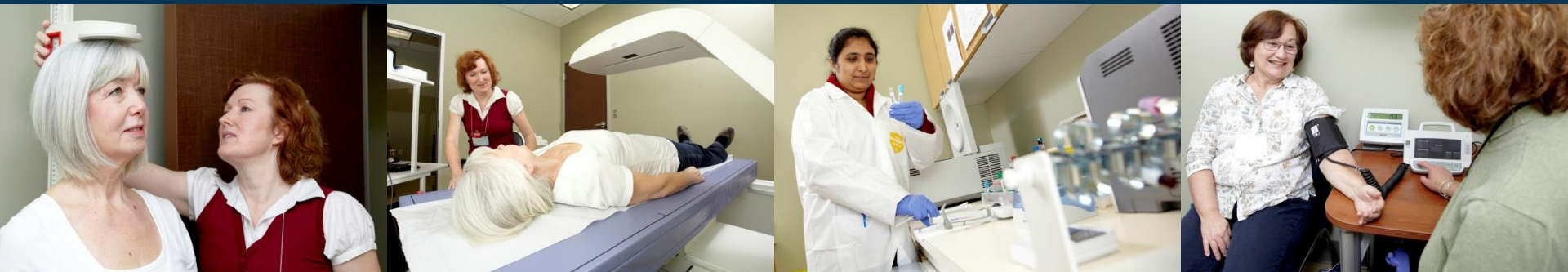


***Transforming Everyday Life
into Extraordinary Ideas***





Canadian Longitudinal Study on Aging (CLSA) as a Platform for Planning, Research and Evaluation related to Healthy Aging

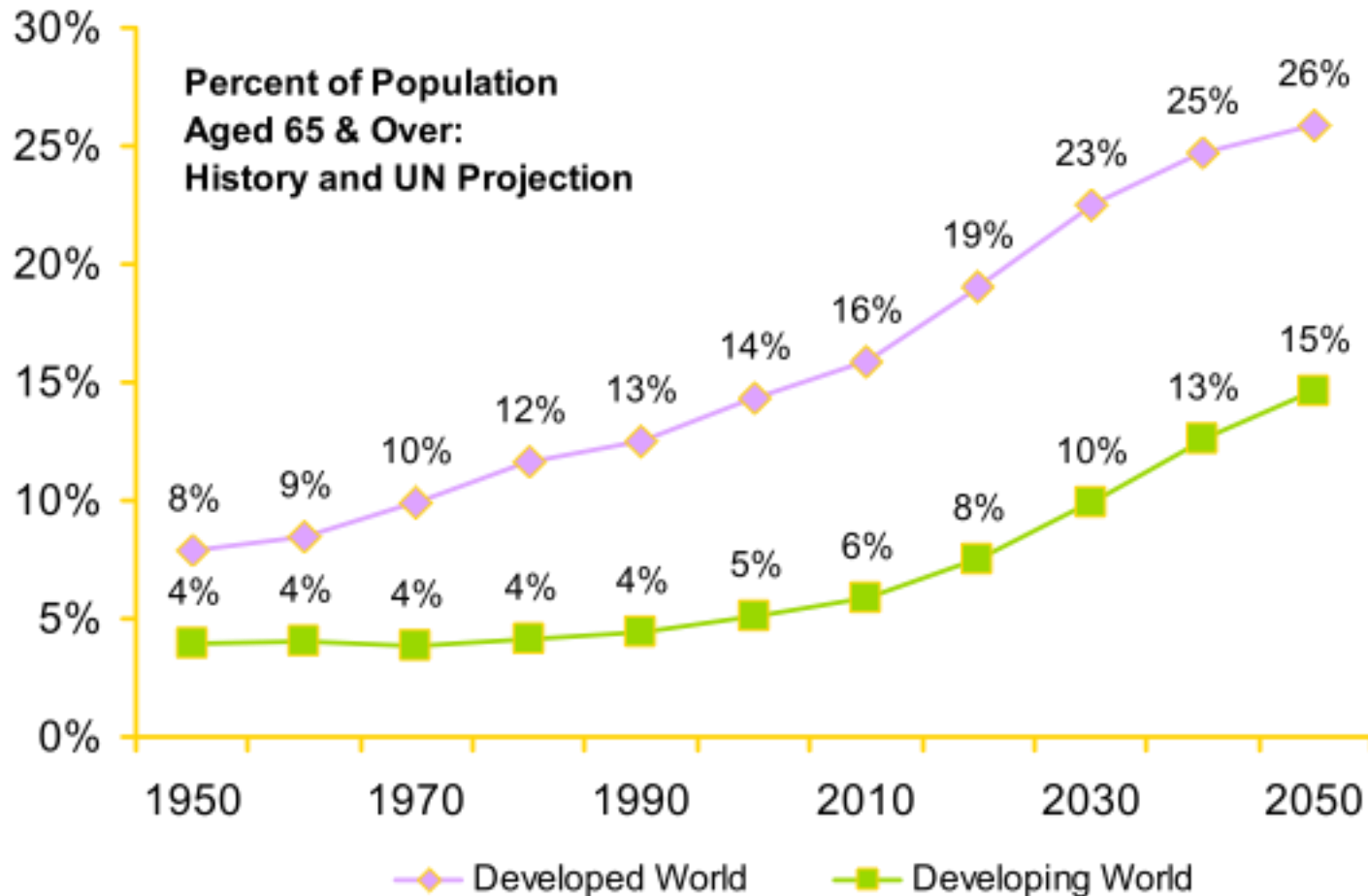
Susan Kirkland, PhD

**CLSA Co-Principal Investigator
Professor, Dalhousie University**

Supporting SHIFT: Nova Scotia's Action Plan for an Aging Population

May 4, 2018

Trends in Global Aging



Source: UN (2005)



Canadian Longitudinal Study on Aging
Étude longitudinale canadienne sur le vieillissement

Population aging



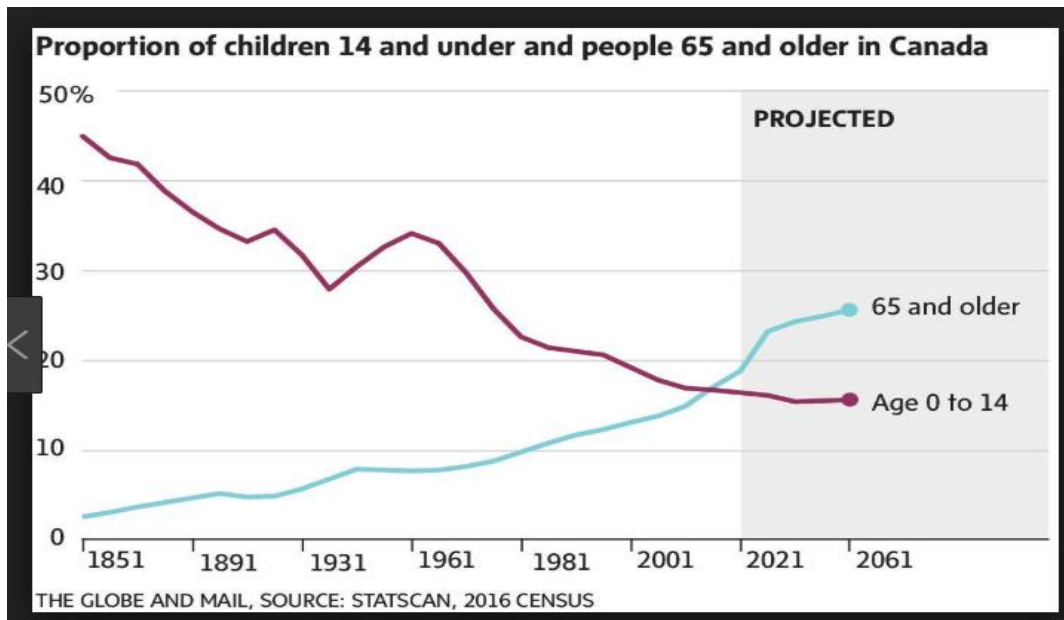
Canada shows its age as seniors outnumber children for first time

ERIC ANDREW-GEE

The Globe and Mail

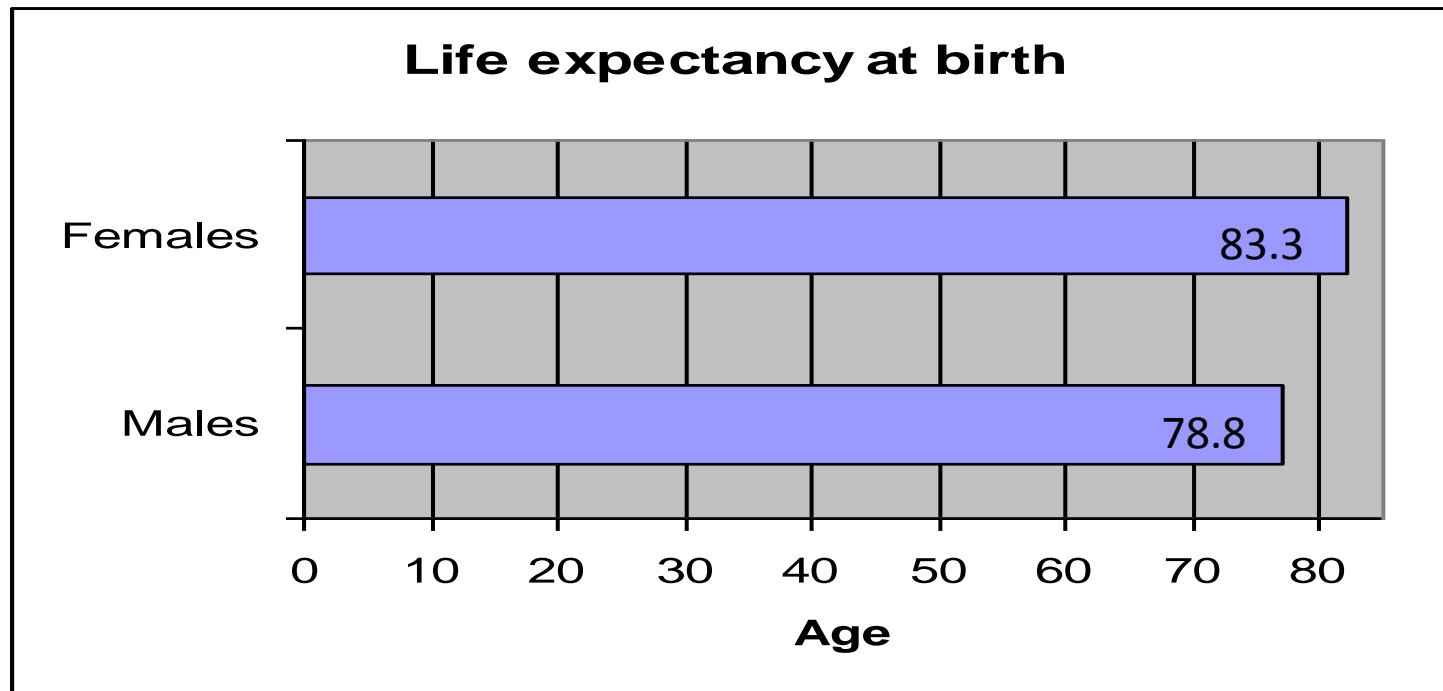
Published Tuesday, Sep. 29, 2015 9:50PM EDT

Last updated Wednesday, Sep. 30, 2015 8:07AM EDT



Life expectancy

Statistics Canada



At age 65: Women 21.6 years (86.6)

At age 65: Men 18.5 years (83.5)

Challenge: Live long AND well

Need to shift our focus:

- Mortality
 - Morbidity
 - Longevity
- ➔
- Function
 - Ability/Disability
 - Well being
 - Quality of life
 - Autonomy/Independence



Canadian Longitudinal Study on Aging (CLSA) as a Platform for Research, Planning and Policy related to Healthy Aging

With over \$90 million of funding from government and partners, the CLSA has created one of the **most comprehensive research platforms** in the world with **longitudinal data and biospecimens** from over **50,000 men and women aged 45+** that will span 20 years

CLSA Leads



Co-principal Investigator
Christina Wolfson (McGill)



Lead Principal Investigator
Parminder Raina (McMaster)



Co-principal Investigator
Susan Kirkland (Dalhousie)

Overall Aims of the CLSA



- To examine aging as a dynamic process
- To investigate the inter-relationship among intrinsic and extrinsic factors from mid life to older age
- To capture the transitions, trajectories and profiles of aging
- To provide infrastructure and build capacity for state-of-the-art, interdisciplinary, population based research and evidenced-based decision making

The CLSA platform collects data from:

51,338 Canadian women and men aged 45 - 85 at baseline

Questionnaires by telephone interview
on 21,241 participants

Randomly selected
10 provinces

Questionnaires by in-person interviews
and physical assessments on 30,097
participants

Randomly selected
25-50 km of 11 sites in 7 provinces

20 year study: Follow up every 3 years, maintaining contact in between

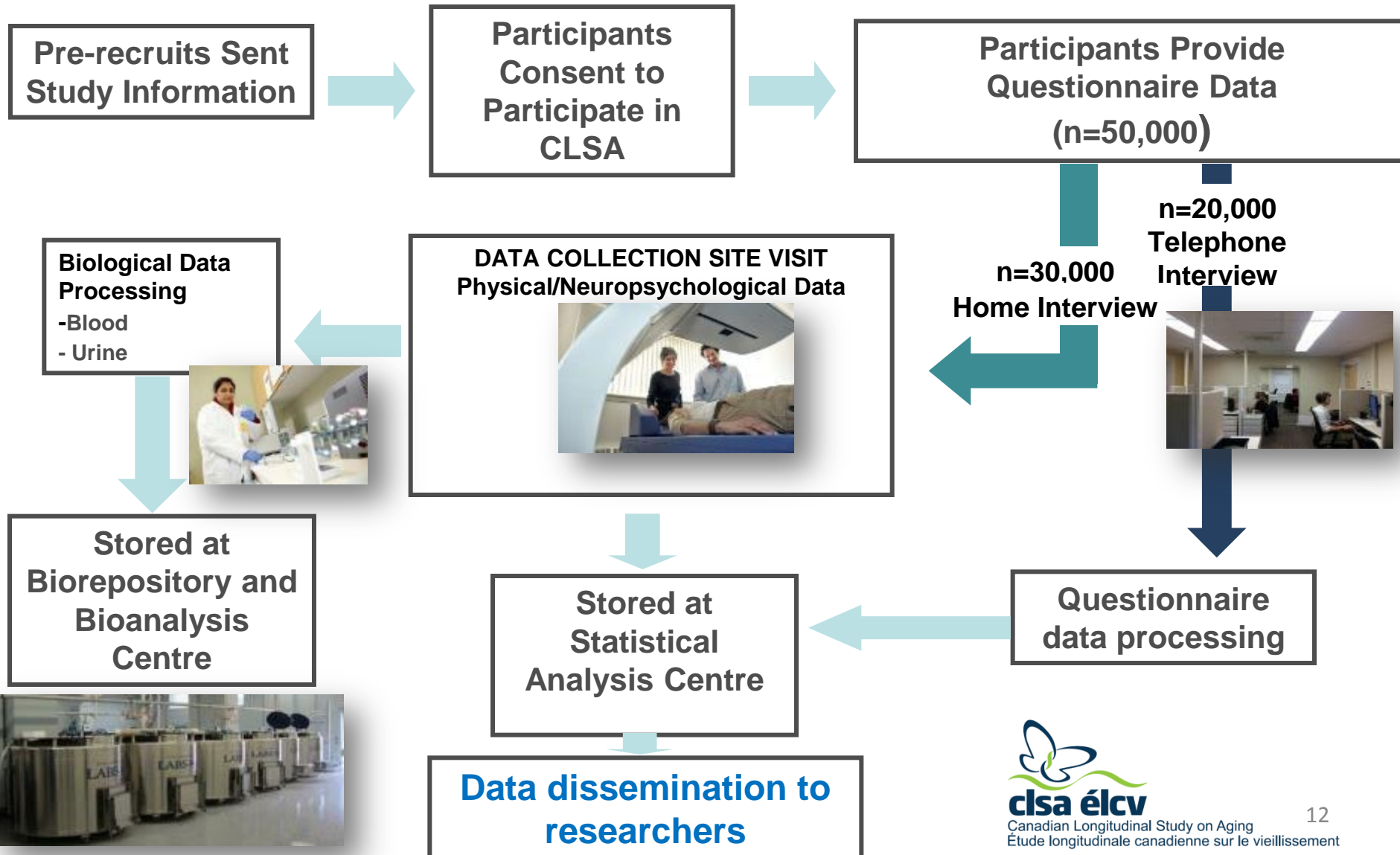
Data Linkage with health care, mortality and disease registries

National Scope

Representative Sampling Frame



Innovative Electronic Data Capture



CLSA Questionnaire Modules

51,338 participants

Demographic/Lifestyle

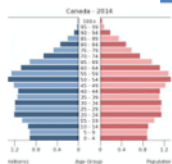
- Age
- Gender
- Education
- Marital status
- Sexual orientation
- Language
- Ethnicity
- Wealth/income
- Veteran Identifier
- Smoking, alcohol
- Nutritional risk
- Physical activity
- Health care utilization
- Medication use
- Supplement use

Health

- General health
- Women's health
- Chronic conditions
- Disease symptoms
- Sleep
- Oral health
- Injuries, falls
- Mobility
- Pain, discomfort
- Functional status
- ADL, IADL
- Cognition
- Depression
- PTSD
- Life Satisfaction

Social

- Social
 - networks
 - support
 - participation
 - inequality
- Online communication
- Care receiving
- Care giving
- Retirement status
- Labour force participation
- Retirement planning
- Transportation
- Mobility, Migration
- Built environments
- Home ownership

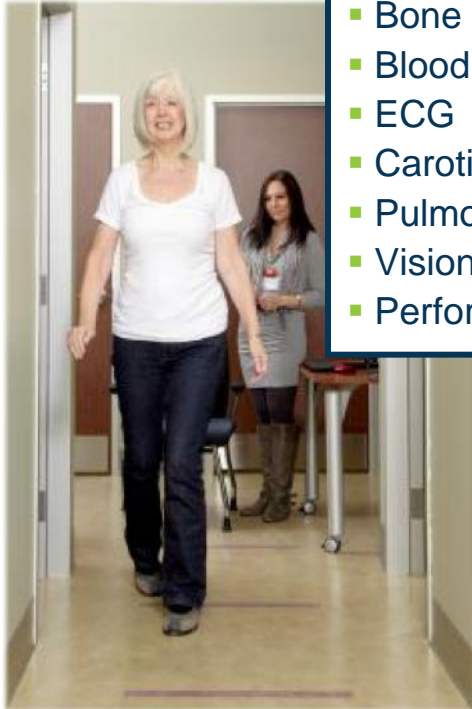


CLSA Data Collection

30,097 participants

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:

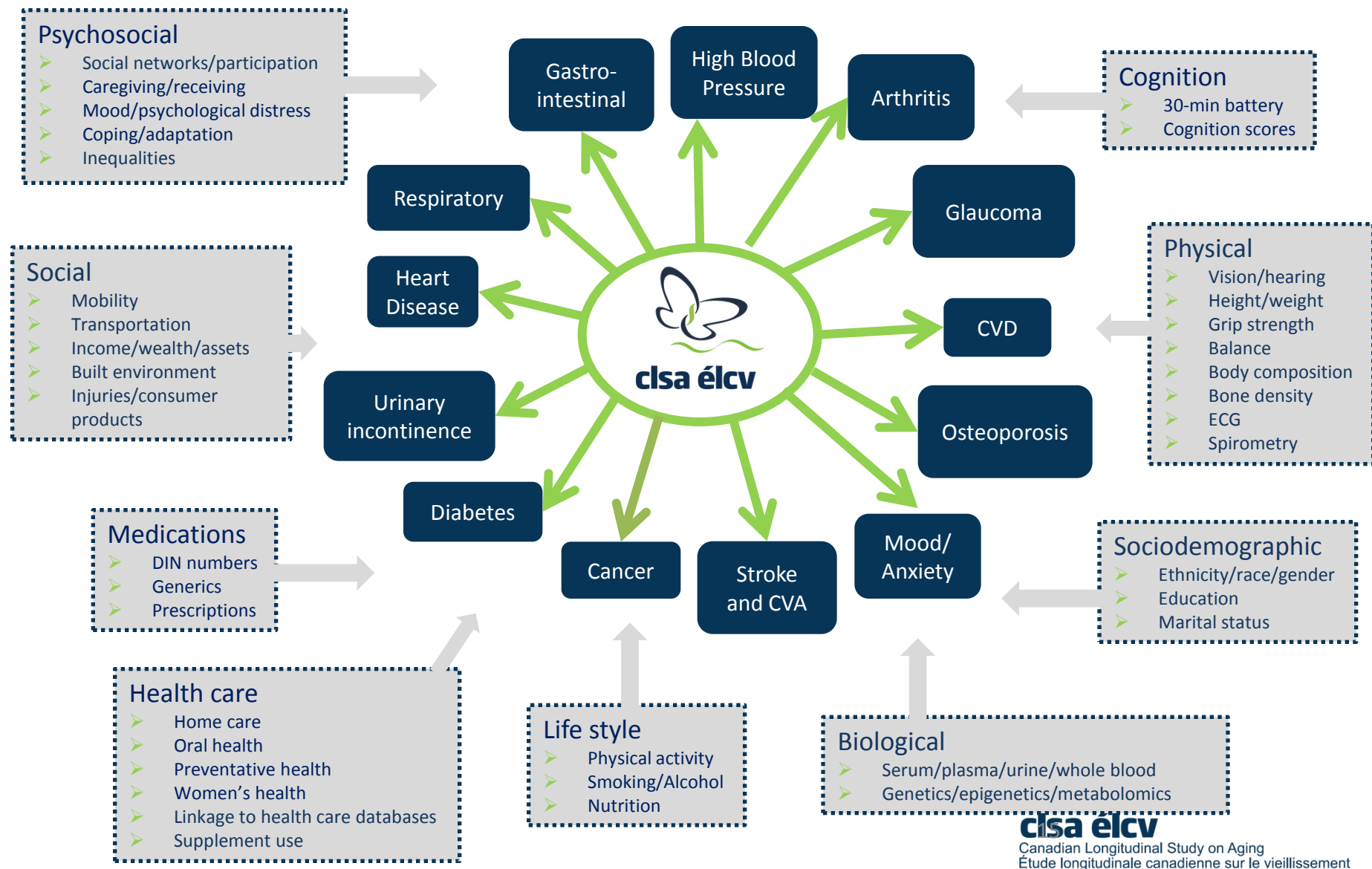
- Blood
- Urine

Cognitive Assessments:

- Neuropsychological Battery
 - Memory
 - Executive function
 - Reaction time



Wealth of information available in the CLSA



Preliminary Findings from the CLSA

Demographic Characteristics of all CLSA Participants

	Tracking N=21,241	Comprehensive N=30,097	Total N=51,338
Age	N (%)	N (%)	N (%)
45-54	5832 (27.5)	7595 (25.2)	13427 (26.2)
55-64	6564 (30.9)	9856 (32.7)	16420 (32.0)
65-74	4634 (21.8)	7362 (24.5)	11996 (23.4)
75-85	4211 (19.8)	5284 (17.6)	9495 (18.5)
Sex			
Female	10835 (51.0)	15320 (50.9)	26155 (50.9)
Male	10406 (49.0)	14777 (49.1)	25183 (49.1)
Language			
English	17483 (82.3)	24291 (80.7)	41774 (81.4)
French	3758 (17.7)	5806 (19.3)	9564 (18.6)
Born in Canada	18513 (87.2)	24644 (81.9)	43099 (84.0)

Demographic Characteristics of the CLSA Participants in Nova Scotia

	Tracking N=1,553	Comprehensive N=3,078	Total N=4,631
Age	N (%)	N (%)	N (%)
45-54	421 (27.1)	769 (25.0)	1190 (25.7)
55-64	480 (30.9)	959 (31.2)	1439 (31.1)
65-74	354 (22.8)	813 (26.4)	1167 (25.2)
75-85	298 (19.2)	537 (17.4)	835 (18.0)
Sex			
Female	777 (50.0)	1529 (49.7)	2306 (49.8)
Male	776 (50.0)	1549 (50.3)	2325 (50.2)
Language			
English	1545 (99.5)	3078 (100)	4623 (99.8)
French	8 (0.5)		8 (0.2)
Born in Canada	1443 (92.9)	2674 (86.9)	4117 (88.9)

What does data from the CLSA tell us about the health and wellness of Canada's aging population?

Loneliness, Social Isolation and Social Engagement:

- More women than men of all ages report being lonely at least some of the time.
- Individuals who report being lonely at least some of the time report lower life satisfaction than those stating that they are rarely or never lonely.
- There is a correlation between self-reported loneliness and depressive symptoms.

Caregiving and Care Receiving:

- 38% of participants report providing care to others
- 8% report that they receive care
- 6% report both giving and receiving care
- Caregiving rates are highest - at 49% - among those aged 55-64 years.



What does data from the CLSA tell us about health and wellness of Canada's aging population?

Psychological Health and Well-Being:

- 95% of Canadians rate their mental health as excellent, very good or good.
- The youngest CLSA participants (aged 45-54) report the greatest concerns with mental health.
- Women tend to report more depressive symptoms and psychological distress than men.

Lifestyle and Behaviour:

- Only 25% of older adults report reaching the recommended amounts of aerobic and resistance-based physical activity.
- The most frequent nutritional risks are skipping meals, eating alone, and weight loss.

Physical Activity of CLSA Participants in Nova Scotia

Over the past 7 days, how often did you engage in sports or recreational activities?

	Tracking N (%)	Comprehensive N (%)	Total N (%)
Light activities			
Never	1117 (82.4)	2219 (76.0)	3336 (78.1)
Seldom	123 (9.1)	357 (12.2)	480 (11.2)
Some time	60 (4.4)	148 (5.1)	208 (4.9)
Often	55 (4.1)	195 (6.7)	250 (5.8)
Moderate activities			
Never	1226 (90.5)	2594 (88.9)	3820 (89.4)
Seldom	65 (4.8)	224 (7.7)	289 (6.8)
Some time	43 (3.2)	65 (2.2)	108 (2.5)
Often	21 (1.5)	36 (1.2)	57 (1.3)
Strenuous activities			
Never	1062 (78.4)	2061 (70.6)	3123 (73.1)
Seldom	103 (7.6)	325 (11.1)	428 (10.0)
Some time	104 (7.7)	309 (10.6)	413 (9.7)
Often	86 (6.3)	223 (7.6)	309 (7.2)

What does data from the CLSA tell us about health and wellness of Canada's aging population?

- **Retirement:**

- Approximately 25% of all retirees cite health as a factor in their decision to retire
- 20% of women retirees and 30% of men retirees reported “un-retiring” for some period, with un-retirement employment being primarily part-time.



- In **Nova Scotia** approximately 24 % of retired CLSA participants cited health as a factor to retire and 16% of participants in Nova Scotia reported “unretiring” for some period of time following retirement

Aging in Place: What type of dwelling do Nova Scotia participants live in?

	Tracking N (%)	Comprehensive N (%)	Total N (%)
House	1354 (87.2)	2400 (78.0)	3754 (81.1)
Apartment/Condo	157 (10.1)	629 (20.4)	786 (17.0)
Senior home	21 (1.4)	11 (0.4)	32 (0.7)
Institution	1 (0.1)	0	1 (0.0)
Hotel, room, lodging	1 (0.1)	2 (0.1)	3 (0.1)
Movable	13 (0.8)	18 (0.6)	31 (0.7)
Co-op housing	0	4 (0.1)	4 (0.1)
Multiple	1 (0.1)	0	1 (0.0)
Modular	5 (0.3)	13 (0.4)	18 (0.4)

84% of Nova Scotia CLSA participants own their home

15% of Nova Scotia CLSA participants rent their home or apartment

Prevalence of Chronic Diseases (%) in the CLSA Baseline by Age and Sex (n=51,338)

Males (n=25,183)

Age:	45-54	55-64	65-74	75-89
Respiratory	13.3 ⁴	13.9 ⁵	12.7	14.1
Arthritis	18.4 ²	29.7 ²	36.5 ²	42.0 ²
Osteoporosis	1.1	2.4	4.2	5.4
Hypertension	20.8 ¹	36.4 ¹	48.5 ¹	54.0 ¹
Diabetes	10.0	17.7 ³	23.0 ⁴	25.9 ⁵
CVD	5.6	13.3	23.4 ³	33.4 ³
Cancer	5.2	10.7	18.8 ⁵	30.2 ⁴
Gastrointestinal	11.0 ⁵	11.0	13.8	13.3
Stroke or CVA	0.8	1.4	2.6	4.7
Urinary incontinence	1.4	3.1	6.9	12.5
Glaucoma	0.8	3.0	6.4	9.3
Depression	17.8 ³	16.4 ⁴	12.3	7.7

Females (n=26,155)

Age:	45-54	55-64	65-74	75-89
Respiratory	16.5 ³	17.9 ⁴	17.5	17.2
Arthritis	24.9 ¹	42.7 ¹	51.9 ¹	57.9 ²
Osteoporosis	4.5	13.0	23.2 ³	30.0 ³
Hypertension	16.7 ²	30.7 ²	45.6 ²	59.0 ¹
Diabetes	9.4	14.5	17.3	18.2
CVD	3.6	7.3	13.1	21.5 ⁵
Cancer	8.4	14.2	19.9 ⁵	22.7 ⁴
Gastrointestinal	14.1 ⁴	16.0 ⁵	17.4	18.5
Stroke or CVA	0.4	1.3	1.7	2.9
Urinary incontinence	7.8	10.5	13.4	18.4
Glaucoma	1.5	2.8	6.0	11.3
Depression	24.9 ¹	26.9 ³	20.4 ⁴	14.5

Prevalence of Chronic Diseases (%) in CLSA participants in Nova Scotia at Baseline by Age and Sex

Males (%)

Age:	45-54	55-64	65-74	75-89
Asthma	11.4	11.1	8.6	7.1
Diabetes	13.0	22.5	28.2	27.9
Osteoarthritis	12.0	21.7	26.3	29.7
Hypertension	24.1	41.3	50.0	59.3
Depression	12.2	11.6	9.1	3.74
Obesity	32.4	35.8	30.7	23.0
Cancer	1.5	8.2	14.9	26.4

Females (%)

Age:	45-54	55-64	65-74	75-89
Asthma	15.2	17.2	14.4	9.9
Diabetes	10.7	15.7	21.4	20.7
Osteoarthritis	14.6	33.7	40.9	52.0
Hypertension	17.1	31.1	47.4	62.2
Depression	22.8	20.0	16.3	11.1
Obesity	25.2	33.4	32.7	27.7
Cancer	5.3	10.0	12.5	17.5

The CLSA includes....

- Veterans
- Aboriginal peoples
- Francophone population
- Ethnic groups
- Urban and rural populations
- People living with chronic diseases
- Caregivers
- Retirees



How is the CLSA platform currently being used?

Current use of the CLSA Platform

To date:

- 124 research projects using CLSA data
- Over 50 partnerships with research teams and collaborations with federal and provincial governments and other partners to shape the CLSA research platform

Current use of the CLSA Platform

Ongoing Studies/Research projects

Examples:

- Examining the relationship between oral health, nutrition, and frailty in older adults
 - *Dr. Carol Bassim, McMaster University*
- Understanding built environments in rural and urban communities to promote participation and health of older adults
 - *Dr. C. Allyson Jones, University of Alberta*
- Capturing how age-friendly communities foster positive health, social participation and health equity
 - *Dr. Mélanie Levasseur, Université de Sherbrooke*
- Understanding lay perspectives of healthy aging: What it means to live long and age well
 - *Dr. Susan Kirkland, Dalhousie University*

Current use of the CLSA Platform

Partnerships

Examples:

- The Ontario Ministry of Transportation contributed funding to add questions on driving behavior, transportation modes and mobility
- The CLSA collaborated with the Public Health Agency of Canada and Employment and Social Development Canada to develop a report to support program and policy development initiatives within government agencies. Topics:
 - Work and Retirement / Social activity and social isolation
 - Physical function / Psychological health and well-being
 - Care giving and care receiving / Lifestyle and health behaviours
 - Transportation / LGBTQ2 Seniors
- Health Canada provided air pollution data to CLSA data base for evaluation of the effects of ambient air pollution on health in the population

Questions and Issues that the CLSA is Uniquely Positioned to Answer

Examples

- Providing analyses to support planning and policy development for retirement and retirement transitions
- Investigating how lifestyle (nutrition, exercise) and community factors (green space, walkability) can promote resilience against depression and healthy aging
- Evaluation of contributing factors (e.g. housing, transportation) in loneliness, social isolation and social engagement in rural and urban communities

How can the CLSA Address SHIFT Priorities?

- Goal: Value the social and economic contributions of older adults
 - Entrepreneurs, paid and unpaid work
- Goal: Promote active, healthy living
 - Physical and mental health, income security
- Goal: Support aging in place, connected to community life
 - Transportation, housing, social connections
- CLSA: Provide evidence on current status, change over time, policy evaluation, assess impacts and consequences on the health of the population





**What are your for policy, planning
and/or research priorities to
support SHIFT?**

What is the value of the CLSA for you to support SHIFT priorities?

Answer your own questions: Access the CLSA data to inform evidence-based policy development

Be a knowledge user: Use the findings from CLSA studies to inform policy and encourage researchers to undertake studies based on CLSA data

Shape the CLSA research process: Contribute to the design of CLSA survey questions

Next Steps

- Have us connect with your staff and scientists to understand and access the CLSA data to inform your policy and programs and support SHIFT priorities.
- Connect with external researchers doing work related to your SHIFT priorities so that you can participate on studies as a knowledge user.
- Sponsor the development of a report on a specific topic(s) of interest to you
- Other ways that you would like to be involved or learn more?

CLSA Funders and Partners



Veterans Affairs Canada



Anciens Combattants Canada

Health PEI



The CLSA is funded by the Government of Canada through CIHR and CFI, and provincial governments and universities....
but we couldn't do it without our participants.



Susan.Kirkland@dal.ca



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governments and universities**



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