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RGP of Toronto Network Webinar

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Proposal for Specialized Geriatric Services Decision Making Tool

Speakers

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University of Waterloo/Schlegel-UW Research Institute for Aging
Women’s College Hospital Institute for Health System Solutions and Virtual Care
McMaster Institute for Research on Aging
Developing a decision-support tool for referral to specialized geriatric services in Ontario, Canada

Sophie Hogeveen, PhD
Kelly Milne
George Heckman, MD MSc FRCPC
John Hirdes, PhD
February 28th, 2020
Outline

1. Describe expert perspectives on need for referral to specialized geriatric services (SGS)
2. Explore patterns and outcomes of health services use by older home care clients in Ontario
3. Identify determinants of contact with geriatric medicine
4. Propose a decision support tool for referral
5. Consider example: Risk Assessment and SGS Referral of LHIN HCC Patients
Overview

- Community-based health services, such as home care services and out-patient physician services, have important roles in the health care system.
- Limited availability of specialized geriatric services (SGS) in Ontario, Canada:
  - Limited numbers of geriatricians
    - Canada (2018): 304 (CMA, 2018)
    - Ontario (2018): 129 (CMA, 2018)
  - Few are community-based (CFPC, CMA & Royal College, 2014)
  - Must be targeted to the most vulnerable, complex (Lacas & Rockwood, 2012)
Geriatric Medicine and Specialized Geriatric Services

- Geriatric medicine
  - Subspecialty of internal medicine (CMA, 2018)
    - Expertise in age-related physiological changes, managing geriatric syndromes, multiple chronic conditions (Cantor, 2017; Fried & Hall, 2008)
    - Holistic, patient-centred approach with an emphasis on function (Cantor, 2017; Chun, 2011; Fried & Hall, 2008)
    - Trained to balance benefits and harms of treatments (Cantor, 2017; Chun, 2011; Fried & Hall, 2008)

- Specialized geriatric services (SGS)
  - Spectrum of hospital and community-based health services (RGPO, 2016)
    - Deliver comprehensive assessment and care for frail older adults with multiple complex needs (RGPO, 2016)
    - Teams may include geriatricians, other physicians, nurses, social workers, physiotherapists, occupational therapists, dieticians, pharmacists, etc. (RGPO, 2016)
Geriatric 5Ms

- Communication framework to describe core competencies in geriatrics and communicate services offered (Molnar et al., 2017)
  - May be used to guide referral to specialists in geriatrics (Molnar & Frank, 2019)

  - **Mind**: mentation, dementia, delirium, depression
  - **Mobility**: impaired gait and balance, fall injury prevention
  - **Medications**: polypharmacy, deprescribing, optimal prescribing, adverse medication effects, medication burden
  - **Multicomplexity**: multimorbidity, complex bio-psycho-social situations
  - **Matters most**: each individual’s own meaningful health outcome goals and care preferences
Targeting Geriatric Medicine Care

- Provincials stakeholders partnered to create a standardized decision support tool to identify older home care clients who would benefit most from referral to SGS
  - Home care sector well-positioned to identify complex, community-dwelling older adults who could benefit from geriatric medicine care
    - Majority of clients are older adults = overlap with individuals served by geriatric medicine
  - Use of standardized assessments with embedded decision support tools may help to ensure equitable and timely access to care

There is a lack of empirical evidence describing access to geriatric medicine, or SGS, and their determinants, by older home care clients
AUDIENCE POLL
Expert Perspectives on Characteristics Indicating Need for Referral to SGS

• Barriers to referral identified included: (Hogeveen et al., 2019)
  • Limited services available
  • Complicated referral process
  • Accessibility barriers
  • Poor understanding of availability/benefit
  • Poor collaboration and follow-up between community health partners

• Characteristics identified as important for referral consistent with 5Ms, and also included: (Hogeveen et al., 2019)
  • Recent or significant decline/potential for reversibility
  • Acute illness
  • Risk of institutionalization
  • Multiple acute care visits
  • Caregiver distress
  • Need for proactive referral
Resident Assessment Instrument - Home Care (RAI-HC)

• Resident Assessment Instrument - Home Care (HC) is a standardized assessment with embedded decision support tools used for care planning, outcomes measures, resource allocation, decision-making and other applications (Hirdes et al., 2011)
  • Does not contain a measure of physician services use within the assessment
  • Linkable to administrative services use data
• Replaced by the interRAI HC (an updated version) as the mandated home care assessment instrument in Ontario in 2018
  • Contains a measure of physician services use with 90 days prior to assessment
  • Not yet linkable to administrative services use data
Study Design

- **Contact with physicians** (OHIP Billing Records)
- **Unplanned ED visits** (NACRS)
- **Hospital admissions** (DAD)
- **Long-stay, older home care clients’ admission assessment information** (RAI-HC; n=196,444)
- **Age range, sex, LHIN** (RPDB)
- **Contact with physicians** (OHIP Billing Records)
- **Unplanned ED visits** (NACRS)
- **Hospital admissions** (DAD)
Study Design

- **Contact with physicians** (OHIP Billing Records)
- **Unplanned ED visits** (NACRS)
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**Long-stay, older home care clients’ admission assessment information**
(RAI-HC; n=196,444)

**Age range, sex, LHIN**
(RPDB)

**Contact with physicians** (OHIP Billing Records)

Any contact with a geriatric specialist

90 days  90 days  6 months
Few Home Care Clients Had Contact with Geriatric Medicine

- 91.5% of older home care clients had any contact with a physician in the 90 days post-assessment
  - 49.6% had ≥4 contacts during the same time period
- 79.7% had any contact with family medicine
  - 22.2% had ≥4 contacts during the same time period
- Other disciplines most commonly seen:
  - Internal medicine (~20%)
  - Ophthalmology (~11%)
  - Orthopaedic surgery (~10%)

Only 5.2% had any contact with a geriatrician
Frequent Family Medicine Contact Not Strongly Linked to Geriatric Medicine Contact

There appears to be a stronger relationship between frequent contact with family medicine and subsequent out-patient contact with internal medicine.
### Characteristics Associated with Specialist Contact (90 days post-assessment)

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Geriatric Medicine Contact</th>
<th>Internal Medicine Contact</th>
</tr>
</thead>
<tbody>
<tr>
<td>High service user</td>
<td>▼</td>
<td>▲</td>
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<tr>
<td>Medical complexity and instability (CHESS)</td>
<td>▼</td>
<td>▲</td>
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<tr>
<td>Risk of unplanned ED visits (DIVERT)</td>
<td>▼</td>
<td>▲</td>
</tr>
<tr>
<td>Risk of caregiver distress and institutionalization (MAPLe)</td>
<td>▲</td>
<td>▼</td>
</tr>
<tr>
<td>5M Score</td>
<td>▲</td>
<td>▼</td>
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<tr>
<td>COPD or heart failure</td>
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Adjusted for LHIN, age, and sex

▲ signifies higher odds ▼ signifies lower odds
Geriatric Medicine Contact Associated with Lower Odds of Acute Care Services Use

- Contact within 90 days prior to home care assessment, and outcomes 6 months after home care assessment

- Geriatric medicine
  - 0.90 (95% CI 0.86-0.93) lower odds of ED visit in the 6 months post-ax
  - 0.82 (95% CI 0.79-0.86) lower odds of hospitalization in the 6 months post-ax

- Internal medicine
  - 1.42 (95% CI 1.39-1.45) greater odds of ED visit
  - 1.55 (95% CI 1.51-1.58) greater odds of hospitalization
Determinants of Contact with Geriatric Medicine

- Multivariable Generalized Estimating Equation (GEE) Model
  - Adjusted for clustering by regional health authority (LHIN)

<table>
<thead>
<tr>
<th>Predisposing</th>
<th>Enabling</th>
<th>Need</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female sex ▼</td>
<td>Issues accessing ▼ home</td>
<td>Worsening of decision-making ▲</td>
</tr>
<tr>
<td>Older age ▲</td>
<td>Impaired locomotion outside home ▼</td>
<td>Dementia diagnosis ▲</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Hallucinations ▲</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Good prospects of recovery ▼</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Hemiplegia/hemiparesis ▼</td>
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<td></td>
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<td>Parkinsonism ▲</td>
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<td></td>
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<td>Osteoporosis ▲</td>
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<tr>
<td></td>
<td></td>
<td>Cancer ▼</td>
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<tr>
<td></td>
<td></td>
<td>Moderate to high risk of caregiver distress and institutionalization (MAPLe) ▲</td>
</tr>
</tbody>
</table>

▲ signifies higher odds ▼ signifies lower odds
Recommendation for a Decision Support Tool

- A standardized decision-support tool embedded in the regular home care assessment and care planning process would help to rationally and equitably allocate limited specialized geriatric resources
- Combination of existing scales may be used to capture reasonably sized target population for referral to SGS
Operationalization of 5M

- **Mind**: Cognitive performance scale, depression rating scale, Alzheimer’s or other dementia diagnosis, delirium
- **Mobility**: Unsteady gait, fear of falls, impaired in locomotion
- **Medications**: Appropriate medications, 9 or more medications
- **Multicomplexity**: Loneliness, isolation, anger/conflict, abuse, decline in social activities, caregiver distress, economic trade-offs, home environment issues, 3 or more diagnoses
- **Matters most**: Self-rated potential for improvement/health, better off elsewhere
Association of 5M with geriatrician visits

- Increase in 5M score (pre-ax) associated with an increase in odds of visiting a geriatrician (post-ax), adjusted for LHIN, age, sex

<table>
<thead>
<tr>
<th>5M Score</th>
<th>Odds Ratio (95% CI)</th>
</tr>
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<tbody>
<tr>
<td>1 vs. 0</td>
<td>2.681 (1.529-4.702)</td>
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<tr>
<td>2 vs. 0</td>
<td>4.881 (2.819-8.451)</td>
</tr>
<tr>
<td>3 vs. 0</td>
<td>5.279 (3.053-9.130)</td>
</tr>
<tr>
<td>4 vs. 0</td>
<td>5.764 (3.334-9.967)</td>
</tr>
<tr>
<td>5 vs. 0</td>
<td>5.737 (3.314-9.931)</td>
</tr>
</tbody>
</table>

Distribution of 5M:
- 0: 15%
- 1: 5%
- 2: 10%
- 3: 15%
- 4: 30%
- 5: 34%

Total 5M score: 49%
Targeting Human Resources: Geriatric Referral Algorithm

• Three levels:
  • Priority Group 3:
    • 5M=4,5 plus MAPLe=4,5 AND CHESS=3,4,5 → 9%
  • Priority Group 2:
    • 5M=4,5 plus MAPLe=4,5 AND CHESS=0,1,2 → 17%
  • Priority Group 1:
    • Remaining home care clients → 74%
Example

RISK ASSESSMENT AND SGS REFERRAL OF LHIN HCC PATIENTS
The (Project) Plan

- WWLHIN HCC analysis completed
- Decision support- linkage to primary care provider (PCP) and LHIN HCC care coordinator
- Care Coordinator- determination of existing services and other MRPs
- SGS to provide in-service for LHIN HCC early December 2019
- Approach PCP (depending on preferred communication method) to flag patient:
  - Ramp up community supports
  - Referral to SGS- geriatric medicine
  - Divert ED visits and hospital admissions
Background
In collaboration with researchers at the University of Waterloo, we have applied the 5M algorithm to identify home care patients who could benefit from a SGS referral. The 5M is then combined with existing scales (MAPLE and CHESS) to identify the target group.

Data Source
RAI

Methodology
Long-stay home care clients, 60 years and older, living in private homes/apartments. LTC and Hospital excluded.
Based on the most recent RAI or InterRAI assessment (up to July 17 2019)

The size of the 5M cohort in WWLHIN is 2,313 and 143 when looking at patients with 5M, and a high CHESS, high MAPLE score. Of those patients, between 2% and 3% of patients identified by the 5M have had a referral to SGS.
The (System) Plan

- Reassessment of SGS waitlist
- Support primary care to utilize e-consult where appropriate
- Implementation of interim community supports
- Improved ability to perform predictive analysis and proactive implementation of support
- Risk: -7.3 FTE Geriatricians, projected -13.5 FTE by 2025
  - Similar numbers for Geriatric Psychiatrists: -6.1, -12.4 respectively (RGPO, 2016)
  - Only 24 Geriatricians and 9 Geriatric Psychiatrists in training provincially (2017/18 HFO)
Next Steps

• Explore referral processes and barriers to access
• Evaluate and choose a decision-support approach to assist in identifying those who would benefit most from referral
  • Better, more equitable, and timely access
  • Compatibility with assessment systems in home and community care will promote integration of community-based health services and collaboration and community between care providers
  • These findings will also inform provincial health human resources strategy
Acknowledgements

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• Ontario Ministry of Health and Long-term Care
• Geriatric Priority Service Working Group
Thank you!

QUESTIONS?
References


Thank you

George & Sophie
Keep an eye out for our feedback survey!
Caregiving Strategies

Topics include caring for the caregiver, delirium, staying active, nutrition, pain, medication, bladder health, and social engagement.

Get resources at www.rgps.on.ca/caregiving-strategies
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Special Telehealth Webinar Mini-Series Part 2: Practical Use of OTN with Frail Older Adults

Friday, March 6th, 2020 NEXT FRIDAY!

Dr. Philip Lam, Infectious Diseases physician and Clinician in Quality & Innovation at Sunnybrook Health Sciences Centre; Virtual Care Lead for the Department of Medicine

Cindy Wasyliw, RN, Engagement Lead from OTN supporting hospitals in the Toronto Central LHIN with program development and implementation of virtual care solutions

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