Canadian Perspectives on Research on Ageing: Building on Strengths, Addressing Gaps, Informing Policy, Shaping the Future

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The ‘charge’ re this presentation:

• An overarching conference theme: explore examples of how we can best learn from each other with our ageing populations.

• Hence, the major issues relating to aging, based on Canadian / CIHR experience:
  ▫ research in these areas?
  ▫ what are the policy drivers?

• Re areas of strategic priority for the CIHR Institute of Aging:
  ▫ cognitive impairment
  ▫ mobility/age supportive built environments
  ▫ health services, models of care.
Overview of Presentation

- Worldwide trends in ageing: Implications
  - Heterogeneity of Old Age
    - Multiple Generations over age 65
    - Diversity, Variability, Disparity, Inequality
    - Illustrations: Cognitive Impairment, Mobility, Services
- Broad Challenges, Opportunities and Issues
- Multiple Generations: Planning Implications
- Framing Narratives in Research and Policy
  - Apocalyptic / “Rising Tide”
  - What gets attributed (incorrectly) to aging
- New Approaches: Research and Policy
Worldwide Pace of Population Aging

(Number of years required/expected for ‘aged 65 and over’ to rise from 7 percent to 14 percent of population)

<table>
<thead>
<tr>
<th>Developed countries</th>
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<tbody>
<tr>
<td>Sweden (1890-1975)</td>
<td>Chile (1998-2025)</td>
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<tr>
<td>Australia (1938-2011)</td>
<td>China (2000-2026)</td>
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<tr>
<td>United States (1944-2013)</td>
<td>Sri Lanka (2002-2026)</td>
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<tr>
<td>Canada (1944-2009)</td>
<td>Tunisia (2008-2032)</td>
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<td>United Kingdom (1930-1975)</td>
<td>Colombia (2017-2036)</td>
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- France: 115 years
- Sweden: 85 years
- Australia: 73 years
- United States: 69 years
- Canada: 65 years
- Hungary: 53 years
- Spain: 45 years
- United Kingdom: 45 years
- Poland: 45 years
- Japan: 26 years
- Azerbaijan: 33 years
- Chile: 27 years
- China: 26 years
- Sri Lanka: 24 years
- Tunisia: 24 years
- Thailand: 22 years
- Brazil: 21 years
- Colombia: 19 years
- Singapore: 19 years
- South Korea: 18 years

Source: Kinsella and Gist, 1995; and U.S. Census Bureau, International Data
But, problematic notion of “65+”

- Homogenizes populations spanning 40 or more years
- “Seniors”: outdated term (but well used in Canada)
- “The elderly” – similarly, being lumped together

- Language, research, data and initiatives must reflect diversity and variability within aging and in aged populations
  - At least two generations: 65-80+; 80-85 and over
  - For both: diversity, variability, disparity, inequality
Aging in Perspective: Percent Change in the World’s Population - 2005 to 2040

- All ages: 35
- 65+: 164
- 85+: 301
- 100+: 746

Source: United Nations Department of Economic and Social Affairs, 2007b
Population aged 80 years and over: World, 1950-2050 (Millions)

- 1950: 14.5
- 1975: 31.8
- 2009: 101.9
- 2025: 160.8
- 2050: 394.7
Global Distribution of People Aged 80 and Over: 2008
(Percent of world total in each country/region)

1 “All others” includes Oceania and Northern America except the United States
Notes: Individual countries with more than 2 percent of the world’s total are shown separately

Source: U.S. Census Bureau, International Data Base
Happy 100th Birthday

A warm and heartfelt message.

100 today

With very best wishes.

Happy 100th Birthday
“The Elderly”: A Tale of Two Photos
Two generations over age 65: Canada

• When 1960 cohort turned 50 in 2010, 60% had at least one parent alive;

• 10% of those 65+ have a child 65+ (Canada; ↑ ?)
  • 72 woman with mother aged 100;
  • 67 man with mother aged 93

• Characteristics, expectations, resources, health behaviours and beliefs of these two generations

• Active aging (Europe’s FuturAge Roadmap):
  • implications for two generations
Research Gaps / Research Questions

- ‘Handful of studies” worldwide re age 80+ and over (Lund, Leiden, Newcastle)

- Among ‘oldest’ or very old:
  - Diversity of capability
  - Increasing longevity ≠ very high disability or dependency

- Two generations over age 65
  - Research rarely recognizes this -
  - Understanding differences between today’s and tomorrow’s elderly population, over a 40 year span

- Europe’s *FuturAGE* Roadmap:
  - “Focus on the very old”
  - lack of representativeness of some research
  - methodological approaches
We can travel again!

Now that mom has the help of a live-in certified Health Care Aide, we have peace of mind knowing that everything is just fine at home.

Thank You Drake Medox
Health Priorities in Aging: Variability

• What do cancer, cardiovascular disease, diabetes, dementia – all have in common?

• The disease that individuals (and societies) fear most?

• What WHO states is “best guarantee of retaining independence and being able to cope in old age”?
Dementia Incidence in Canada, by sex, age 65+

Source: The Rising Tide: The Impact of Dementia on Canadian Society, 2010
Cognitive Impairment in Aging

- Alzheimer’s Disease and Dementia: Canada
  - aged 65+ years: 8%
  - aged 85+ years: 35%

- 1 in 40 aged 65 - 74 years; 1 in 3 aged 85+ years: Canada
- Number exceed 1M by 2038 (2 x current levels): Canada

- By 2030, China projects 35M people with ADRD

- Huge international, collaborative effort to find cure or delay onset (France leadership: cure + care)
“Delaying the onset of AD by 5 years would be associated with a reduction in AD prevalence of 50%”

Brookmeyer R et al *Am J Publ Health* 1998 (9), 1337-1342
Slide courtesy of Dr. Howard Feldman
Progression of Alzheimer’s Disease

Canada: International Collaborative Research Strategy for Alzheimer’s Disease

• **Goal:**
  ▫ Delay onset and progression
  ▫ Early diagnosis and intervention

• **Objectives:**
  ▫ Common research priorities
  ▫ International Collaboration
  ▫ Shared Methodology; shared Technology Platform

• **Initiatives:**
  ▫ France-Canada-Québec
  ▫ EC Joint Programming Initiatives
  ▫ Int’l NCE Neurodegeneration Research (Germany, UK, Canada)
  ▫ US Alzheimer Study Group, PAD 2020, etc.
Mobility in Aging

- World Health Organization: “mobility... is the best guarantee of retaining independence and being able to cope.”
- Mobility Impairment (Canada):
  - 13% over age 60
  - 30% over age 80
- Mobility link to morbidity & mortality (Canada):
  - 23,000 hip fractures annually
  - ~20% hip fracture patients die within one year
  - Less than 40% recover pre-fracture level mobility
- Huge advances in assistive devices, technologies
- Age-supportive built environments
“Walk the Talk”: Transforming the Built Environment to Enhance Mobility in Aging

- Refine and create new tools to evaluate different neighbourhoods in which older adults live:
  - walkability’ (pedestrian-friendliness)
  - ‘accessibility’ (access to service and amenities)

- Evaluate influence of the built environment on older adults’ mobility and quality of life.

- Link to solid base of research on environmental gerontology in Scotland (‘I’d Go’), England (Salford/UCL), Sweden (Lund) and Germany (Heidelberg)

H. McKay, “Walk the Talk: Linking Research and Community on the Built Environment for Healthy Aging”.  www.hiphealth.ca
Number of Chronic health conditions* by age

* Select chronic health conditions include arthritis, cancer, chronic obstructive pulmonary disease, diabetes, heart disease, high blood pressure and mood disorders

Source: Statistics Canada, 2005
Canada: Seniors’ Research Workshops

• Priority health issues identified by seniors and advocates:
  ▫ Health care and health services
  ▫ Housing-care continuum (aging in place / at home)
  ▫ Health promotion
Research Gaps/Issues re Health Services

- System ‘designed’ for single conditions:
  - not for complex mix of conditions experienced by elderly people
  - focuses on treating acute flare-ups, NOT regular monitoring and prevention

- Challenge to target constellation of health issues with appropriate combination of interventions:
  - Co-morbidity: 68% of old people: two+ chronic conditions
  - 67% direct health care costs on chronic conditions (Canada)
  - Chronic conditions more prevalent in lower income areas; for women.

- The promise of primary health care/ integrated systems
- Flexibility in ‘scopes of practice’ of health care professionals
Shaping the Future

- Global Approaches to Research
  - Harmonization of data (both prospective and retrospective)
  - Return on investment: utility of the research platform

- Complex research designs that enable examination:
  - Transitions and trajectories
  - Life course approach
  - Complexities and intersections in causation

- Factors that impact the experience of aging and old age

- New scientific approaches to understanding aging
3 Principal Investigators; 80+ Co-investigators; 60+ Collaborators
Parminder Raina (NPI); Christina Wolfson; Susan Kirkland

Duration 20 years: 50,000 Canadians aged 45 years and over
Possible Decline in Life Expectancy in USA in the 21st Century?


S. Jay Olshansky, Ph.D.
Douglas J. Passaro, M.D.
Ronald C. Hershow, M.D.
Jennifer Layden, MPH
Bruce A. Carnes, Ph.D.
Jacob Brody, M.D.
Leonard Hayflick, Ph.D.
Robert N. Butler, M.D.
David B. Allison, Ph.D.
David S. Ludwig, M.D., Ph.D.
New Science: Healthy Aging

• Calls for “a new focus on research to promote healthy ageing, rather than simply treating the diseases of old age”... Instead of research dominated ...conditions such as Alzheimer’s disease:

• Recognition of “need to investigate the genetic and environmental (including health and lifestyle) factors that allow people to remain healthy and active into their eighties, nineties, and beyond”.

Framing narratives and policy debates

• Narratives re what can *really* be attributed to aging:
  ▫ Increased health care costs *(Canadian example)*
  ▫ What dependency ratios imply *(Canadian example)*

• Ways in which aging intersects with other social and societal factors to produce diversity, variability, disparity, inequality in old age:
  • Gender, labour force history, pension access
  • How macro policies (immigration, employment, taxation) intersect as well

• Emphasizing need for ‘long view’, not quick fix *(Canadian example)*
DEMographics

So much for freedom 55 ...
Retirement now likely to occur at age 67 for Canadians

THE FUTURE OF AGED CARE?

GUEST EDITORIAL FROM THE OTTAWA CITIZEN

Home care, not health care

The coming Arthritis Epidemic
Can you avoid it?
What to do, what to eat

Nurses give aged-care ultimatum
But Health Care Costs are Increasing Dramatically Even Without Aging
Canada’s “Aging Burden” – People vs Paid Labour Inputs

Demographic Ratios (proportions)

Annual Paid Hours of Work / Person

- Female
- Male
- All

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Per Person Average overall costs of health care for continuing care patients in areas with/without cuts to social and preventive home care - Canada (Hollander 2001)

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<th>Areas with cuts</th>
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<th>First Year After Cuts</th>
<th>Second Year After Cuts</th>
<th>Third Year After Cuts</th>
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<td>$5,052</td>
<td>$6,683</td>
<td>$9,654</td>
<td>$11,903</td>
<td></td>
</tr>
<tr>
<td>Areas without cuts</td>
<td>$4,535</td>
<td>$5,963</td>
<td>$6,771</td>
<td>$7,808</td>
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Gender Implications of Family Structure in Canada: Reduced availability of surviving adult children

Proportion of community-dwelling females with no surviving children, by age group, 2001-2051.

From Advocacy to Partnership...

GREY MATTERS
A GUIDE TO COLLABORATIVE RESEARCH WITH SENIORS

Nancy Marlett and Claudia Emes

• Open Access:
• University of Calgary Press, 2010
The Future is Aging: Diversity, variability, disparity and inequality

- Multiple Scenarios:
  - No or limited access to pension plans vs. Wealth in equity
  - Healthier than ever (“70 is the new 50”) vs. Rise in dementia
  - Rise in obesity-related illness/ reduced life expectancy vs. Technology/ personalized medicine/ biogerontology/ epigenetics

- Ethno-cultural diversity of population:
  - Canada: 3 in 10 elders (29.8%) born outside country
  - Accessibility and appropriateness of services
  - Health practices, beliefs, behaviours
Summary

• Recognizing Implications of Two Generations Over 65
• Younger and very elderly people:
  • complexity, variability
• Aging is more than the sum of chronic diseases
  • Key health issues: cognitive impairment; mobility
• Health care system(s): need for reforms
  • Basis for Change, Responsiveness, Sustainability
• Appropriately framing the narratives / policy debates
• Opportunities of emerging science
  • New paradigms: fundamentals of aging, not of disease
  • Public engagement with users/stakeholders - “public space”
  • Research collaborations, utilization, harmonization
The Future is Aging!