# Alberta Participant Webinar:
## Update on the Canadian Longitudinal Study on Aging (CLSA)

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## Land Acknowledgement

The University of Calgary, located in the heart of Southern Alberta, both acknowledges and pays tribute to the traditional territories of the people of Treaty 7, which includes the Blackfoot Confederacy (comprising the Siksika, the Piikani, the Kainai First Nations), the Stoney Nakoda (including Chiniki, Bearspaw, and Wesley First Nations) and Tsuut'ina First Nation. The City of Calgary is also home to Region III of the Métis Nation of Alberta. By virtue of the signing of Treaty 7 in 1877, the University recognizes that we are all treaty people.

# Objectives/ Timeline

- Provide an update on the CLSA (~20 minutes)
  - Site: Berchman Wong
  - Study: Dr. David Hogan
- Review COVID-19 related studies being done (~20 minutes)
  - Dr. Jacqueline McMillan
- Answer questions submitted prior to the webinar (~20 minutes)
  - Drs. Hogan & McMillan

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# 2020-2021 CLSA Site Highlights

- Adapting to COVID-19 pandemic
- Successfully supporting the CLSA COVID study
- Successfully supporting the CLSA COVID Antibody study
- Balancing CLSA and local U of C requirements for the conduct of research
- Keeping everyone healthy and well

**Calgary Team**:
**IH**: Pam, Glenn, Amy, Mark
**DCS**: Lorlene, Jessica, Kim, Steve
**Lab**: Loan
**Coordinator**: Berchman
**PI**: Dr. Hogan, Dr. McMillan


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# Canadian Longitudinal Study on Aging (CLSA) as a Platform for Research on Healthy Aging

**Dr. David B. Hogan**

**University of Calgary**

*on behalf of the CLSA Research Team*

Tuesday, June 22, 2021

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# CLSA National Leads

**Parminder Raina**
**Lead Principal Investigator**
McMaster University

**Christina Wolfson**
**Principal Investigator**
McGill University

**Susan Kirkland**
**Principal Investigator**
Dalhousie University

# What is the CLSA?

**A research platform** – Infrastructure to enable state-of-the-art, interdisciplinary population-based ***research*** and ***evidenced-based*** decision-making that will lead to better health and quality of life for Canadians.

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# Key Points about the CLSA

- Major 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 & depth
- Following 50,000+ Canadians aged 45-85 at baseline for 20 years

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# CLSA Network of Collaborating Institutions













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# Participants

- **Tracking Cohort**
  - Target - 20,000 participants from all 10 provinces, followed through **Computer-Assisted Telephone Interviews** (~1 hour at baseline)
  - **21,241 recruited**
- **Comprehensive Cohort**
  - Target - 30,000 participants living within 25 km (or 50 km) of a CLSA Data Collection Site (DCS)
  - Followed through **in-home interviews** (~1 hour) and further assessments (~2-3 hours) at a **DCS**
  - **30,097 recruited**

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# CLSA Infrastructure

## Computer-Assisted Telephone Interview (CATI) Centres

UNIVERSITÉ DE SHERBROOKE

UNIVERSITY OF MANITOBA

DALHOUSIE UNIVERSITY *Inspiring Minds*

SFU SIMON FRASER UNIVERSITY ENGAGING THE WORLD

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# CLSA Data Collection

## Data Collection Sites

### Interviews/ Physical Assessments

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

### Biospecimen Collection

- Blood
- Urine

### Cognitive Assessments

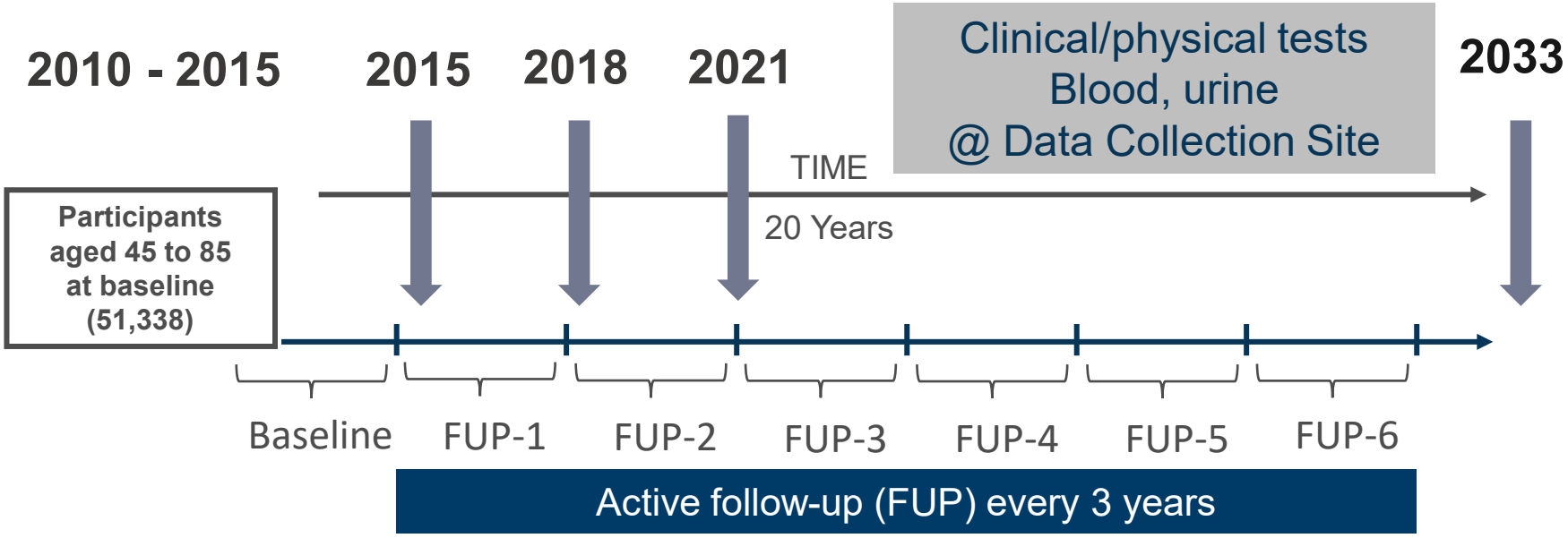
- Memory
- Executive function
- Reaction time

# CLSA Research Platform

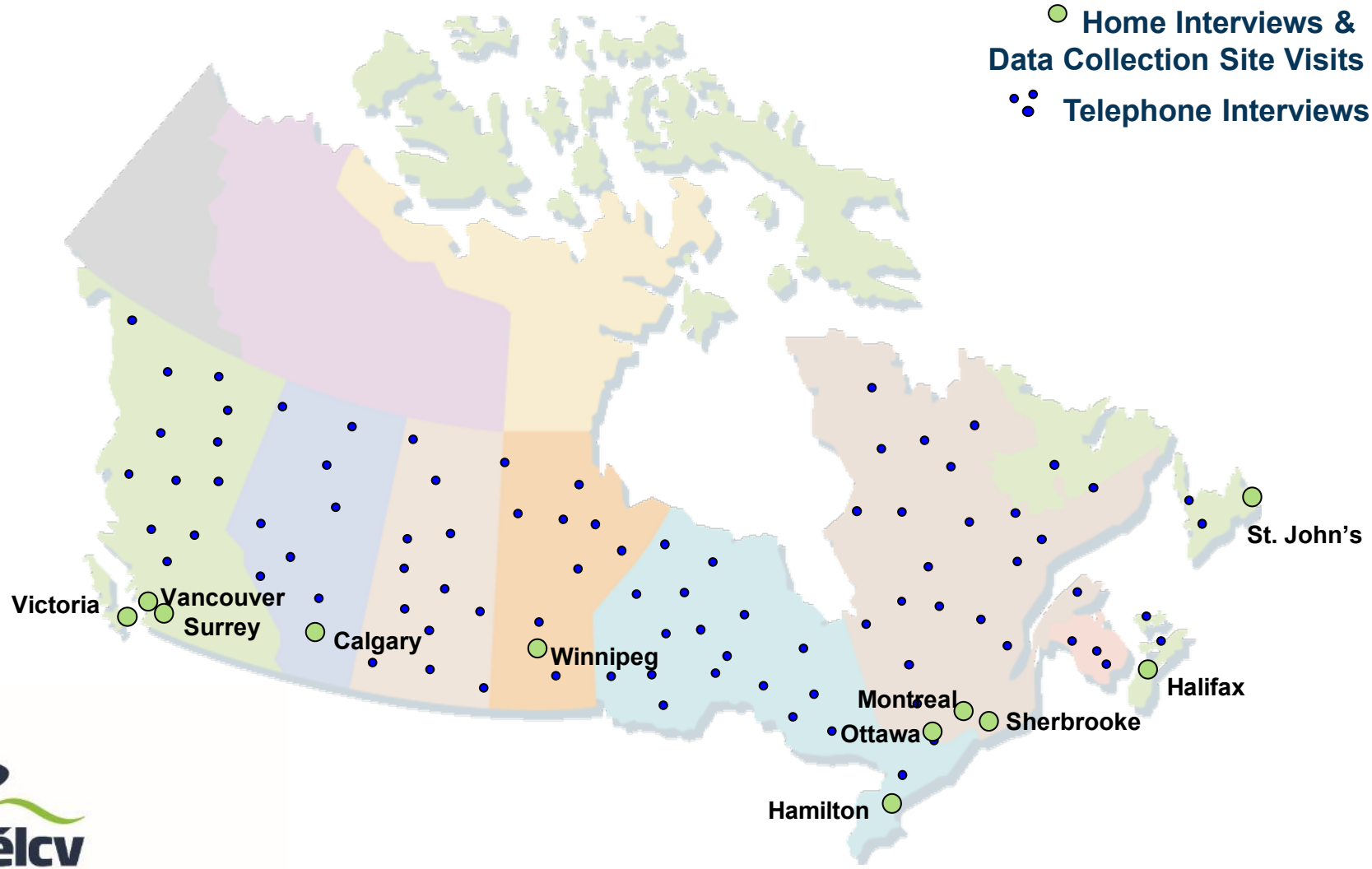
50,000 participants aged 45 - 85 at baseline

| Target: 20,000<br>Actual: 21,241<br>Randomly selected within provinces | Target: 30,000<br>Actual: 30,097<br>Randomly selected within 25-50 km of 11 sites |
|---|---|

| Questionnaire<br>By telephone (CATI) | Questionnaire<br>In person (CAPI) |
|---|---|



# National Scope

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# Withdrawal Rate

- By the end of the first follow-up, 4.3% of participants had withdrawn from active data collection though most (60.8%) of those withdrawn consented to continue passive data collection through data linkage
  - An additional 2.7% of participants had died since their baseline assessment
- Accommodations made to keep in the study
  - This includes those who move from one area to another or to LTC, modify data collection (e.g., “DCS at home” if can’t come), appoint a proxy to answer for them

# How the collected data are being used

- **Approved projects** – 72 in 2020 alone
  - www.clsa-elcv.ca/approved-projects
- **150 publications**
  - www.clsa-elcv.ca/stay-informed/publications
- Literature
  - "Aging in Three-Year Increments" by Laura Wershler (in *You Look Good for Your Age: An Anthology*; edited by Rona Altrows [University of Alberta Press, May 2021])

# 2018 Report on Baseline Data (2010-2015)

- Highlights (Alberta participants – 4,964)
  - 90% rated health as good/very good/ excellent
  - 95% rated mental health as good/very good/excellent – 45-54 had the most concerns
  - More women than men reported loneliness
  - 1/20 had suffered a fall in last year
  - 25% were as physically active as recommended
- Download – www.clsa-elcv.ca/clsareport

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# Highlights of 2020-2021

- Responding to the COVID-19 pandemic (to come)
- A further investment by the Canada Foundation for Innovation (CFI) in the CLSA to renew our infrastructure & add new tools to identify the causes & early stages of chronic health conditions such as mobility impairment, disability & cognitive decline
- Additional funding to address dementia
- Hosted the CIHR-IA 2021 Summer Program on Aging
- Funding provided by CIHR to use CLSA data

CIHR IRSC
Canadian Institutes of Health Research
Instituts de recherche en santé du Canada

INNOVATION.CA
FONDATION CANADIENNE POUR L'INNOVATION
CANADA FOUNDATION FOR INNOVATION

**Contact:**
**Data inquiries: access@clsa-elcv.ca**
**General inquiries: info@clsa-elcv.ca**

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

# www.clsa-elcv.ca

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# Responding to COVID-19

Dr. Jacqueline McMillan

- March 2020: In-person data collection suspended
- Migration to telephone interviews
- Development of COVID-19 questionnaires

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# CLSA COVID-19 Questionnaire Study

- Launched April 2020
- Web and telephone questionnaires
- Weekly, biweekly, monthly data collection
- 28,000 baseline participants
- Exit survey fall 2020
- Funded through the McMaster Institute for Research on Aging, McMaster University, Juravinski Research Institute, the Nova Scotia COVID-19 Health Research Coalition and the Public Health Agency of Canada

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# CLSA COVID-19 Questionnaire Study

- COVID symptoms
- COVID status
- Risk factors
- Health-care use
- Health behaviours
- Public Health measures
- Social factors
- Depression and anxiety
- Economic consequences
- Function and mobility

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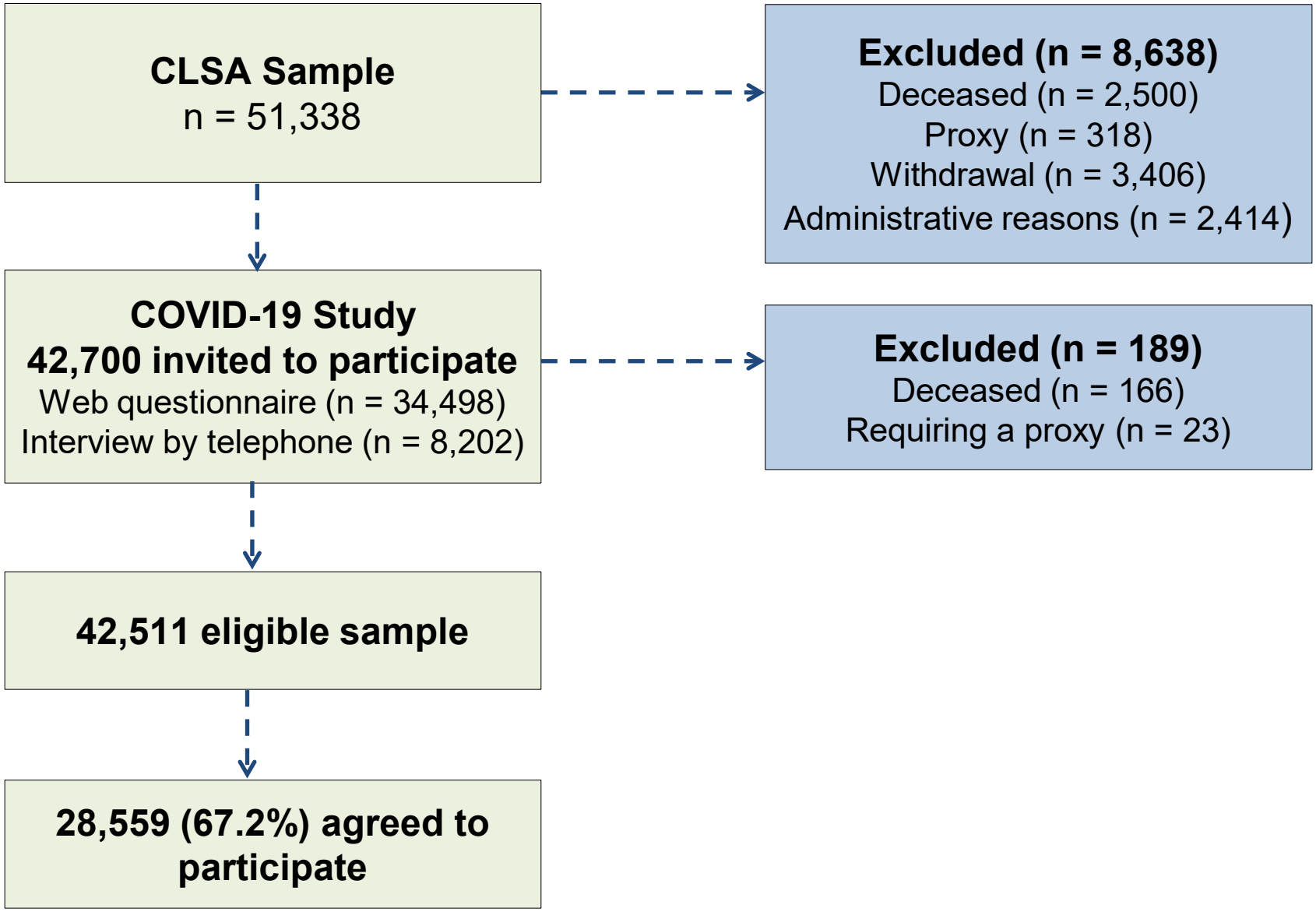
# CLSA COVID-19 Study Recruitment



# CLSA COVID-19 Questionnaire Study

Launched
April 15, 2020

**Phone-Based Interviews**

Baseline → Bi-weekly 1 → Bi-weekly 2 → Monthly 1 → Monthly 2 → Monthly 3 → Exit

**Web-Based Interviews**

Baseline → Weekly 1 → Weekly 2 → Weekly 3 → Weekly 4 → Monthly 1

Closed
December 30, 2020

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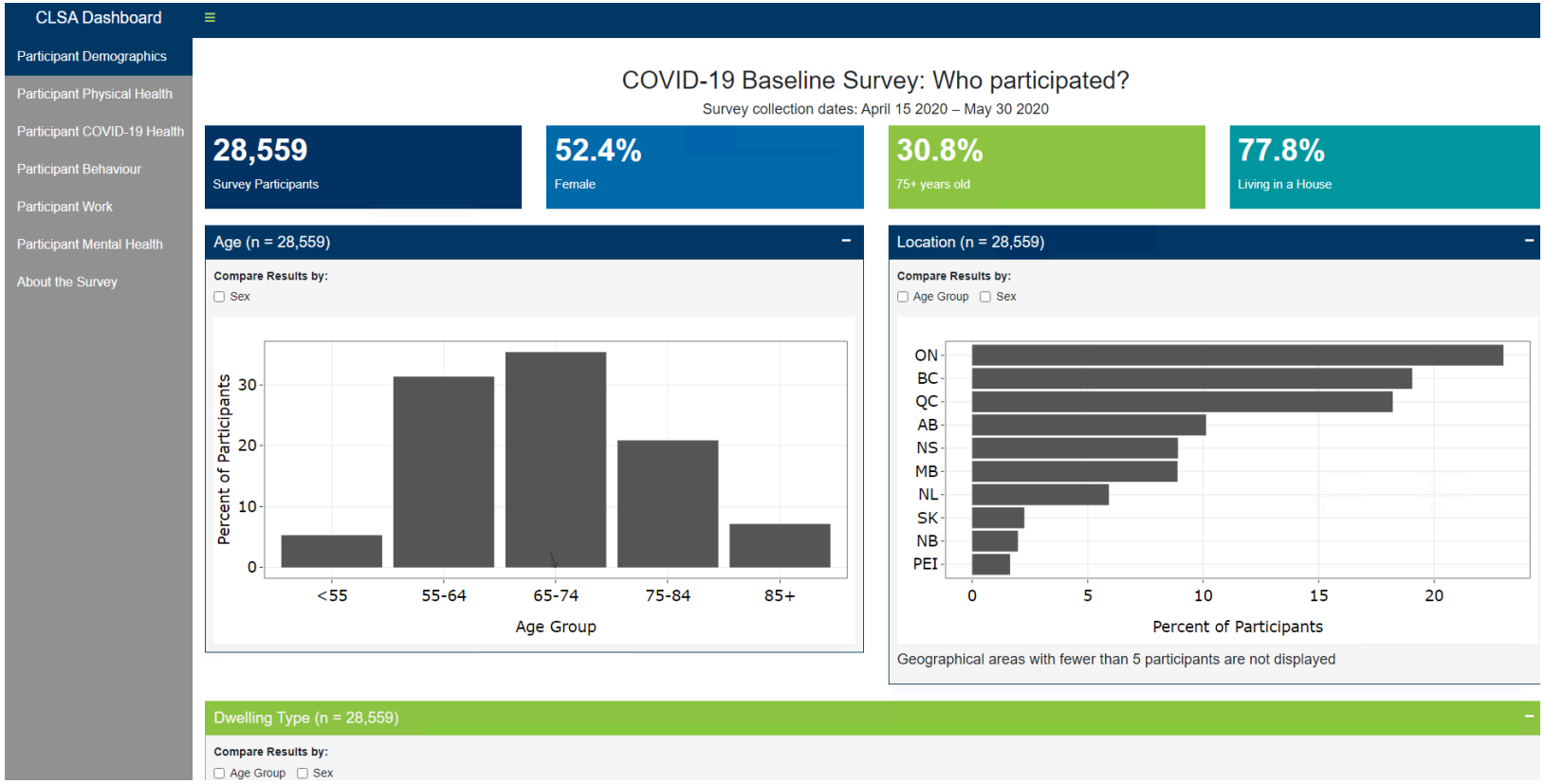
# COVID-19 Study Data Dashboard

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www.clsa-elcv.ca/covid-study-results

# COVID-19 Antibody Study

## Questionnaire Study

- Learnings to date:
  - Vaccination willingness
  - Mental health
  - Mobility and function
  - Long-haul covid

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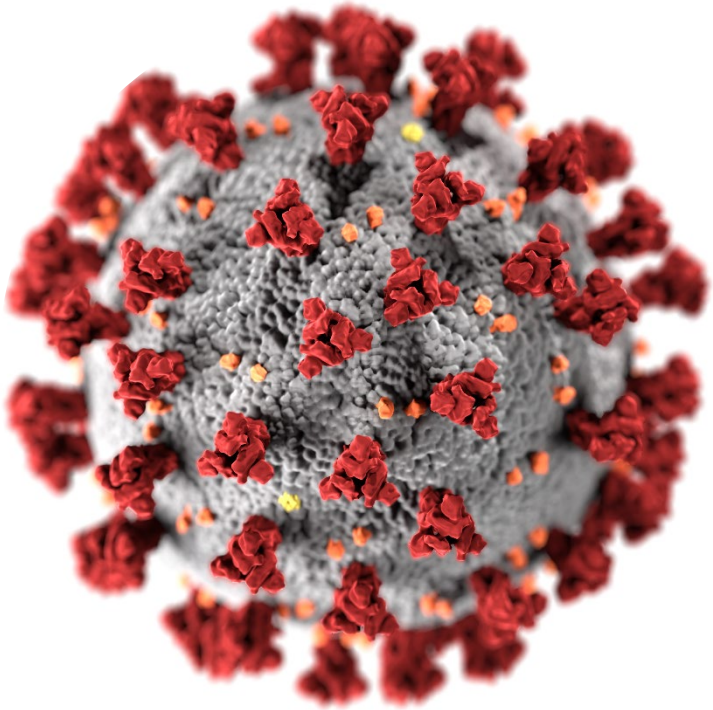
# COVID-19 Antibody Study

- To understand prevalence and impact of SARS-CoV-2 infection among middle-aged and older adults in Canada



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# COVID-19 Antibody Study

- Launched November 2020
- 19,000 CLSA participants
- Blood sample to determine if a person has been previously infected with SARS-CoV-2 or vaccinated against SARS-CoV-2
- 3 waves of data collection
- $4M investment from the Government of Canada's COVID-19 Immunity Task Force (CITF)

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# COVID-19 Antibody Study

## Venous Blood Collection

- Venous blood collection at CLSA Data Collection Sites
- Enhanced health and safety measures, COVID-19 screening
- 50 mL of blood (about 3 tbsp)
- Telephone questionnaire
- Partners: Alberta Precision Laboratories (APL), FedEx, CITF

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# COVID-19 Antibody Study

## Dried Blood Spot

- Self-collection at home
- 4-5 drops of blood from fingertip using blood collection kit
- Telephone or online questionnaire
- Partners: Boston Microfluidics, APL, FedEx, CITF

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# COVID-19 Antibody Study

- Seroprevalence = the level of pathogen in a population, as measured in blood serum
  - Pathogen- SARS-CoV-2
  - Population- a subset of CLSA participants
  - Serum- component of blood

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# COVID-19 Antibody Study

- Pathogen- SARS-CoV-2 (cause of COVID-19)
  - Tests detect antibodies to SARS-CoV-2
  - Antibodies are protective proteins produced by the immune system
  - Antibodies indicate an immune response to a foreign body
  - We tested for 2 common antibodies to SARS-CoV-2

# COVID-19 Antibody Study

- Participants will receive a letter with their results
- The letter will indicate the results of each test
- Nucleocapsid +/-
- Spike protein +/-
- Antibodies can be produced to both after infection
- Current vaccines in Canada use spike protein
- An interpretation of the results will be provided
- A frequently asked questions sheet will be provided

# COVID-19 Antibody Study

- Seroprevalence (presence of antibodies) = the level of pathogen in a population, as measured in blood serum
  - Pathogen- SARS-CoV-2
  - Population- a subset of CLSA participants
- We should not change individual-level behavior based on results of a population-level study
- Continue to adhere to public health measures to prevent infection and transmission

# COVID-19 Antibody Study

- Negative results can occur:
  - In blood collected too soon after infection or vaccination
  - In persons who are immunosuppressed
  - In persons with mild or asymptomatic infection
  - If concentrations are below the detection limit of the test
  - Results should not be used to diagnose recent infection

# Additional information about serology tests and results

- www.canada.ca/en/health-canada/services/drugs-health-products/covid19-industry/medical-devices/testing/serological/information-for-patients.html
- www.cdc.gov/coronavirus/2019-ncov/lab/resources/antibody-tests-guidelines.html
- www.fda.gov/medical-devices/safety-communications/antibody-testing-not-currently-recommended-assess-immunity-after-covid-19-vaccination-fda-safety

# CLSA COVID-19 Brain Health

- Canadian Institutes of Health Research
- Weston Brain Institute
- Teresa Liu-Ambrose, University of British Columbia
- Eric E Smith, University of Calgary
- Parminder Raina, McMaster University

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# CLSA COVID-19 Brain Health

- To explore the impact of the COVID-19 pandemic on human cognition and brain health.
- Our current understanding is limited to acute and overt manifestations.
- We focus on understanding the possible covert neurological consequences of COVID-19 and their impact on human brain and cognition.

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# CLSA Research Platform

- 2010-2015 Baseline
- 2015-2018 Follow-up 1
- 2018-2021 Follow-up 2
- 2021-2024 Follow-up 3

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COVID-19 Questionnaire Study

- Launched April 2020
- Web and telephone surveys
- Weekly, biweekly, monthly
- 28,000 baseline participants

COVID-19 Antibody Study

- Launched November 2020
- Recruiting 19,000 CLSA participants
- Dried blood spots samples (self-collection)
- Venous blood sample collection at CLSA Data Collection Sites

COVID-19 Brain Health Study

- Impact of COVID-19 on cognition & brain health

# Thank you!

## Questions?