Social Policy in an Aging Society: Multiple Challenges of Demographic Change: Health Care

Larry W. Chambers PhD, FACE, HonFFPH(UK), FCAHS
President and Chief Scientist, Bruyère Research Institute, Ottawa

Presentation at the Queen’s International Institute on Social Policy Conference, Tuesday, August 16, 2011, Kingston ON
Topics Covered Today

• Contextual issues: the role of health care in determining health of Ontario’s older adults

• Organizational Change

• Examples of System Wide Innovations
Population aging

- Due to declining fertility and increasing longevity (demographic transition)
- Unprecedented, accelerating, shifts will be permanent
- Profound implications for human life, including health
Distribution of life table deaths

U.S. females
1900
1985
Theoretical

Range of theoretical estimates for average life-span
Verified longest lived individual as of 1990

Life expectancy at birth (U.S. 1900)
Life expectancy at birth (U.S. 1988)
Rectangularization of the survival curve

FURTHER INCREASE IN LIFE EXPECTANCY
Squaring the survival curve

PERCENT SURVIVING

AGE

JAMES F. FRIES, M.D., THE NEW ENGLAND JOURNAL OF MEDICINE, JULY 17, 1980,
Compression of Morbidity

- Morbidity compressed into a short period prior to death
- Represented an important shift in thinking
- Departure from the medical model of aging, which assumed that death always occurred as a result of a disease process, and that older age was a period of inevitable decline

Figure: Mortality According to Age in the Absence of Premature Death
Evidence suggests otherwise

- Is average life expectancy approaching an upper limit to life expectancy?
  - the evidence that the average life span is 85 years is unconvincing
  - there is no evidence for further rectangularization of survival curves

- Will age at first infirmity increase?
  - there is no evidence for over-all declines in incidence of morbidity: on the contrary
  - evidence for actual “(de)compression” of morbidity is ambiguous
Hypertension Incidence and Prevalence, Age-Specific Rates,
By Gender, B.C., 2001/2002

![Graph showing incidence and prevalence rates by age and gender.](image)

**Notes:**
1. Incidence is the rate at which new cases are identified in the population.
2. Prevalence is the rate of both newly and previously identified cases living in the population.
3. The case definition is met if the patient received at least:
   - (a) one hypertension-related hospital visit (ICD-9 401 to 405 or ICD-10 I10-I15), as recorded in any of the diagnostic code fields, or
   - (b) two hypertension-related MSP services (ICD-9 401 to 405) within 365 days.
   The ICD-10 coding in the DAD (hospitalization) database is used starting fiscal year 2001/2002.
4. Rates are calculated based on 2001/2002 BC population, PEOPLE 27.
Prevalence of Dementia in Canada by Age Group 2008 to 2038

Source: Rising Tide Report 2010
Age-specific percentage of adults aged 25 years and older who reported having two or more chronic conditions, by sex and annual household income, in Ontario, 2005

Aged 25–64 years

<table>
<thead>
<tr>
<th>Annual household income</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low</td>
<td>34</td>
</tr>
<tr>
<td>Lower middle</td>
<td>30</td>
</tr>
<tr>
<td>Middle</td>
<td>25</td>
</tr>
<tr>
<td>Higher</td>
<td>21</td>
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</tbody>
</table>

Aged 65 and older

<table>
<thead>
<tr>
<th>Annual household income</th>
<th>Percentage (%)</th>
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</thead>
<tbody>
<tr>
<td>Low</td>
<td>70</td>
</tr>
<tr>
<td>Lower middle</td>
<td>69</td>
</tr>
<tr>
<td>Middle</td>
<td>65</td>
</tr>
<tr>
<td>Higher</td>
<td>57</td>
</tr>
</tbody>
</table>

Data source: Canadian Community Health Survey cycle, 3.1
Ontario Health Care Expenditures

Source: CIHI 2010
Intrinsic and Extrinsic Factors

Environmental influences
(e.g., rural, socio-economic, exercise, nutrition)

Chronic diseases
(e.g., diabetes, cancer, dementia, arthritis, cardio)

Genetics
(e.g., telomeres/oxidative stress, psychological & cognitive abilities, immune functions)

Aging

infections

Health Services Utilization

Time (Longitudinal Study)
The Canadian Longitudinal Study on Aging (CLSA)

- A key strategic initiative of CIHR
  - The Canadian Longitudinal Study on Aging
- More than 160 researchers - 26 institutions
- Follow 50,000 Canadians for 20 years
- Multidisciplinary - biology, genetics, medicine, psychology, sociology, demography, economics, epidemiology, nursing, nutrition, health services, biostatistics, population health
Ontario’s Chronic Disease Prevention and Management Framework (CDPMF)
Continuum of Care and Services for Seniors and those requiring Continuing Care

Independent Older Adult

Primary Care

Continuing Care Retirement Communities

Independent Living / Supportive Housing

Home Health / Personal Care Assistance

Assisted Living

Adult Day Programs

Nursing Home / Long-Term Care

Dependent Older Adult

Hospital Care
Ontario Population Forecast 2007-2031
As Ontario’s population grows, health human resources planning is becoming more and more critical.

Source: Health Force Ontario Newsletter – Issue #5 2008
So, how does Canada perform?

Primary care

No gold medal … no podium finish!

Source: Schoen et al Health Affairs 2009
Percentage of Ontarians aged 15 and older with probable depression who had a physician visit for depression, by sex and age group

Data sources: CCHS, Cycle 1.1; OHIP
* Interpret with caution due to high sampling variability
Comparison of priority levels for access to community support services* between ALC patients (65+) waiting for LTC and home-care clients (65+)
Ontario 2007–2008

![Bar chart showing comparison of priority levels for access to community support services between ALC patients (65+) waiting for LTC and home-care clients (65+).]

*Based on MAPLe score—a decision support tool used to inform the allocation of home-care resources and prioritization of clients needing community or facility-based services.

Source: ideas for health, University of Waterloo, 2011
in collaboration with The Change Foundation

www.changefoundation.com
Profile of informal caregivers of palliative home-care clients
Ontario 2006–2008

Primary Caregiver
- Spouse/Partner, 57%
- Child/Child-in-law, 29%
- Parent, 2%
- Sibling, 4%
- Other Relative, 3%
- Friend/Neighbour, 5%

Secondary Caregiver
- Child/Child-in-law, 72%
- Spouse/Partner, 3%
- Parent, 3%
- Sibling, 6%
- Other Relative, 7%
- Friend/Neighbour, 9%
Keeping People Healthy in Long-term Care

Report on 75,000 residents in 626 long-term care homes in Ontario –

21% -- worsening bladder control
33% -- increasing difficulty carrying our normal, everyday tasks (getting dressed, eating, personal hygiene)
12% -- with pain that got worse recently
26% -- with worsening symptoms of depression or anxiety
13% -- whose language, memory and thinking abilities have decreased recently
7.1% -- with recent unintended weight loss

Source: Health Quality Monitor 2011 Health Quality Ontario -- CIHI – 2009-2010
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160
Health System Use by Frail Ontario Seniors

An in-depth examination of four representative cohorts

ICES
Institute for Clinical Evaluative Sciences

July 2011
Health System Use by Frail Ontario Seniors: ICES Report: 2011

Older Women: A comparison of gender differences in health system use

Community Dwelling Older Adults with Dementia: Tracking encounters with the health system

Medically Complex Home Care Clients: Profiling risk following acute care hospitalization

Older Adults Newly Placed in Long-Term Care: An examination of service use and functional status during the wait
Topics Covered Today

- Contextual issues: the role of health care in determining health of Ontario’s older adults
- Organizational Change
- Examples of System Wide Innovations
Organizational Change towards Shared Reality and Shared Vision

- Consider the perspectives of customers / patients / citizens
- Think about own internal structures and value-creating processes
- Reflect on the essential skills and capacity-enablers
- Be grounded in a realistic financial resources perspective
- Focus on culture perspective

Source: Ball T, Sakaly G. Managing Change, Winter 2006
Whole System Change Theory

- Whole system change -- multi-level and non-linear.
- Conceptually organize our health system into
  - Micro levels: hierarchical levels of citizens and providers;
  - Meso levels: communities, regions and service delivery organizations;
  - Macro levels: societies and governments; and
  - Beyond macro: multi-national corporations and international markets;
- Empirical evidence to date suggests that sustainable whole system improvements may not happen through top-down or bottom-up directions alone.
- “Thus while systems change can certainly occur bottom-up, starting at micro and meso levels and making its way through to influencing communities at the meso level towards providers and patients at the micro level, it is likely that sustainable system adaptations occur in a panarchy of slower and faster moving nested cycles that transect the hierarchies we create over time.”

A Model for Program Management

Two Streams

Program Evaluation

Formative Summative Formative Summative Formative

Formative Summative Formative
Recognizing and Coping with the Gap between:

Health Care System Capacity (how we organize) <-> Individual’s Demands, Expectations ("self care", empowerment)

Source: Muir Gray, The Resourceful Patient
Integrated Health Care Regionally

Integrated care involves removing barriers and breaking down silos to improve the health of individuals (Berwick, Provan, Shortell, etc.)

Individuals at risk or having chronic disease (a life sentence) must have no difficulty navigating “to” the care they require (“Health Vault”)

Chronic disease programs must reach a large percent of the population (“coverage”)
Prerequisites of Innovative Integrated Care Across the Whole System

Integrated Care is about changes in behaviour – both by individuals (patients and care providers) and by organizations (funding, mandates, infrastructure)

Changes in behaviour are a required prerequisite for an innovative IT system to work
Topics Covered Today

• Contextual issues: the role of health care in determining health of Ontario’s older adults

• Organizational Change

• Examples of System Wide Innovations
Recent Innovations in Ontario’s Health System

- New Long-term Care Act
- Excellent Care for all Act
- Residents First including the continuous advancement and use of quality improvement
- The Mental Health and Addictions ten year plan
- The Behaviour Support Systems Initiative
- Human resource recruitment and development
- Chronic disease prevention and management focusing on individuals with complex illnesses
  - Integrated Client Care Project: MOHLTC
  - Adapting Research to Improve Care (ARTIC) – Council of Academic Hospitals of Ontario
  - Long-term Care Homes Centres of Learning, Research and Innovation: MOHLTC
  - Cardiovascular Health Awareness Program
Integrated Client Care Project: MOHLTC

Reorganizing care around clients’ needs (Michael Porter)

• Beginning with selected home care services (wound care, palliative care, frail seniors) (Seniors 75+ years old with 2 or more medical conditions)

• study the process and impact of reorganizing care around clients’ needs through:
  • **specialization** – organizing care around clinical circumstances and focusing care to achieve higher quality and better value,
  • **integration** – integrating services through the development of multidisciplinary care teams, and
  • **coordination** – establishing mechanisms to ensure the seamless delivery of care across the continuum, including primary and acute care.

• Ongoing work in select LHINs
Adopting Research to Improve Care ARTIC: Program Council of Academic Hospitals of Ontario

2 projects in 2010:

• **Canadian C-Spine Rule**: wait times in ER by making better uses of inter-professional resources – 9 hospitals

• **HandyAudit™ to Measure and Improve Hand Hygiene Compliance**: challenge of infection control and hand hygiene compliance – 16 hospitals

Funding ($6 million) for new projects over three years starting in 2011
Three Long-term Care Home Centres of Learning, Research and Innovation for Ontario, 2011

- Build capacity and expertise in long-term care homes (LTCH) sector
- Improve delivery of existing LTCH services by keeping LTCH residents out of hospitals thus reducing ALC pressures
- Spread knowledge developed within Centres to improve care of older adults across a variety of settings
- Provide more support and better tools to care for Ontario’s seniors
- Enhancing learning opportunities to build capacity and expertise in LTCH sector
- Build partnerships across LTCH sector and health care system
- MOHLTC providing:
  - $625,000 per year for five years for each Centre
  - $95,000 for start up renovations to the three LTCHs
Partners Advancing Transitions in Healthcare (PATH)

Goal of the Change Foundation:

to improve individual and informal caregiver’s experience as they move in, out of, and across Ontario’s healthcare system over time, as their health changes.

Objective of PATH:

to scout for, incubate and create innovative quality improvement solutions to address key problematic transitions in healthcare delivery identified by those who use the services and those who care for them.”

Innovative Approach:

Foundation selects one community and gives it resources:

to build and support the provider-patient partnership, engage patients and caregivers in co-design, provide process design and improvement expertise, and, to manage the project overall.

Through involvement of a broad partnership reflecting the continuum of care, PATH will focus on seniors with chronic health conditions and on improving their whole healthcare experience as they transition between and among healthcare settings.
Community Cardiovascular Risk Awareness Sessions
Held in Community Pharmacies

Program Coordination by Local Lead Community Organization

CHAP Central:
community collaborative, evaluation, central processes, guide, website

How the Cardiovascular Health Awareness Program Works

Feedback on Patients from session
Community-based Family Physicians

Referral to session

Volunteer at sessions
Volunteer Peer Health Educators and Mentors

Volunteer Peer Health Educators and Mentors
Community Health Nurses

Quality Control
Training
CHAP Local Lead Organizations

Aurora  CHATS
Bracebridge  The Friends
Collingwood  YMCA of Collingwood
Cornwall  Carefor Health and Community Services
Elliott Lake  Bayshore Home Health
Gravenhurst  The Friends
Kenora  New Horizons Seniors Centre
Leamington  Leamington District Memorial Hospital
Lindsay  Community Care City of Karwartha Lakes
Orillia  OSMH
Orangeville  Community Care Access Centre of Wellington Dufferin and Headwaters Health
Paris  Prima Care Community Family Health Team
Pembroke  Pembroke Regional Hospital
Port Hope  Community Care Northumberland
Stratford  Stratford Meals on Wheels and Neighbourly Services
Strathroy  VON Middlesex/Elgin
Thorold  VON Niagara
Tillsonburg  Tillsonburg Community Centre
Wallaceburg  VHA Home Health Care
Woodstock  VON Oxford
**Baseline characteristics: (Community level, NO differences between CHAP & CONTROL communities)**

<table>
<thead>
<tr>
<th>Measure</th>
<th>Control (n=19)</th>
<th>CHAP (n=20)</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of residents aged 65+</td>
<td>3 829 ± 2 176</td>
<td>3 393 ± 1 831</td>
</tr>
<tr>
<td>Age (in years)</td>
<td>74 ± 0.43</td>
<td>74 ± 0.62</td>
</tr>
<tr>
<td>% Male</td>
<td>42 ± 1.19</td>
<td>42 ± 2.16</td>
</tr>
<tr>
<td>Rurality Index</td>
<td>28 ± 13.60</td>
<td>31 ± 14.09</td>
</tr>
<tr>
<td>% Low income status</td>
<td>16 ± 8.55</td>
<td>18 ± 11.33</td>
</tr>
<tr>
<td>No. of prescription drugs</td>
<td>7± 0.49</td>
<td>7 ± 0.54</td>
</tr>
<tr>
<td>No. of Comorbidity Groups</td>
<td>7 ± 0.30</td>
<td>7 ± 0.50</td>
</tr>
<tr>
<td>Charlson CI</td>
<td>0.57 ± 0.09</td>
<td>0.58 ± 0.11</td>
</tr>
<tr>
<td>% with diabetes</td>
<td>22 ± 2.34</td>
<td>21 ± 2.79</td>
</tr>
<tr>
<td>% with history of CHF</td>
<td>12 ± 1.91</td>
<td>12 ± 2.34</td>
</tr>
<tr>
<td>Death rate per 100</td>
<td>3 ± 0.40</td>
<td>3 ± 0.57</td>
</tr>
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</table>
CHAP RCT Trial Results

Primary Outcome:
Composite of hospital admissions for acute myocardial infarction, stroke and congestive heart failure among all community residents aged 65 years and older in year before compared to year after implementation of CHAP

Result:
Adjusting for hospital admission rates in year prior to intervention, exposure to CHAP was associated with 9% relative reduction in the primary outcome measure (rate ratio 0.91 [95% CI 0.86 to 0.97], p=0.002)

OR
3.02 fewer annual CVD hospital admissions per 1,000 people 65 years of age and older.

# CHAP: Overcoming Barriers to Improve Health: A Senior Friendly Community

<table>
<thead>
<tr>
<th>Working with</th>
<th>CHAP Stories</th>
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<tbody>
<tr>
<td>Primary care organizations</td>
<td>Community and volunteer organizations + Public/patients clients/consumers</td>
</tr>
<tr>
<td>Devaluing empowerment of patients/consumers</td>
<td>Promotion of self-management of chronic disease</td>
</tr>
<tr>
<td>Health providers</td>
<td>IT specialists</td>
</tr>
<tr>
<td>Health providers (research users)</td>
<td>Researchers (producers of knowledge)</td>
</tr>
<tr>
<td>Health promoters (experts in networking)</td>
<td>Epidemiologists/Health Status Outcome Specialists</td>
</tr>
<tr>
<td>Volunteer management experts</td>
<td>Regulated Health Professionals</td>
</tr>
<tr>
<td>Collective capacity to integrate health promotion and services</td>
<td>Organizations as silos</td>
</tr>
</tbody>
</table>

**CHAP local coordinator and FP**

**Sharing Risk Profile for FPs/Pharm/Pts**

**ICES/Clinforma**

**CHAP Research Team and SHRTN**

**CHAP Research Team**

**Peer Health Educators Training/Deployment**

**CHAP Local Lead Organization**
MOHLTC Priorities for LHINs

- Supporting people at home
- Preventing illness and injury
- Encouraging self-care
- Improving access to healthcare
- Responding to needs of diverse communities
- Enabling and facilitating innovation
- High quality healthcare across the continuum
- Smarter healthcare spending
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