Enhancing primary care for seniors with complex conditions: care process redesign and role of specialists

George Heckman MD MSc FRCPC HTCP-1
Schlegel Research Chair in Geriatric Medicine
School of Public Health and Health Systems
University of Waterloo

October 12 2012
Disclosures

- None relevant

- ... except that I’m a geriatrician...

... who once considered family medicine ...
Objectives

- So what’s a geriatrician?
- What exactly IS the problem with an aging population?
- Geriatric medicine specialists: roles and limitations
- Chronic disease management in primary care: what is missing?
- Putting it all together
So what’s a geriatrician?
Geriatric Medicine
Hogan 2007; Frank & Seguin 2009

1973: General Council of CMA calls on RCPSC to recognize geriatrics as a specialty
  ◦ Turned down initially
  ◦ Recognized in 1977 as a subspecialty of internal medicine, despite a few protests...

1980: residency training at UofT, UWO, Manitoba

1989: Care of the Elderly programs for Family Medicine

2011: Geriatric psychiatry
Specialty training: 3 years core internal medicine + 2 years of geriatric medicine
- Consultation
- Geriatric rehabilitation
- Psychiatry
- Neurology, cardiology, osteoporosis, palliative care, etc…
Specialists geriatricians

Royal College website

- “Prevention, diagnosis, treatment, remedial and social aspects of illness in older people, mainly patients 75 years of age or more”
- Care of the “frail”
- Who are the “frail”? 
Frailty and Population Aging
100-year-old sets record with marathon finish

CBC News; Posted: Oct 16, 2011 5:59 PM E

Clearly, many age well ... consider Mr. Fauja Singh
Patterns of aging

- Successful aging:
  - avoidance of disease and disability
  - maintenance of physical and cognitive function
  - sustained engagement in social, productive activities

- Clearly, not all people achieve this
  - at progressively higher risk of poor outcomes
  - they are “FRAIL”

State of reduced physiologic fitness and reserve resulting in vulnerability to stressors and leading to poor outcomes
Frailty: consequences

- Predisposes to
  - Functional impairment / disability
  - Caregiver burden and ill-health
  - Falls
  - Homecare utilization and institutionalization
  - Hospitalization and death

- Many ways to conceptualize frailty
Box 1: The CSHA Clinical Frailty Scale

1. Very fit — robust, active, energetic, well motivated and fit; these people commonly exercise regularly and are in the most fit group for their age
2. Well — without active disease, but less fit than people in category 1
3. Well, with treated comorbid disease — disease symptoms are well controlled compared with those in category 4
4. Apparently vulnerable — although not frankly dependent, these people commonly complain of being “slowed up” or have disease symptoms
5. Mildly frail — with limited dependence on others for instrumental activities of daily living
6. Moderately frail — help is needed with both instrumental and non-instrumental activities of daily living
7. Severely frail — completely dependent on others for the activities of daily living, or terminally ill

Note: CSHA = Canadian Study of Health and Aging.
Institutionalization risk

Rockwood et al CMAJ 2005
Deconstructing frailty

- Is the problem
  - Multimorbidity?
  - Disability?
  - Geriatric syndromes?
  - All of the above?
### Multimorbidity burden

Rapoport et al, 1999; National Population Health Survey, Chronic Dis Canda 2004

<table>
<thead>
<tr>
<th>Age</th>
<th>Number of chronic conditions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0</td>
</tr>
<tr>
<td>40-59</td>
<td>44%</td>
</tr>
<tr>
<td>60-79</td>
<td>20%</td>
</tr>
<tr>
<td>80+</td>
<td>12%</td>
</tr>
</tbody>
</table>
### Table 2: Rates of Total Health Care Visits in the Past 12 Months by Seniors per 1,000 Seniors, by Age Group and Number of Reported Chronic Conditions (Crude Estimates)

<table>
<thead>
<tr>
<th>Age Group</th>
<th>None (95% Confidence Interval)</th>
<th>1 (95% Confidence Interval)</th>
<th>2 (95% Confidence Interval)</th>
<th>3+ (95% Confidence Interval)</th>
</tr>
</thead>
<tbody>
<tr>
<td>65–74</td>
<td>4,211* (2,498–5,924)</td>
<td>6,814 (5,600–8,028)</td>
<td>7,629 (6,441–8,816)</td>
<td>13,722 (11,105–16,339)</td>
</tr>
<tr>
<td>75–84</td>
<td>3,815* (2,475–5,156)</td>
<td>5,547 (4,689–6,405)</td>
<td>9,501 (7,131–11,871)</td>
<td>11,400 (9,313–13,487)</td>
</tr>
<tr>
<td>85+</td>
<td>4,917* (2,795–7,039)</td>
<td>6,268* (4,100–8,436)</td>
<td>6,766* (4,221–9,311)</td>
<td>14,028 (10,843–17,212)</td>
</tr>
</tbody>
</table>

Source: CIHI Jan 2011
CSHA Clinical Frailty Scale

Box 1: The CSHA Clinical Frailty Scale

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Note: CSHA = Canadian Study of Health and Aging.

Not all seniors with multimorbidity are frail

Bergman et al 2007

Rockwood et al CMAJ 2005
2003 Canadian Community Health Survey of 28617 adults > 65 (17205 women)

<table>
<thead>
<tr>
<th>Age</th>
<th>Basic ADL</th>
<th></th>
<th>Instrumental ADL</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Men</td>
<td>Women</td>
<td>Men</td>
<td>Women</td>
</tr>
<tr>
<td>65-74</td>
<td>4%</td>
<td>4%</td>
<td>9%</td>
<td>18%</td>
</tr>
<tr>
<td>75-84</td>
<td>8%</td>
<td>9%</td>
<td>21%</td>
<td>36%</td>
</tr>
<tr>
<td>85+</td>
<td>20%</td>
<td>23%</td>
<td>46%</td>
<td>65%</td>
</tr>
</tbody>
</table>
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Note: CSHA = Canadian Study of Health and Aging.

Not all frail seniors are disabled ...
Bergman et al 2007

Rockwood et al CMAJ 2005
What about “geriatric syndromes”?

Health and Retirement Study
- 11093 Americans 65 years and over
- Community and nursing homes

Assess association between disability and
- Chronic diseases (active or severe)
- Geriatric “conditions”
<table>
<thead>
<tr>
<th>Geriatric Condition</th>
<th>Prevalence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hearing impaired</td>
<td>25.7%</td>
</tr>
<tr>
<td>Dizzy</td>
<td>13.4%</td>
</tr>
<tr>
<td>Incontinence</td>
<td>12.7%</td>
</tr>
<tr>
<td>Injurious fall</td>
<td>9.6%</td>
</tr>
<tr>
<td>Vision impaired</td>
<td>8%</td>
</tr>
<tr>
<td>Cognitive impairment</td>
<td>7.3%</td>
</tr>
<tr>
<td>Low BMI</td>
<td>2.9%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Chronic Disease</th>
<th>Prevalence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Musculo-skeletal</td>
<td>29.7%</td>
</tr>
<tr>
<td>Diabetes</td>
<td>13.2%</td>
</tr>
<tr>
<td>Heart disease</td>
<td>9.2%</td>
</tr>
<tr>
<td>Psychiatric disorder</td>
<td>7.1%</td>
</tr>
<tr>
<td>Lung disease</td>
<td>5.8%</td>
</tr>
<tr>
<td>Stroke</td>
<td>5.4%</td>
</tr>
<tr>
<td>Cancer</td>
<td>4.8%</td>
</tr>
</tbody>
</table>
## HRS

*Geriatric conditions and age*

<table>
<thead>
<tr>
<th>Number of geriatric conditions</th>
<th>65-74</th>
<th>75-84</th>
<th>85+</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 or more</td>
<td>40%</td>
<td>56%</td>
<td>76%</td>
</tr>
<tr>
<td>2+</td>
<td>12%</td>
<td>23%</td>
<td>44%</td>
</tr>
<tr>
<td>3+</td>
<td>4%</td>
<td>10%</td>
<td>32%</td>
</tr>
</tbody>
</table>
## HRS: Disability

<table>
<thead>
<tr>
<th>Condition</th>
<th>Risk ratio of disability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of geriatric conditions</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>2.1</td>
</tr>
<tr>
<td>2</td>
<td>3.6</td>
</tr>
<tr>
<td>3+</td>
<td>6.6</td>
</tr>
<tr>
<td>Stroke</td>
<td>3.0</td>
</tr>
<tr>
<td>Diabetes</td>
<td>1.3</td>
</tr>
<tr>
<td>Heart disease</td>
<td>1.2</td>
</tr>
<tr>
<td>Cancer</td>
<td>1.0</td>
</tr>
</tbody>
</table>
Frailty includes complex concurrence of ...

- comorbidities
- disabilities
- geriatric syndromes

but it is more than that ...

consider the following ...
## Estimated average cost of inpatient hospital services provided to the average patient (CIHI 2008-2009, Ontario)

<table>
<thead>
<tr>
<th>Condition</th>
<th>Average cost per hospitalization</th>
<th># of inpatient cases (age 60-79)</th>
<th># of inpatient cases (age 80+)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dementia</td>
<td>$19,302</td>
<td>865</td>
<td>1,673</td>
</tr>
<tr>
<td>Heart failure</td>
<td>$6,633</td>
<td>6,477</td>
<td>7,553</td>
</tr>
<tr>
<td>Fractured femur</td>
<td>$6,219</td>
<td>154</td>
<td>360</td>
</tr>
<tr>
<td>COPD</td>
<td>$6,561</td>
<td>10,813</td>
<td>6,350</td>
</tr>
<tr>
<td>Asthma</td>
<td>$2,470</td>
<td>476</td>
<td>220</td>
</tr>
<tr>
<td>Essential HT</td>
<td>$3,419</td>
<td>553</td>
<td>348</td>
</tr>
<tr>
<td>Diabetes mellitus</td>
<td>$5,306</td>
<td>1,901</td>
<td>942</td>
</tr>
<tr>
<td>Condition</td>
<td># of cases</td>
<td># of acute stay hospitalization days</td>
<td># of ALC hospitalization days</td>
</tr>
<tr>
<td>------------------------------------------------</td>
<td>------------</td>
<td>-------------------------------------</td>
<td>------------------------------</td>
</tr>
<tr>
<td>Alzheimer's disease, vascular dementia, unspecified dementia, delirium, senility</td>
<td>305</td>
<td>2880</td>
<td>4273</td>
</tr>
<tr>
<td>Heart failure</td>
<td>786</td>
<td>5,644</td>
<td>1,239</td>
</tr>
<tr>
<td>Femoral fractures</td>
<td>624</td>
<td>4,829</td>
<td>3,292</td>
</tr>
<tr>
<td>COPD</td>
<td>943</td>
<td>5,992</td>
<td>1,184</td>
</tr>
<tr>
<td>Asthma</td>
<td>32</td>
<td>137</td>
<td>0</td>
</tr>
<tr>
<td>Essential HT</td>
<td>20</td>
<td>67</td>
<td>7</td>
</tr>
<tr>
<td>Type 2 Diabetes mellitus</td>
<td>188</td>
<td>1,820</td>
<td>714</td>
</tr>
</tbody>
</table>
Dementia
MCI
COPD
Heart failure
Falls
Functional decline
Mental health
Mood
Incontinence
Caregiver stress
Resource utilization
Other comorbidities
Polypharmacy
Complexity and concurrence ...

- of comorbidities
- of disabilities
- of geriatric syndromes

- multiple deficits that interact with one another leading to a downward spiral ...

- How do we manage this?
The process: Comprehensive Geriatric Assessment

- Identify and understand individual’s deficits, problems and strengths
  - Medical and psychiatric health, medications
  - Function, Mood, Memory
  - Resources, including supports, caregiver

- Understand the person’s level of frailty

- Develop a proper multidisciplinary plan of management tailored to the level of frailty
Geriatric Assessment works


- CGA leads to
  - More optimal prescribing
  - Better function, cognition
  - Less institutionalization
  - Less hospitalization
  - Lower mortality
The HR conundrum in geriatrics...
Geriatrician shortage
Hogan et al 2012

- Recent pan-Canadian survey
  - 230–242 certified specialists in geriatric medicine
  - 326.15 FTE functional specialists
    - 35% over the age of 55 years
  - Number of trainees stable at 15–25 per year

- Actual need not clear – perhaps at least double?
### Where do geriatricians hang out?

**2010 National Physician Survey**

<table>
<thead>
<tr>
<th>Location</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Academic Health Sciences Centre</td>
<td>69.1%</td>
</tr>
<tr>
<td>Other teaching hospital</td>
<td>15.1%</td>
</tr>
<tr>
<td>Community hospital</td>
<td>35.4%</td>
</tr>
<tr>
<td>LTC</td>
<td>32.1%</td>
</tr>
<tr>
<td>Private office</td>
<td>16.8%</td>
</tr>
<tr>
<td>Community clinics</td>
<td>12%</td>
</tr>
</tbody>
</table>
How do we keep busy?

- Main practice settings are AHSC or hospital
  - ACE units, GARUs, consult services
  - Outpatient, hospital-based clinics

- *Is that where we ought to be?*
Assessing health care for seniors in Waterloo Wellington
Goals:

- Identify unmet needs and challenges faced by seniors in this region;
- Identify changes that are needed to existing health services for seniors;
- Identify priorities for an integrated clinical services plan for seniors.
Methods

- Focus group interviews
- Interviews recorded and transcribed and / or detailed notes taken
- Feedback incorporated into the data analysis
Results

- 20 focus groups
- 186 participants
  - 4 to 19 / group; average = 9
- 29 consumers and / or informal caregivers
System strengths

- Primary care services
  - FHTs, CHCs

- Specialized geriatric services

- Community supports

- *But poorly integrated, perpetuating a reactive, crisis-oriented approach to care*
Challenges

- Limited
  - primary care capacity to manage frailty
  - ‘person–centered care’
  - access to specialists *in the community*
Recommendation

- Opportunities for greater integration of specialty care with primary care should be pursued [...] in order to more proactively manage frailty ...

- System redesign for optimal frailty *Chronic Care*
Chronic Care Model
CCM Elements
Wagner 1996; Scott 2008

- Focus on self-care skills
- Care integration/coordination across settings
- System redesign to improve access to multidisciplinary community-based resources
- Clinical information systems for
  - information sharing and quality assurance
  - Evidence-based decision support
Implications on care organization
Scott 2008

- Need for risk stratification
- Need to target more intensive intervention to highest risk patients
Tailoring intervention to risk
Scott 2008

- Low-risk/low-intensity: Usual primary care
- Mid-risk/mid-intensity: Primary care with multidisciplinary allied health, ideally co-located
- High-risk/high-intensity: case managers/navigators, highly integrated and coordinated, close and follow-up; *specialist support*
Chronic Disease Management

- Low-intensity CDM 75%
- Mid-intensity CDM 15–20%
- High-intensity CDM 5–10%
CCM in Primary care
K Coleman 2003; Rothman AA, Wagner EH. 2003

- Systematic review of 56 primary care CCM RCTs
  - 87.5% one illness: mainly diabetes, depression, asthma, CV risk factors

- Keys for success
  - redesign of care processes to foster longitudinal preventative approach to care
    - engagement of interprofessional resources to full of scope of practice, close follow-up, care coordination; includes integration of specialists
  - electronic medical records
  - central focus on self-care
Barriers to Dementia primary care
Aminzadeh et al 2012

- Interpretive scoping review
  - Delays in diagnosis, appropriate work-up
    - MD and patient/caregiver factors
    - Lack of training / awareness
  - Lack of awareness of / access to support services
  - Care process structure / remuneration
Primary Care Memory Clinics

Closing in on full CCM?

(slides courtesy of Dr. Linda Lee)
Primary Care Memory Clinics

• In 2006, the Centre for Family Medicine FHT (Kitchener) developed the model of the Primary Care Memory Clinic

• Includes OCFP-accredited 5-day training program

• Since 2008, 30 Primary Care Memory Clinics trained mainly within Family Health Teams
Primary Care Memory Clinic

- Possible Team members:
  - 1-3 family physician leads
  - 2 nurses/nurse practitioners
  - Social worker
  - Pharmacist
  - Alzheimer Society member
  - Specialist direct, e-mail or telephone support

- Functions as intermediary service to assist the family physician with diagnosis and management, and streamline use of limited geriatric resources
The Assessment Process

- Family physician identifies a memory concern → referral to the Memory Clinic

- Patient / caregiver assessed by team:
  - Medical and social history
  - Cognitive testing
  - Review of results with physician → initial problem formulation and management plan
  - … including referral to specialist
The Process, cont’d...

- Physician and other team member(s) meet with patient & family member
  - Clarification of history and/or further assessment if needed
  - Review findings & diagnosis
  - Present plan of investigations & management

- Comprehensive report sent to referring physician

- Ongoing care by patient’s own family physician

- Follow-up as needed (usually 6-12 months)
Most recent evaluation

- CIHR KT grant
- Family Physicians and Allied Health (n=124) from MCs in 21 FHTs and 1 CHC in Ontario
- Patient base: 4,149-118,000
- Varied composition of MCs (minimum 1 MD, 1 RN)
- All participated in a 5 day interprofessional training program involving 2 day Workshop, 1 day Observership, and 2 day Mentorship
Wait times and specialist referrals

582 patients assessed /12 months
- 70.1% (N = 408) initial assessment only
- 29.9% (N = 174) initial assessment and 1+ follow-up visits

Wait time:
- Average = 1.4 months (SD = 1.7)
- 35% (N = 174) within a month of referral

Referrals to specialists:
- 8.9% (N = 52, range 2 to 23.5%)

Data from 13 of 15 sites
## Self-reported practice change 6 months post program

<table>
<thead>
<tr>
<th>Pre- and post-training engagement in various practice activities</th>
<th>Percentage (#)</th>
<th>Pre-Program (N = 114)</th>
<th>Follow-up (N = 83)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Less now</td>
<td>Same</td>
</tr>
<tr>
<td>Use of a Clinical Reasoning Model.</td>
<td></td>
<td>7.0% (8)</td>
<td>15.7% (13)</td>
</tr>
<tr>
<td>Standardized tools for assessing cognitive impairment.</td>
<td></td>
<td>55.3% (63)</td>
<td>3.6% (3)</td>
</tr>
<tr>
<td>Standardized tools for assessing executive functioning.</td>
<td></td>
<td>29.8% (34)</td>
<td>3.6% (3)</td>
</tr>
<tr>
<td>Screening for fitness to drive</td>
<td></td>
<td>25.4% (29)</td>
<td>12.0% (10)</td>
</tr>
<tr>
<td>Use of an interprofessional</td>
<td></td>
<td>30.7%</td>
<td>6.0%</td>
</tr>
</tbody>
</table>
>90% agreement on the appropriateness of:

- Diagnosis
- Investigations
- Requested lab tests
- Treatment plan
- Medications

- Quality indicators based on College of Physicians and Surgeons of Ontario chart audit template
- 10 charts audited per site
- Audits completed independently by 2 geriatricians
Clinic Member Interviews: Patient/ caregiver related impacts

- Timely and increased access
- Early diagnosis and intervention
- Enhanced management of crisis situations
- Expert care in a familiar and local environment
- Increased access to community supports
- Reduced caregiver burden and isolation
- High satisfaction with care
Where to specialists fit in?
Roles of specialists
Aminzadeh et al 2012; Patterson et al 2012

Growing recognition that

- Many people are developing dementia
- There are not enough specialists

- Specialists ≠ Primary Care
  - Primary care physicians are TRAINED to provide ongoing broad-based community support
  - Specialists are TRAINED to consult

Little evidence on how to optimize this relationship
Potential roles

- Patient care

- Direct services:
  - Referrals more complex but better worked up
  - Questions focused
  - More effective discharges back to primary care

- Indirect services:
  - Team reviews
  - Phone / email support
Potential roles
Aminzadeh 2012

- Capacity building / Knowledge Transfer

- Community of practice
  - Greater participation in ongoing activities of MC network
    - Booster Days
    - Teleconferences

- Development / refinement of protocols, guidelines and other decision-support tools
Potential roles

- Quality assurance
- Through tailored feedback when providing patient care / consultation
- More formal mechanisms via Ontario College of Family Physicians?
- CME/KT events
Potential roles

- Advocacy and education

- We have done a poor job of educating planners and managers about frailty and why some seniors do more poorly

- Frailty CAN be managed, and the earlier the better, hence the need for primary care involvement

- *The Tsunami is upon us*
Advocacy and education

Recent survey of 10 Canadian medical schools re: 2008–9 geriatric content

- Preclinical: 21 hours (4 to 49)
- Clerkship: 7/16 mandatory rotation median 37 hours (10–299)
- Family medicine: 14/16 mandatory rotation
- Internal medicine: 6/16 mandatory rotation

This is completely inadequate!!
The “Geriatric” Brand
Diachun et al 2012; Hogan et al 2012

- Despite
  - recognition as a bona fide specialty
  - an increasingly large specialized evidence-base
    - currently 1/3 of which issues from Canada

there remains perception that most physicians gain geriatric expertise by virtue of seeing old patients

- Geriatrics by osmosis??
Branding

- Branding is not about getting your target market to choose you over the competition, but it is about getting your prospects to see you as the only one that provides a solution to their problem.

- Geriatric medicine is arguably the best suited specialty to co-lead this work with primary care

- Time to get out and sell the brand!
Other barriers

- What are appropriate referral rates to specialists from MCs?
  - 10% target?

- Developing the FP/specialist relationship
  - Preliminary focus group data
    - “specialists difficult to connect with”
    - “need formalized contact protocols”
  - No contact = Not much different from usual care
Biggest challenge
Hogan et al 2012

- Dementia is a keystone disorder but need to expand programs to more complex patients
  - Screening for the pre-frail / mildly frail BEFORE disability
  - Improving Chronic Disease Management of Frailty
  - Leveraging skills of ALL providers

- An area ripe for research and development
The complexity of frailty is what drives morbidity and health service utilization in an aging society.

Frailty can be managed.

Fostering closer collaboration between primary care and geriatric medicine is imperative.

*Time for us to start moving beyond the AHSC and hospitals?*