



***Transforming Everyday Life
into Extraordinary Ideas***



Advancing the Science of Population Health and Aging through Interdisciplinary Research

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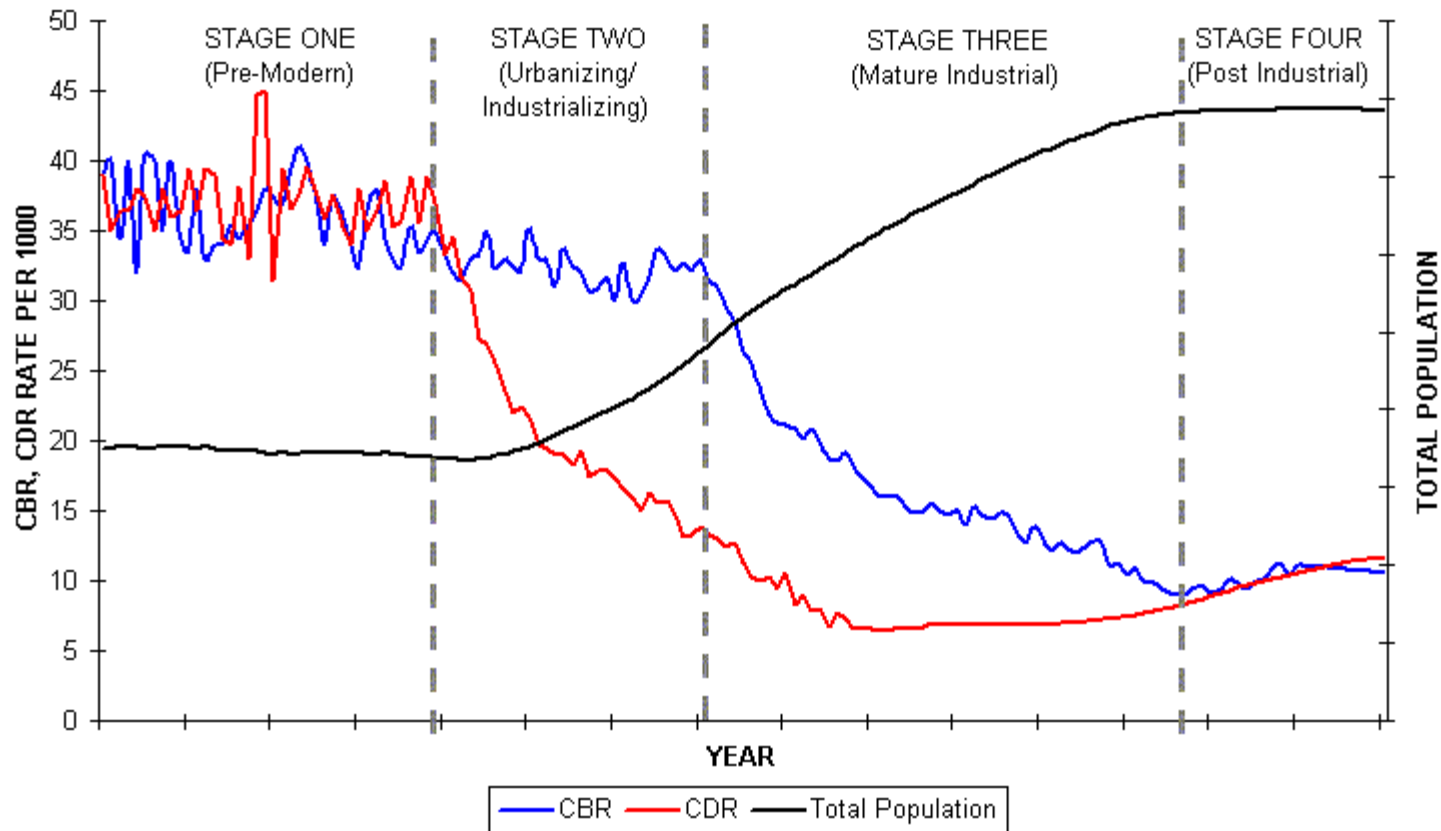
DEMOGRAPHY AND AGING

“Population aging is unquestionably the most important demographic force of the first half of the twenty-first century”.

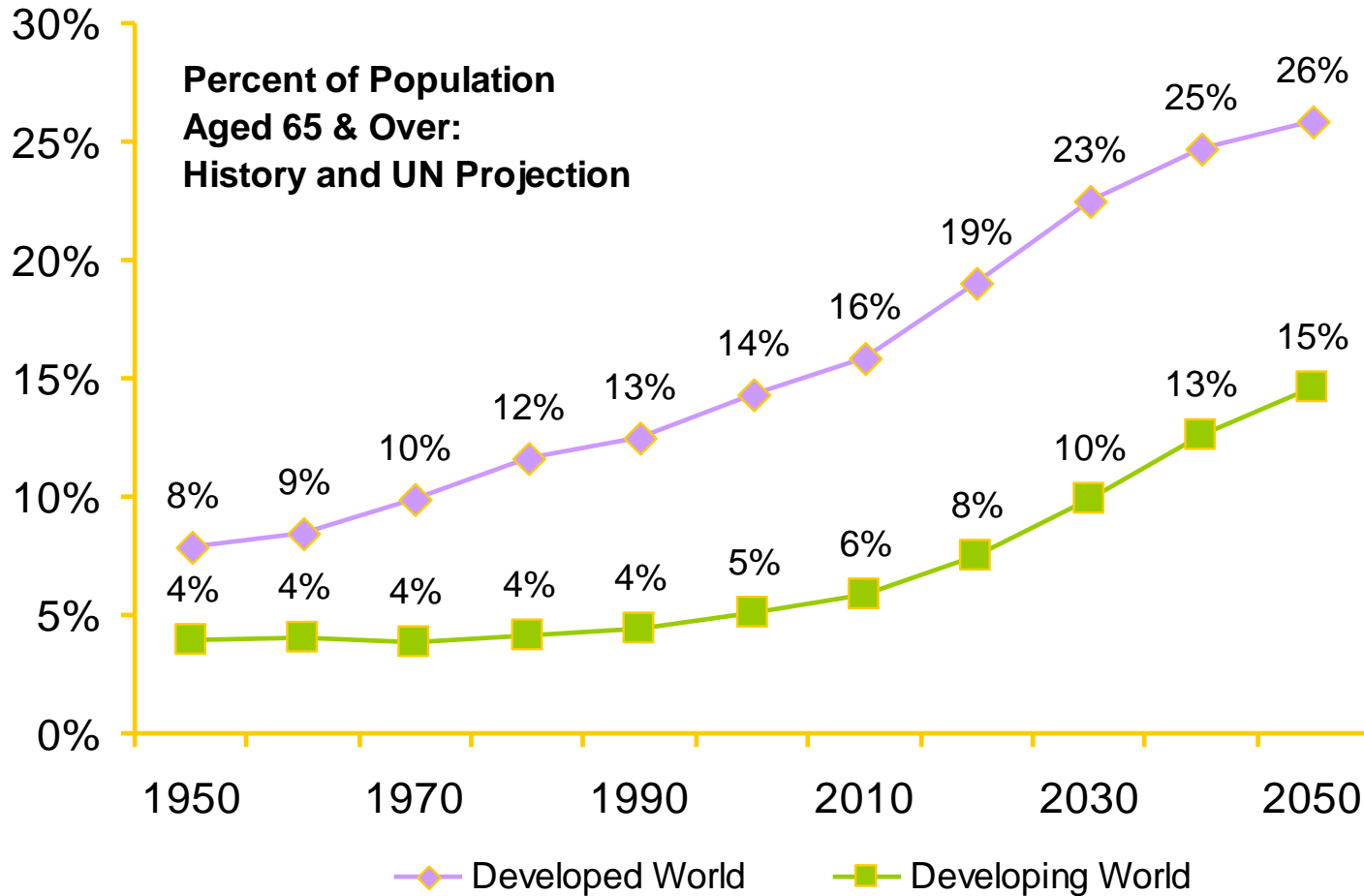
(Schoeni FR, Ofstedal MB. *“Key Themes in research on the Demography aging”* Demography, 47, 2010: S5-S15)

THE DEMOGRAPHIC TRANSITION

THE DEMOGRAPHIC TRANSITION MODEL



Trends in Global Aging

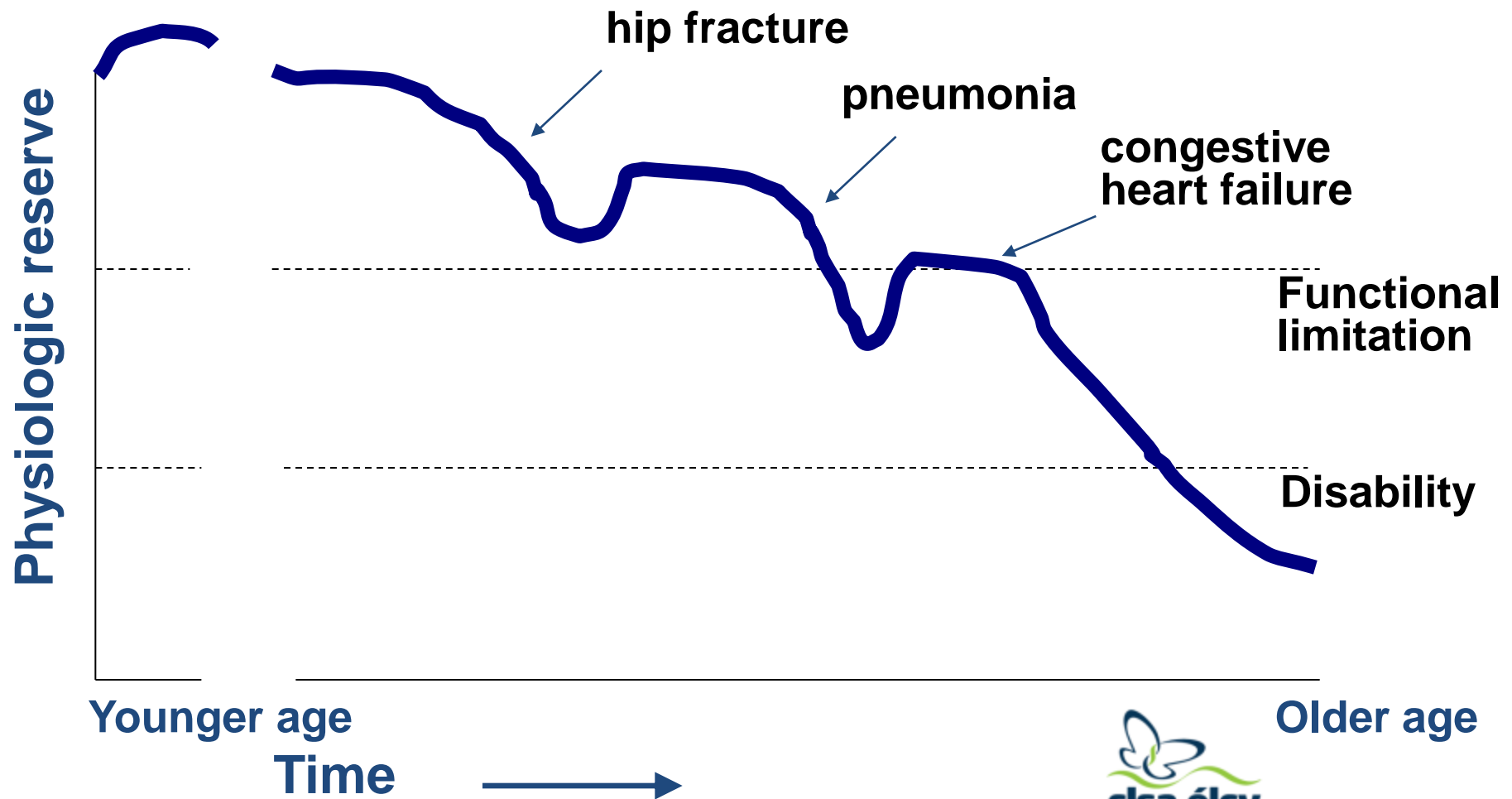


Source: UN (2005)

RESEARCH ON AGING

- The **demographic causes of aging** of the population, in terms of fertility rates and mortality rates, are generally predictable. A variety of population projections are available, prepared by UN, EU and National Statistic Institutes.
- What is **less predictable** is the interaction of these forces with social context, health status, economic changes, cultural influences and hence international migrations.

Physiologic reserve - Hypothetical Trajectory to Illness, Functional Limitation & Disability



Exceptional survival – Understanding physiologic reserve

- Do systems decline together?
- Is there a common underlying “rate” of aging across organ systems?

RESEARCH ON AGING

- **Longitudinal data** are essential in order to sort causal relationships among demographic, biological, psychosocial and economic factors, and health.
- **Cross-national comparison** are important, considering variability across societies, in terms of status and well-being of older persons, experiences of health and mortality, family and social support.

Canadian Longitudinal Study on Aging (CLSA)

- More than 160 researchers – 26 institutions
- Multidisciplinary – biology, genetics, medicine, psychology, sociology, demography, economics, epidemiology, nursing, nutrition, health services, biostatistics, population health



Canadian Longitudinal Study on Aging
Étude longitudinale canadienne sur le vieillissement

Our Vision

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.





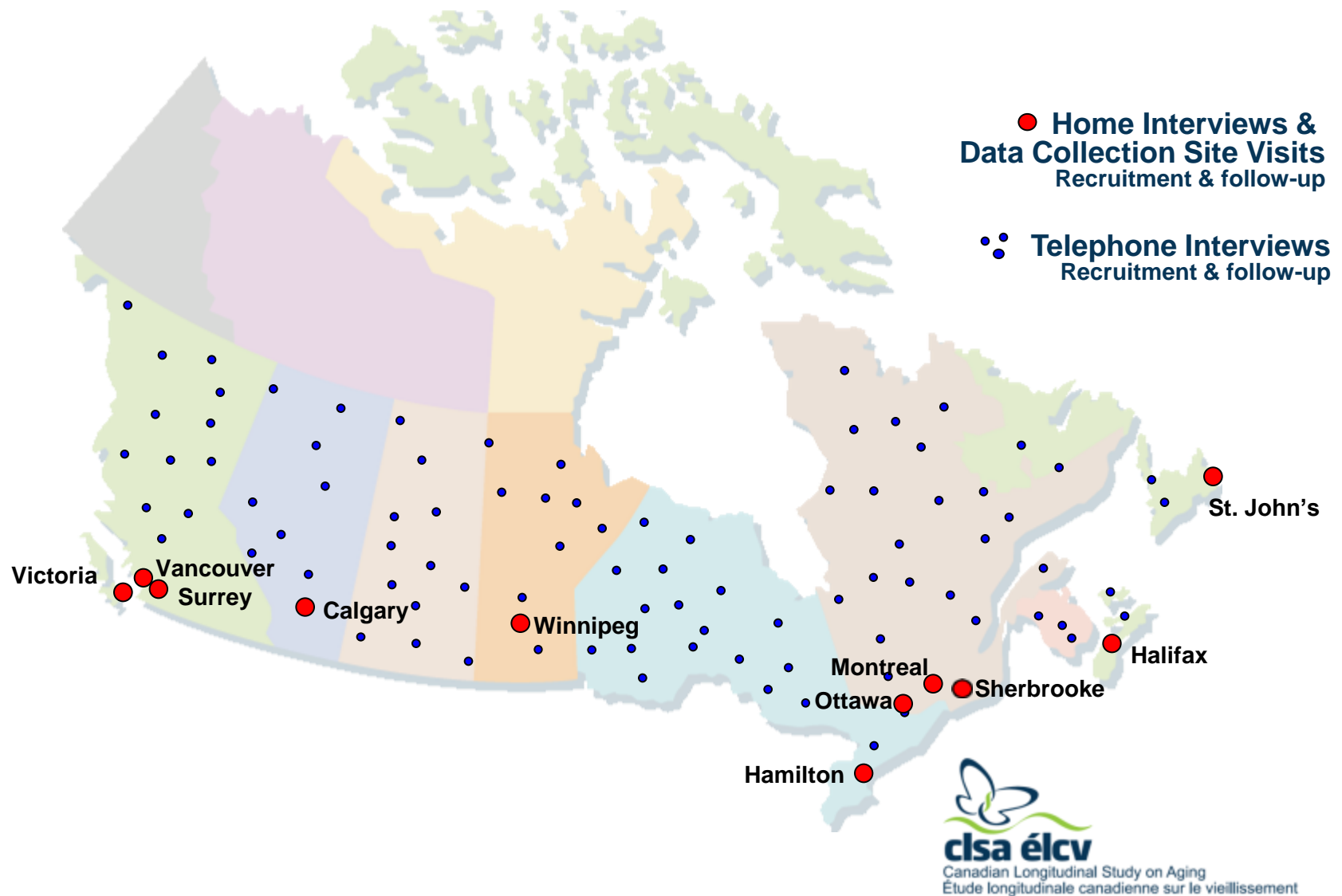
Our Aim

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



Canadian Longitudinal Study on Aging
Étude longitudinale canadienne sur le vieillissement

National Scope



Depth and Breadth of the CLSA

PHYSICAL & COGNITIVE MEASUREMENTS

- Height & weight
- Waist and hip measurements
- Body composition
- Arterial pressure
- Heart rate
- ECG
- Grip strength
- Timed up-and-go
- Chair rise, 4-m walk
- Standing balance
- Vision
- Hearing
- Spirometry
- Bone density
- Aortic calcification
- Carotid intima-media thickness
- Cognitive assessment



Depth and Breadth of the CLSA

PSYCHOSOCIAL

- Social participation
- Social networks and support
- Caregiving and care receiving
- Mood, psychological distress
- Satisfaction with life
- Wealth
- Personality traits
- Work-to-retirement transitions
- Veteran identifier/PTSD
- Retirement planning
- Social inequalities
- Mobility-lifespace
- Built environments



Depth and Breadth of the CLSA

HEALTH INFORMATION

- Chronic disease and symptoms
- Medication and supplement use
- Women's health
- Self-reported health service use
- Oral health
- Administrative data linkage health services and drugs
- Other administrative databases
- General health
- Injuries
- Pain/discomfort
- Functional status
- Activities of daily living (ADL)
- ADL impairment



Photo: Health Canada

Depth and Breadth of the CLSA



LIFESTYLE & SOCIODEMOGRAPHIC

- Smoking
- Alcohol consumption
- Physical activity
- Nutrition
- Birth location
- Ethnicity/race/gender
- Marital status
- Education
- Income
- Transportation
- Home ownership



Canadian Longitudinal Study on Aging
Étude longitudinale canadienne sur le vieillissement

Study Overview

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

n=20,000
Randomly selected within
provinces

Questionnaire
• **By telephone (CATI)**

n=30,000
Randomly selected
within 25-50 km of 11 sites

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

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

Interim contact, follow up every 3 years

Data Linkage (consent)

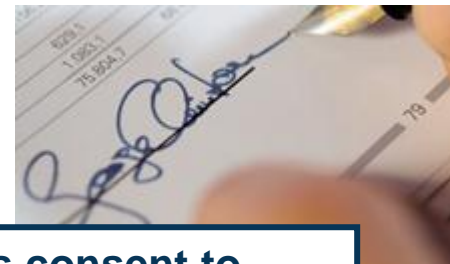


Canadian Longitudinal Study on Aging
Étude longitudinale canadienne sur le vieillissement

CLSA Recruitment



Randomly selected adults aged
45-85 sent study information



Recruits consent to
participate in the CLSA



Participants provide
questionnaire data
(n=50,000)



Home interview and
data collection site
visit (n=30,000)



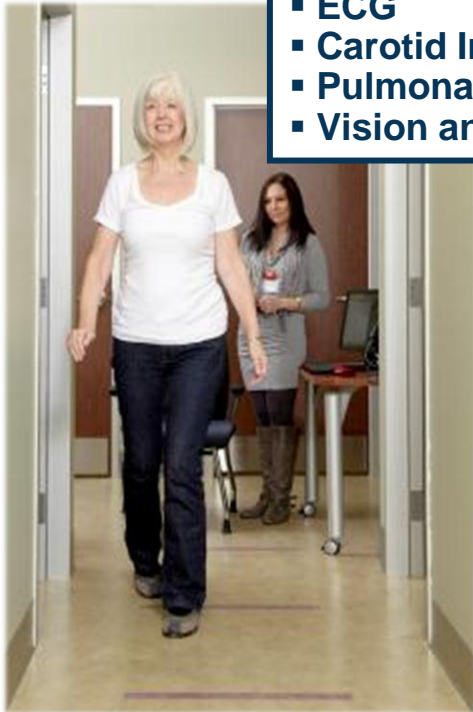
Telephone
interview
(n=20,000)

CLSA Data Collection

At the Data Collection Site

Physical Data Collected

- Bone Density, Body Composition
- Aortic Calcification
- ECG
- Carotid Intimal-Medial Thickness
- Pulmonary Function
- Vision and Hearing



Biological Data Collected

- Blood
- Urine



Psychological Data Collected

- Neuropsychological Battery
- Performance Testing
- Anthropometric Measures



For more
Information visit
www.clsa-elcv.ca



Canadian Longitudinal Study on Aging
Étude longitudinale canadienne sur le vieillissement

Biospecimen Room

Collection, processing, analysis

- 5 – 6 participants per day
- 50 mL blood
- Urine sample
- Hematology tests
- Collection to storage time – 2 hours



AcT DIFF, Beckman Coulter



Recruitment & Data Collection

Telephone Interviews

- Recruitment of 20,000 participants for telephone interviews:
 - ✓ Statistics Canada CCHS on Healthy Aging
 - ✓ Provincial Health Care Registries
 - ✓ Random Digit Dialing
- Baseline data collection 2010 to 2014
- Maintaining contact interviews initiated 2013
- First follow-up begins 2015



Recruitment & Data Collection

Home Interviews and Data Collection Site Visits

- Recruitment of 30,000 for Home Interviews and Data Collection Site Visits:
 - ✓ Provincial Health Care Registries
 - ✓ Random Digit Dialing
- Baseline data collection 2012 to 2015
- Maintaining Contact Interviews initiated 2014
- First follow-up begins 2015



CLSA Collaborations

- PHAC for Neurological Conditions Initiative
- PHAC for Injury Initiative
- Veterans Affairs (Veterans Health Initiative)



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www.clsa-elcv.ca

