Principles
- Review the pertinent sections of the CLSA protocol and the CLSA questionnaires
- Visit the DataPreview Portal to search datasets
- Complete the Data and/or Biospecimen Request Application
- Identifiable information will not be shared (e.g. six-digit postal codes, names, contact information)
- Queries should be sent to access@clsa-elcv.ca
- Queries related to biospecimens should be sent to bbc@clsa-elcv.ca



DataPreview Portal

- Gateway to access for data and biospecimens
- Variable search mechanism providing simple descriptive statistics for selected variables
- Currently available for alphanumeric data only
- <https://datapreview.clsa-elcv.ca/>

DataPreview Portal



Canadian Longitudinal Study on Aging
Étude longitudinale canadienne sur le vieillissement

Font Size + - Language en fr Search 

Update your Contact Details Contact Us   

About Us Participants Partners Researchers Data Access Stay Informed



Dataset

☐ COM 2692

☐ TRM 1169

Additional information +

Source

☐ Questionnaire 3642

☐ Physical measure 167

☐ Cognitive measure 16

☐ Biosample 16

Areas of Information

Constructs for cognitive functioning and mental health


Constructs for general health

Constructs for the social domain

Start searching by selecting a facet

Datasets (2) Variables (3841)

Variables

20  [Variable Classification](#)

Name	Label	Dataset
ADL_ABLAP_COM	OARS scale: Able to take care of appearance	COM
ADL_ABLAP_TRM	OARS scale: Able to take care of appearance	TRM
ADL_ABLBD_COM	OARS scale: Able to get out of bed	COM
ADL_ABLBD_TRM	OARS scale: Able to get out of bed	TRM
ADL_ABLBT_COM	OARS scale: Able to take bath	COM
ADL_ABLBT_TRM	OARS scale: Able to take bath	TRM

<https://datapreview.clsa-elcv.ca/>

Applying for Data Access

- **Application fees**
 - Partial cost-recovery model
 - \$3,000 for a straightforward alphanumeric dataset for any number of participants
 - Additional fees applied for requests that require more complex customization
 - No cost for graduate students who use these data for their Master's or PhD theses
 - One free dataset for postdoctoral fellows

Approved Projects

Application Title	Location
Risk Factors for Falls among Adults and Seniors	Ontario
CLSA Neurological Conditions Initiative (CLSA-NCI)	Quebec
The Association Between Hearing Loss and Social Function in Older Canadians	British Columbia
The Veterans' Health Initiative within the CLSA (CLSA-VHI)	Quebec
Labour Force Participation: Retirement Transitions, Expectations and Planning	Ontario Student application
Who is at Risk of Social Isolation and Loneliness?	Manitoba
Companion Animals and the Aging Population: Exploring Relationships, Contexts and Opportunities to Contribute to Health Equity	Alberta Student application
Factorial Invariance of the CES-D	Saskatchewan
The Development of Normative Data and Comparison Standards for the Cognition Measures Employed in the CLSA	British Columbia

Approved project summaries available on the CLSA website

CLSA Funders and Partners



Veterans Affairs
Canada



Anciens Combattants
Canada

Health PEI



CLSA Research Team

Scientific Management Team



**Co-principal Investigator
Christina Wolfson (McGill)**



**Lead Principal Investigator
Parminder Raina (McMaster)**



**Co-principal Investigator
Susan Kirkland (Dalhousie)**

CLSA Research Team

**Principal Investigators, Site Investigators,
Working Group Leads, Key Co-investigators**

UVic: Debra Sheets, Lynne Young, Holly Tuokko

UBC: Teresa Liu-Ambrose, Michael Kobor

SFU: Andrew Wister, Scott Lear

UCalgary: David Hogan, Marc Poulin, Eric Smith, Alex Chin, Hossein Sadrzadeh

UManitoba: Verena Menec, Phil St. John

McMaster: Parminder Raina, Cynthia Balion, Lauren Griffith, Andrew Costa, Harry Shannon, Christopher Patterson, Michael Veall, Guillaume Paré, Brenda Vrkljan

UOttawa: Vanessa Taler, Larry Chambers

McGill: Christina Wolfson, Ron Postuma, Brent Richards, Mark Lathrop

USherbrooke: Hélène Payette, Benoît Cossette

Dalhousie: Susan Kirkland

Memorial: Gerry Mugford

UToronto: Andrew Paterson

UWaterloo: Mark Oremus, Mary Thompson, Changbao Wu

Eindhoven University of Technology: Edwin van den Heuvel

+ Scientific working group members and co-investigators

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with us

info@clsa-elcv.ca
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