Optimizing Chronic Disease Management in the Community (Outpatient) Setting: an evidence synthesis

Naushaba Degani, Kristen McMartin
ECFAA, HQO Mandate and OHTAC Guidance

- **Excellent Care for All Act (ECFAA)**, focuses on improving the quality and value of the patient experience through the application of evidence-based health care. The central principles of ECFAA are: patient centredness, continuous quality improvement, efficient use of resources and that care should be based on the very best evidence and standards of care.

- Under the mandate as established by ECFAA, HQO is exploring ways to reduce inappropriate hospitalizations and improve chronic disease management for select chronic conditions.

- Timely and effective outpatient management of chronic conditions can prevent the onset of complications, reduce the risk of acute episodes, prevent hospitalizations, improve clinical and health status and reduce associated mortality.

- OHTAC advises that the hospitalization rate for chronic diseases is a surrogate measure of quality of outpatient or community-based health care for people with chronic conditions.

*This is the first attempt by any jurisdiction to develop a broad based evidentiary platform on which to inform public policy regarding a comprehensive approach to community based healthcare services*
The Question

What evidence-based services are effective and cost-effective to optimize chronic disease* management (CDM) in the community (outpatient) setting?

Outcome measures:

- Hospital utilization (admissions, readmissions, lengths of stay (LOS), emergency department utilization, admissions to long-term care facilities)
- Survival / mortality
- Health-related quality of life / functional status
- Disease-specific clinical measures
- Patient satisfaction

*Limited to the following conditions: COPD, CAD, CHF, atrial fibrillation, diabetes, stroke, chronic wounds and also including multiple chronic conditions/multi-morbidity
Methods
Scoping and initial steps

• Complete an initial scoping of the literature. Identify drivers and potential interventions for review.

• Strike Expert Advisory Panel to assist in selection of appropriate drivers / interventions and to contextualize the evidence for Ontario. Panel includes:
  – Policy makers
  – Researchers
  – Care providers
<table>
<thead>
<tr>
<th>Expert Panel Members</th>
<th>Affiliation</th>
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<tbody>
<tr>
<td>Chair: Shirlee Sharkey</td>
<td>Saint Elizabeth</td>
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<tr>
<td>Theresa Agnew</td>
<td>Primary care nurse practitioner, East End Community Health Centre</td>
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<tr>
<td>Onil Bhattacharyya</td>
<td>St. Michael’s Hospital; University of Toronto; ICES</td>
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<td>Arlene Bierman</td>
<td>St. Michael’s Hospital; University of Toronto; ICES</td>
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<tr>
<td>Susan Bronskill</td>
<td>University of Toronto; ICES</td>
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<tr>
<td>Catherine Demers</td>
<td>Faculty of Health Sciences, McMaster University</td>
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<tr>
<td>Alba Dicenso</td>
<td>School of Nursing, McMaster University</td>
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<tr>
<td>Nick Kates</td>
<td>Health Quality Ontario – QI; McMaster University; Hamilton Family Health Team</td>
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<tr>
<td>Wendy Levinson</td>
<td>University of Toronto; University Health Network</td>
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<tr>
<td>Raymond Pong</td>
<td>Centre for Rural and Northern Health Research and Northern Ontario School of Medicine, Laurentian University</td>
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<tr>
<td>Fredrika Scarth</td>
<td>Ministry of Health and Long-Term Care</td>
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<tr>
<td>Michael Schull</td>
<td>Sunnybrook Health Sciences Centre; University of Toronto; ICES</td>
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<tr>
<td>Moira Stewart</td>
<td>Centre for Studies in Family Medicine, University of Western Ontario</td>
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<tr>
<td>Walter Wodchis</td>
<td>University of Toronto; HSPRN; THETA</td>
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Mega analysis

• Conduct individual evidence-based analyses.
• Partner with PATH and THETA to conduct economic analysis including costing of interventions with significant benefit and economic modeling of significant effects by disease-specific cohorts where possible.
• Partner with CHEPA to conduct qualitative analyses on patient centredness and vulnerability as these concepts relate to chronic diseases and interventions under review.
• For the final report, re-aggregate interventions and include input from the expert panel and findings from the economic and qualitative analyses.
Inclusion and Exclusion Criteria

Search Criteria
- Limit to identified chronic conditions
  - COPD
  - CAD
  - CHF
  - Atrial fibrillation
  - Diabetes
  - Stroke
  - Chronic wounds
- Also include (general terms)
  - Chronic conditions
  - Multiple chronic conditions/multi-morbidity
- English language
- Exclude grey literature
- Limit to adults

Additional limits
- Some additional criteria may be specified for each intervention
  - Publication dates
  - Systematic reviews, RCTs, HTAs
  - Condition(s) if appropriate

Outcomes
- Mortality / survival
- Acute hospital admissions (re-admissions)
- Long-term care admissions
- ER visits
- Length of stay
- HRQOL
- Functional status
- Disease specific clinical measures
- Patient satisfaction
Results
Trajectory through the health care system for adults with chronic diseases
INTERVENTIONS UNDER REVIEW
<table>
<thead>
<tr>
<th>Interventions under review</th>
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<tbody>
<tr>
<td><strong>Health technologies:</strong> review of previous MAS EBAs (past five years) to identify technologies that are consistent with overall mega analysis objectives</td>
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<tr>
<td><strong>Transitional care:</strong> Are transitional care bundles (e.g., support services, follow-up activities and other interventions that span pre-hospital discharge to the home setting) effective at reducing health resource utilization and improving patient outcomes compared to standard care alone?</td>
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<td><strong>Continuity of care:</strong> Does continuity of care with a physician or a health care team improve patient outcomes, satisfaction and reduce health service utilization?</td>
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<td><strong>Lifestyle modification/self management:</strong> What is the effectiveness and cost-effectiveness of self-management support interventions compared to usual care for persons with chronic conditions?</td>
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<td><strong>Advanced access:</strong> Does access to same-day appointments with a physician (primary care or specialist) improve patient outcomes, satisfaction and reduce health service utilization?</td>
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<td><strong>In-home care:</strong> What is the effectiveness and cost-effectiveness of care delivered in the home (e.g. in-home care) compared to no home care, usual care or care received outside of the home (e.g. in a health care setting)?</td>
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<td><strong>Screening for depression/anxiety:</strong> What is the impact of screening for depression and/or anxiety among adults with chronic diseases on their (chronic) disease-specific outcomes and health service utilization?</td>
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<td><strong>Electronic tools for health information exchange:</strong> What is the impact of electronic tools on patient outcomes when utilized to improve information continuity and care coordination of adults with chronic diseases?</td>
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<tr>
<td><strong>Specialized nursing care:</strong> What is the evidence (and role) for specialized nursing practice in comparison to usual care in improving patient outcomes and health system efficiencies for chronic disease management in the primary care setting?</td>
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</table>
Other MAS work that contributes

• Specialized Community Based Care / Intermediate care
  – COPD
  – Heart failure
  – Diabetes
  – Chronic wounds

• Aging in the Community

• Stroke review

• COPD mega analysis

• Behavioural interventions for type 2 diabetes
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<tr>
<th>EBA</th>
<th>Diabetes</th>
<th>CAD</th>
<th>Atrial Fibrillation</th>
<th>Stroke</th>
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SUMMARY OF CLINICAL FINDINGS
Summary of Clinical Results

• Strategies that were found to be clinically effective (and should be considered for implementation/expansion in Ontario)
  – Specialized nursing care
  – Continuity of care
  – In home care
  – Transitional care (individualized pre-discharge planning)
  – Health technologies (review of previous MAS EBAs)
  – Specialized Community Based Care
  – Aging in the Community recommendations from OHTAC**

**Exercise interventions, for community dwelling elders, support programs for caregivers, environmental modifications for high risk populations, Vitamin D and calcium supplementation in women, multi-component interventions for UI, behavioural management and/or multi-component interventions for dementia
Summary of Clinical Results

• Strategies that showed some clinical effectiveness, but which may require further review and assessment of feasibility for Ontario setting
  – eTools for health information exchange
  – Stanford CDSMP

• Strategies that were not found to be clinically effective or more effective than available alternatives at improving chronic disease management
  – Advanced access
  – Screen and treat strategy for depression
  – Transitional care (addition of post-discharge support programs)
OCDM Gaps and Limitations

Identified topics that did not get reviewed

- Care coordination / case management
- Primary care team composition and scope of practice of team members**
- Chronic disease management models
- Electronic medical records - alerts, pop-ups and electronically generated standardized order sets
- Respite care
- Palliative care
- Telehealth / telemonitoring
- Accountable care models

Other limitations

- Reviews often had to be limited in scope because of breadth of work and complexity of interventions
- Interventions could not always be described in detail, i.e., elements of the interventions. In many cases, these varied across studies within reviews
- Reviews could not always be related to all the conditions or outcomes under consideration
- Not all interventions could be included in economic models
- For interventions that were included in the economic models, quality of evidence and statistical and clinical significance are not reflected in the use of point estimates

** Looked only at specialized nursing

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Long Term Care

Unstable in Community

Stable in the Community

At risk for becoming unstable

Continuity of care
- Specialized nursing care
- In-home care
- Lifestyle modification / self management
- Specialized community based care
- Advanced access
- Screening (management) for depression/anxiety

Unstable in Community

Specialized community based care
- Transitional care
- In-home care

Hospital

Electronic tools for health information exchange
Review of past evidence-based analyses of health technologies that can improve chronic disease management

Trajectory: Interventions mapped

to review the entire OHTAS report, please go to: http://www.hqontario.ca/Portals/0/Documents/eds/ohtas/compendium-ocdm-130912-en.pdf