The Canadian Longitudinal Study on Aging (CLSA): Using Life Course Framework to Understand the Complexity of Aging and Adult Development

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CLSA

Overview

- Life course as a framework
- Aging and Life Course Research
- The Canadian Longitudinal Study on Aging (CLSA)

Life Course as a Framework

- Multiple Contexts
- Health development as an adaptive process
- Variations in the trajectories
- Critical and sensitive periods

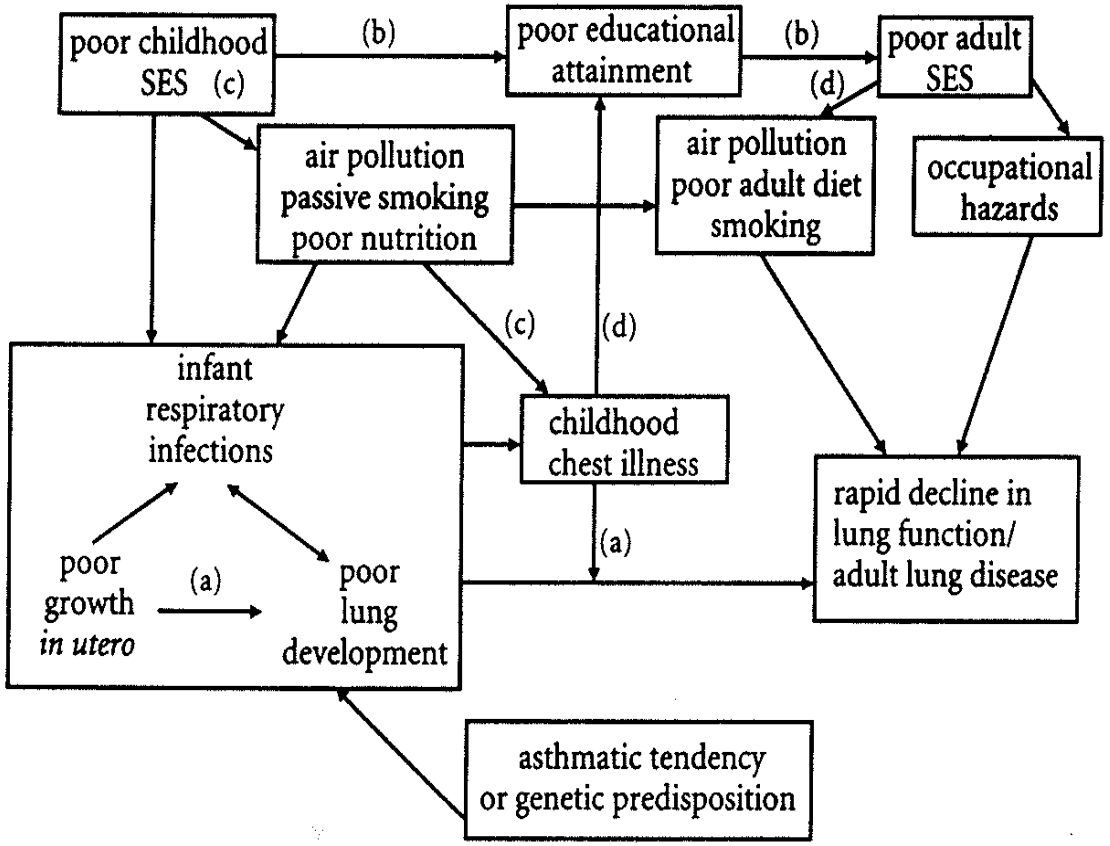
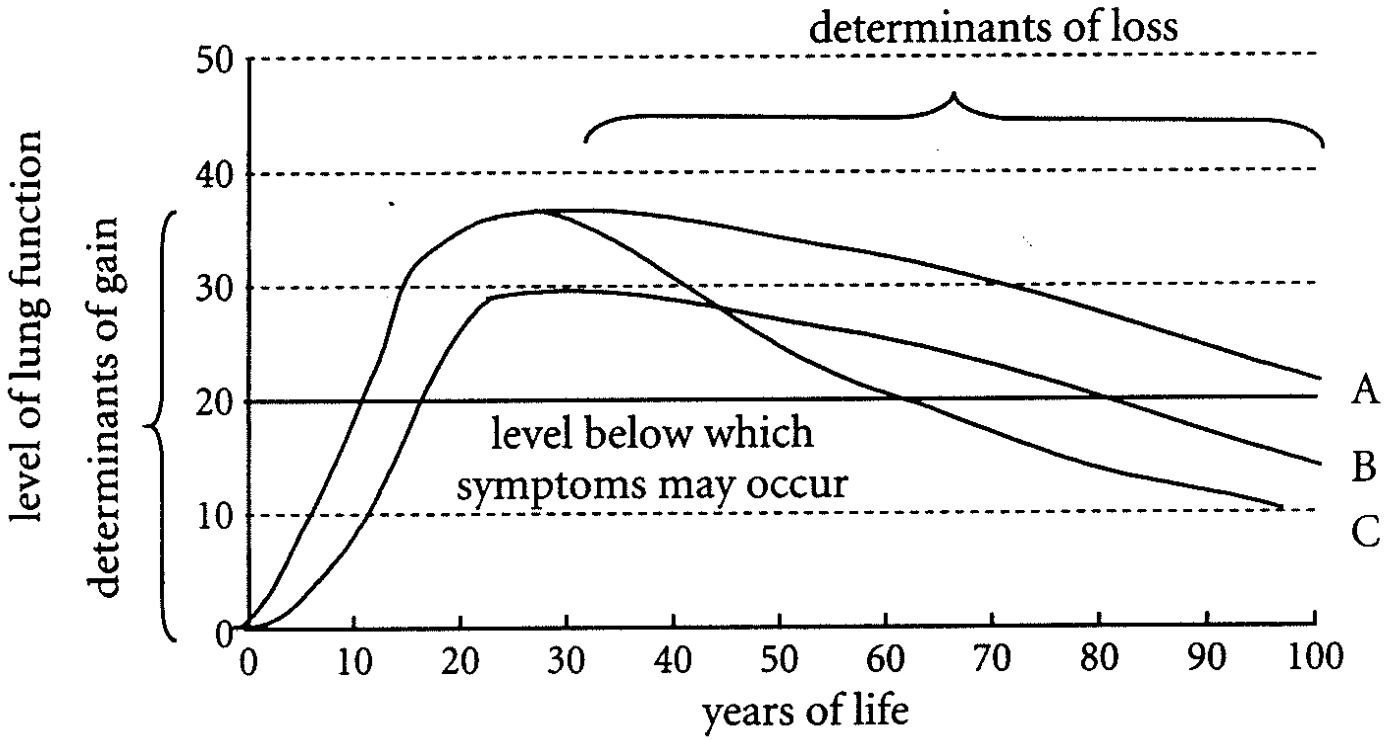


Fig. 1.1 *Schematic representation of biological and psychosocial exposures acting across the life course that may influence lung function or respiratory disease.*[11]



A=normal development and decline; B=exposure in early life reducing lung function potential;
C=exposure acting in mid to later life accelerating age related decline

Fig. 1.2 Relative importance of exposures acting across different life course time windows in terms of the natural history of lung function.[11] Modified from Strachan (1997).

Life Course and Aging!

Context

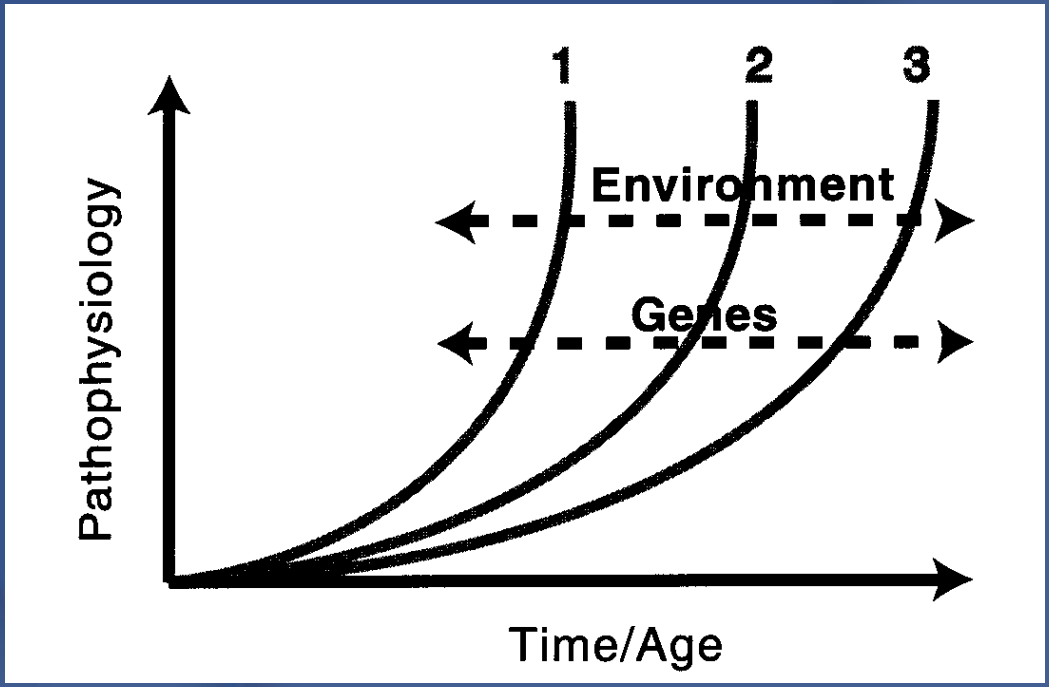
- Canadians are living longer and older people are making up a larger share of the population.
- Between 1980 and 1999, the average Canadian's life expectancy increased to 79 years from 75 years.
- By 2025, I out of every 5 Canadians (20%) will be 65 or older, compared to 1 in 8 (12%) in 2000.

Context

- Baby boomers begin turning 65 in 2011
- Different needs, expectations
- Implications for health care system, social programs
- Need for evidence based decision making
- Generation of new knowledge

Life Course and Aging

- What is “normal” in the aging process - primary aging
- More susceptibility to disease - secondary aging
- More heterogeneity in the elderly population
- Onset indeterminable and progression varied
- Genetic and environmental factors



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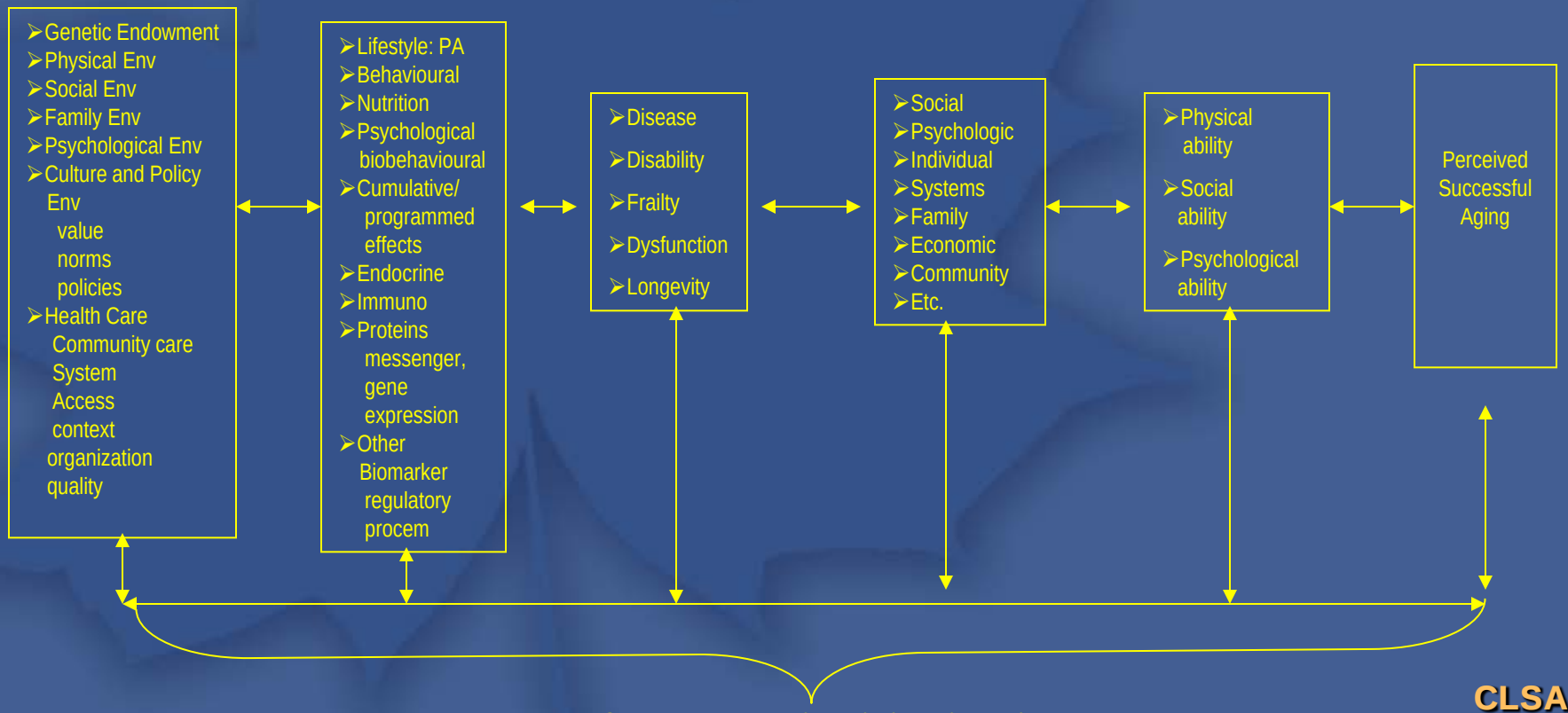
Conceptual Framework for Understanding Aging Process and Adult Development

1. Stage of life: 40 to 54 → 55 to 64 → 65 to 74 → 75+
2. Transitions and Sensitive Periods:
   - Mid-life Changes: Workplace, Place, Family
   - Pre Retirement Arrangements: Workplace, Family
   - Retirement
3. Context: Economics, Community, Trade Political

Time



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Process of Aging and adult development

Future of Research on Aging

- Age-related changes---”complexity”
  - INDIVIDUAL LEVEL
  - SOCIETAL AND CONTEXTUAL LEVEL
- Innovative study design that advance science of aging and health as well as inform health and social policy
- Need for interdisciplinary long-term longitudinal studies

What is Canadian Longitudinal Study on Aging (CLSA)?

The Canadian Longitudinal Study on Aging (CLSA)

- One component of the Canadian Lifelong Health Initiative, a strategic initiative of CIHR
  - The Canadian National Birth Cohort
  - The Canadian Longitudinal Study on Aging (CLSA)

CLSA Conceptual Framework

- Characterize aging beyond the absence of disease: Healthy/successful aging
- Aging not aged
- Life course approach
- Determinants of health
- Continuum of micro to macro levels
- Complex interplay of bio-psycho-social
- Gene-environment interactions
- Adaptation

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: healthy/successful aging.
- To provide infrastructure and build capacity for sustained high quality research on aging in Canada.

Who will Participate in the CLSA?

- Longitudinal study
- Women and men aged 40 and over
- 50,000 individuals
- 20 year follow-up
- Repeated measurement (every 3 years)
- Linkage to existing databases
- Eventual public access data

What Issues is CLSA Trying to Address?

PHYSICAL HEALTH

- Activities of daily living/disability
- Frailty/co-morbidities
- Chronic diseases
  - Cardio/cerebrovascular, diabetes, hypertension, PD, cognitive impairment, osteoporosis, Injuries, arthritis, cancer
- Health conditions, states
  - Oral health, communication, vision, hearing

PSYCHOLOGICAL HEALTH

- Cognitive functioning
- Values and meaning
- Everyday competence, adaptive functioning, coping
- Personality, emotion, psychopathology
- Psychological distress

SOCIAL HEALTH

- Social networks and social support
- Work to retirement transitions
- Structural inequalities
- Matters of place and mobility
- Basic social characteristics

BIOLOGY

- Biochemical, physiological, metabolic markers of aging
- Genetics of aging
  - Disease susceptibility
  - Longevity

BEHAVIOURS

- Nutrition/diet
- Obesity
- Physical activity
- Alcohol/Tobacco
- Sleep

HEALTH SERVICES

- Medications
- Assistive devices
- Institutional care
- Homecare

Quality of Life

Pain

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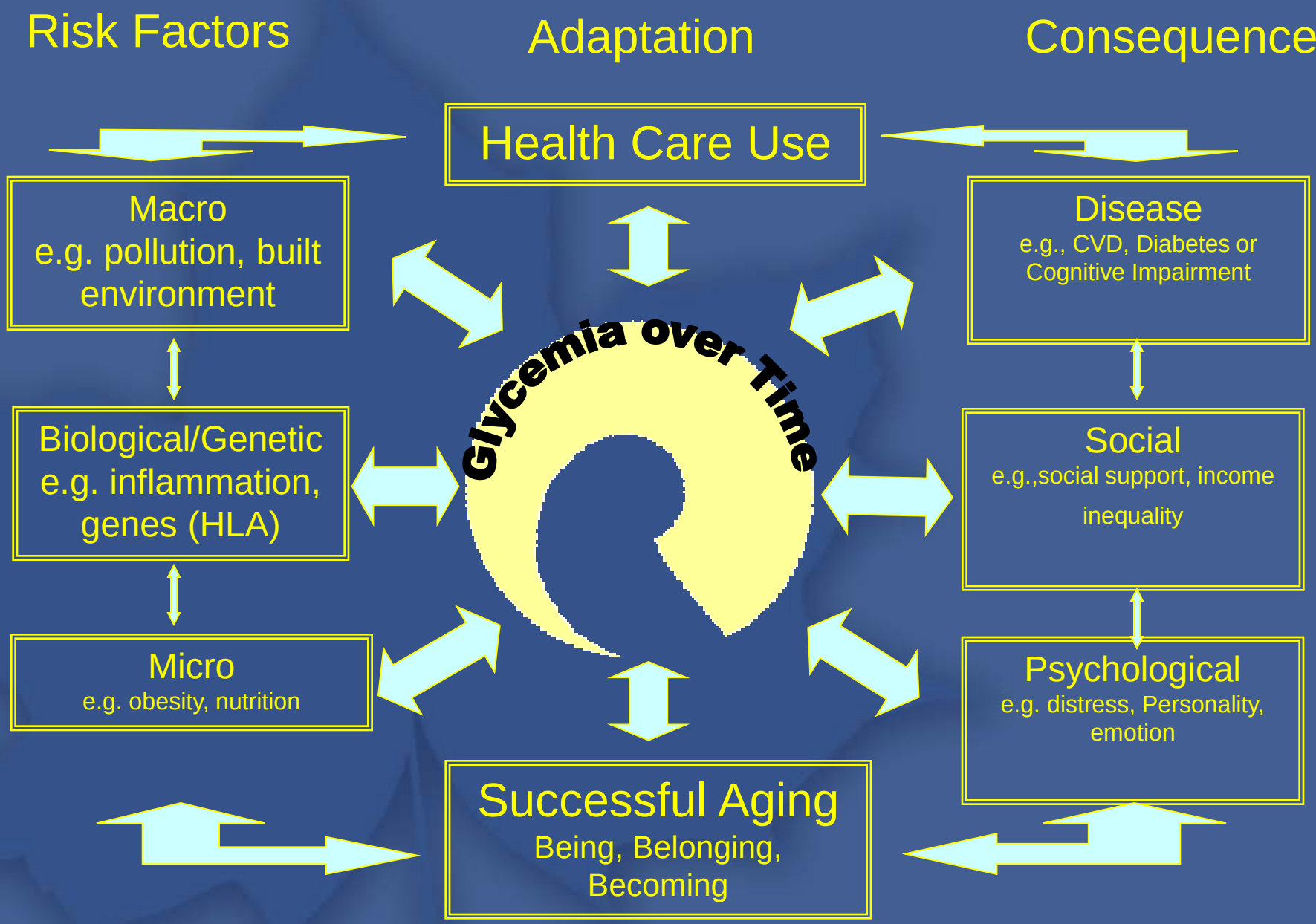
CLSA As a Tool to Address Scientific Questions


Risk Factors
Adaptation
Consequences
Health Care Use
Macro
e.g. pollution, built environment
Biological/Genetic
e.g. inflammation, genes (HLA)
Micro
e.g. obesity, nutrition
Glycemia over Time
Disease
e.g., CVD, Diabetes or Cognitive Impairment
Social
e.g.,social support, income inequality
Psychological
e.g. distress, Personality, emotion
Successful Aging
Being, Belonging, Becoming
CLSA

Dysglycemia

Potential Research Questions:

1) **Describe patterns of dysglycemia over time ("tracking")**
    1) Within individuals
    2) Between individuals
2) **Examine the impact of lifestyle, pyschological, social, biological, genetic and environmental factors on dysglycemia**
    1) Direct relationship
    2) Indirect relationship
3) **Are these associations same or different in mid-life versus in later life?**
4) **At what stage in the adult life-course is dysglycemia a risk factor for cardiovascular disease, cognitive impairment, diabetes, etc.?**
5) **Examine the impact of dysglycemia on the use of health services**
6) **How is dysglycemia and its consequences affect successful aging?**

What kind of Information will the CLSA collect?

Active data collection (with consent)

- Telephone Interviews
- Face-to-face Interviews
  - Psychological, social, economics, nutrition
- Clinical examination
  - Neuropsychological, medical, physical measures
- Blood, and urine samples

Passive Data Collection

- **Data linkage at the individual level (with consent) to existing databases:**
  - **Administrative databases: physician services, hospitalizations, medications**
  - **Homecare, community services, mental health**
  - **Mortality**
  - **Environmental, and neighbourhood indicators**

What are Ethical, Privacy and Confidentiality Issues in the CLSA?

- Informed consent
  - Capacity to consent
    - Cognitive versus other factors that impact capacity to consent
    - Proxy consent
  - Full consent versus staged consent
    - 20 year duration
    - For biological samples, clinical assessment, questionnaire based information
    - Genetic and biochemical testing
    - Products from biological samples: cell lines
    - For unspecified research projects in the future
      - Blanket consent versus issues related to re-consent

- Informing participants/family physicians
- Risks and benefits
- Linkage with existing healthcare and other data bases
    - Privacy and confidentiality
    - Data ownership issues
- Facilitating the Public access of CLSA data
    - protecting confidentiality and privacy
    - Timely use of the data
    - Promoting innovative research

How will Canadians benefit from the CLSA?

- New knowledge on the factors that affects health and aging.
- Identification of ways to prevent disease and disability, and promote healthy aging and improved services.
- A rapid adoption of sound research into practice, programs and public health policies.

- Building Capacity and providing opportunities for existing and new Canadian and international researchers.
- Platform for future research.
- Platform for public health surveillance.
- Recognition of Canada's position as a leader in cutting edge health and health care research.
- Stimulation of the economy through discovery and innovation.

Who is Working Behind the Scenes on the CLSA?

Principal Investigator Triumvirate

Susan Kirkland - Dalhousie University

Parminder Raina - McMaster University

Christina Wolfson - McGill University

CLSA

The CLSA Research Team

- 180 Co-Investigators
  - Representing 26 Universities across Canada
  - Investigators in all 10 provinces
  - Committee on Ethical, Legal and Societal Implications (ELSI)

Canadian Institutes of Health Research

- Institute of Aging (Dr. Anne Martin-Mathews)
- Other Institutes of CIHR (IPPH, IG, INMD, etc.)
- CIHR Central and Governing Council

Other Linkages and Partnerships

- Health Canada
- PHAC
- Statistics Canada
- HRSD
- Provinces
- Health Charities
- Private Sector

Where is the CLSA Train now and where is it going next?

CLSA Developmental Phase

- Phase I: April 1, 2004 to December 2005
  - Refine the study content
  - Conduct methodological feasibility studies
- Phase II: January 2005 to December 2006
  - Content related feasibility studies
  - Validity, reliability testing and translation of selected measures
- Phase III: January 2007 to March 2008
  - Pilot full protocol

Proposed CLSA Launch 2008!

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- McGill University

Thank you!

For more information please visit our website

www.fhs.mcmaster.ca/clsa

OR

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