Canadian Longitudinal Study on Aging Research Update Event

Calgary (May 16, 2017)

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Agenda

- Welcome (5 minutes)
- Overview of the CLSA (15 minutes)
- How the information collected is being used (15) minutes)
- Promoting healthy aging (20 minutes)
  - Brain and thinking
  - Lifestyle, practices, and attitude
  - Living well with chronic conditions
- Questions (30 minutes)
- Thanks and adjournment (5 minutes)

Studies of Aging

- We are an aging society
  - In the 2016 census for the first time ever older Canadians (65+) made up a bigger share of the population than children (14 and under) – 16.9% versus 16.6%
- Many potential goals but arguably the most important are to –
  - Develop strategies to promote healthy aging;
  - Develop strategies to prevent or minimize the handicaps that might arise as we age; and,
  - Find better therapeutic approaches to the conditions that disproportionally affect older individuals
- To achieve these goals, we require a better understanding of aging

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Longitudinal Studies

- Repeated observations are made on the same individuals over time (serial measurements are obtained on one group of subjects)
  - Because of repeated observations at the individual level, they have more power than cross-sectional observational studies to observe the temporal order of events (what leads to what)
  - Major concerns are the cost, length of time it takes to complete the study, and loss of participants
  - Need to remember that each generation is exposed to a unique environment that coincides with its life span

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1946 National Birth Cohort (UK)

- MRC National Survey of Health and Development

- Developed to address 2 questions of importance at the time in the UK –
  - Why the birth rate was dropping + distribution, use & effectiveness of obstetrical and midwifery services
  - March 3-9, 1946

- Objectives changed over time with the age of participants (e.g., social class, education) - since 1977 have focused on aging, self-care, and receptivity to health promotion

CLSA

- https://www.clsa-elcv.ca
- Strategic Initiative of the CIHR
- National long-term study that will follow approximately 50,000 men and women 45 to 85 years of age at enrollment for 20+ years
  - Information will be collected on the evolution over time of biological, physical, psychological, social, & lifestyle characteristics in order to better understand how, individually and in combination, these factors impact both the maintenance of health and the development of diseases and disability as people age

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CLSA

- Two components (*tracking* and *comprehensive*)
  - Tracking (approximately 20,000): data collected through computer assisted telephone interviews
  - Comprehensive (approximately 30,000): undergo an in-home interview + visit to CLSA Data Collection Site (DCS) where additional data (including physical assessments) & samples are collected
  - Participants in the tracking component can be from anywhere within the 10 Canadian provinces while those recruited into the comprehensive one must live within a 25-50 km radius of their local DCS

Canadian Longitudinal Study on Aging
Scientific Management Team - PIs

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

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

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

CLSA Team

- In addition to the three Principal Investigators
  - 11 Local Site Principal Investigators
  - 8 working groups
  - 160+ researchers in 26 post-secondary institutions
  - 120+ operational staff
  - 51,352 participants enrolled with baseline assessments performed

CLSA Infrastructure

- Eleven Data Collection Sites
  - Victoria, 2 in Vancouver, Calgary, Winnipeg, Hamilton, Ottawa, Montreal, Sherbrooke, Halifax, St. John's

- National Coordinating Centre (McMaster)

- Biorepository and Bioanalysis Centre (McMaster)

- Statistical Analysis Centre (McGill)

- Genetics and Epigenetics Centre (UBC)

- Four Computer-Assisted Telephone Interview Centres

Calgary Site

- Rebeka Burdon
- Pam Cruickshank
- Madison Duffin
- Rosalba (Rosy) Gonzalez Quintana
- Le-Quyen Hoang
- Karolina (Karol) Kogut
- Long Le
- Linh Ngo
- Kim Nguyen
- Lorlene Taljit-Goodluck
- Loan Tran
- Berchman Wong

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CLSA DataPreview Portal

- https://datapreview.clsa-elcv.ca/
- CLSA data & biological samples are/ will be available to approved Canadian & international public sector researchers, with no preferential or exclusive access for any individual
  - Navigate around the site to find information about the application process and requirements for data and sample access
  - Begin by reading *Frequently Asked Questions*

CLSA

- Data now available
  - Questionnaire data from more than 51,000 participants
  - Comprehensive physical assessment data and hematological biomarkers from more than 30,000 participants who visited a DCS
  - Data will be released to researchers following submission and review of applications by the CLSA Data and Sample Access Committee
  - $3,000 fee to cover costs of preparing data

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Sleep Module

- Eight questions
  - Overall sleep satisfaction (from Insomnia Sleep Index)
  - Sleep duration (Pittsburgh Sleep Quality Index [PSQI])
  - Sleep onset insomnia (Insomnia Sleep Index)
  - Sleep maintenance insomnia (Insomnia Sleep Index)
  - Daytime somnolence (adapted from PSQI)
  - Restless legs syndrome (adapted from REST questionnaire)
  - REM sleep behaviour disorder (from validated approach used at the Sacré-Coeur sleep disorders centre)

Sleep Questions

- How satisfied or dissatisfied are you with your current sleep pattern?
  - Dissatisfied 21.3%, Very Dissatisfied 4.4%
- During past month, on average, how many hours of actual sleep did you get at night?
  - Mean 6.8 hours (SD 1.3 hours)
- Over the past month, how often did it take you more than 30 minutes to fall asleep?
  - 3+/ week: 15.7%

Sleep Questions

- Over the last month, how often did you wake in the middle of the night or too early in the morning and found it difficult to fall asleep again?
  - 3+/week: 13.9%

- Over the last month, how often do you find it difficult to stay awake during your normal waking hours when you want to?
  - 3+/week: 8.8%

Sleep Questions

- Have you ever been told, or suspected yourself, that you seem to "act out your dreams" while asleep?
  - 11.1% answered "yes"

- Do you have, or have you sometimes experienced, recurrent, uncomfortable feelings or sensations in your legs while sitting or lying down?
  - 33.3% answered "yes"

- Do you have, or have you sometimes experienced, a recurrent need or urge to move your legs while sitting or lying down?
  - 32.6% answered "yes"

Studies Being Done

- Visit website (https://www.clsa-elcv.ca/researchers/approved-project-summaries)

- Approved projects
  - 2013 – 1
  - 2014 – 3
  - 2015 – 17
  - 2016 – 40
  - 2017 – 6 (to the end of April)

Promoting Healthy Aging – Brain and Thinking

- We all forget things (about 1x per day)
- With normal aging, some things improve but typically
  - Mild decline in memory (retrieval - get with cueing, "tip of the tongue" phenomena)
  - Problems with attention (difficulty focusing/ more distractible)
  - Not as fast - more challenges with tasks that require taking in & analyzing new information
  - Lot of variability & can compensate for these changes

Brain and Thinking

- Mild cognitive impairment
  - Boundary area between normality & early dementia

- Dementia
  - Acquired problem in thinking usually includes memory & other aspects of thinking (like decision-making and speech) that is severe enough to interfere with your ability to live independently and can't be better explained by something else like depression or acute confusion (delirium)

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Brain and Thinking

- The aging of Canadian society is expected to lead to a large increase in the number of people with dementia

    - Estimated in 2016 that there were 564,000 persons in Canada living with dementia
    - By 2031, it is estimated that the number will increase to 937,000 – Prevalence and Monetary Costs of Dementia in Canada. Alzheimer Society of Canada 2016

Brain and Thinking

- Recent studies suggest that in high-income countries, the risk of dementia at specific ages may have declined over the past 25 years

- National American study compared 2000 & 2012
  - Likelihood of dementia decreased from 11.6% among those 65+ in 2000 to 8.8% (relative decline 24%)
  - May be partly accounted for by education (1 year more) & better treatment of cardiovascular disease but don't fully understand – JAMA Intern Med 2017, 177:51-58

Brain and Thinking

- Addressing tobacco, poor diet, physical inactivity raised BP & cholesterol, obesity, & diabetes might reduce the likelihood of dementia
  - Possible 20% reduction in new cases over 20 yrs.
- Could add to this by maximizing protective factors (cognitive enrichment, social engagement, sleep) & minimizing risky ones (traumatic brain injury, excessive alcohol intake & substance abuse, depression/ stress/ neuroticism [tendency to respond with negative emotions to frustration or loss])

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Promoting Healthy Aging – Lifestyle, Practices and Attitude

- Keep active and engaged
  - Mentally, physically, and socially
- Diet
  - Heart healthy diet is also good for your brain
  - Mediterranean diet
- Attitude
  - Meaning & joy
  - Positive attitude about aging - "Aging is not lost youth but a new stage of opportunity and strength." (Betty Frieden)

Recommendations

- Physical activity
  - 18-64 & 65+ - at least 150 minutes of moderate-to-vigorous intensity aerobic physical activity/week (brisk walking/ jogging) in bouts of 10+ minutes
- Diet
  - Mediterranean diet – primarily plant-based (fruits & vegetables, whole grains, legumes, nuts); olive oil for butter; herbs & spices for salt; limit red meat to no more than few times/month; fish & poultry at least 2x/week; red wine in moderation (optional)
  - Limited data suggests benefits in preventing chronic conditions

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Lessons from a Sister Study

- **T**he **I**rish **L**ongitu**D**inal Study on **A**geing (TILDA)

- Independent of health changes and depression, negative perceptions (e.g., expectations, feelings of control, emotional response to aging) about aging (based on questionnaire) predict declines in
  - Self-esteem, life satisfaction, & self-rated health
  - Health behaviours (exercise, diet, visiting health practitioner), leisure activities, and engagement
  - Thinking and physical function (e.g., walking speed)

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Promoting Health Aging – Living Well with Chronic Conditions

- Over time and with aging there is a change from acute conditions/ injuries to dealing with chronic ones

- Need to change from reactive/ episodic care to pro-active/ on-going care; collaboration between
  - Informed and engaged individuals living with the condition (or conditions) who have the knowledge and skills they need + the tools required
  - Health care services that are pro-active, coordinated, integrated and provided mainly in the community

Now for your Questions

- Remember we are live streaming so use the microphones

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Thank you!