

OHTAC Recommendation: Specialized Community-Based Care for Chronic Disease

Ontario Health Technology Advisory Committee

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Background

Specialized Community-Based Care

Specialized community-based care (also known as intermediate care) refers to services that manage chronic illness through formalized links between primary and specialized care. Health Quality Ontario (HQO) has conducted discrete evidence-based analyses (EBAs) on specialized community-based care for 4 chronic diseases: heart failure, chronic obstructive pulmonary disease (COPD), type 2 diabetes, and chronic wounds. The intent of this analysis was to synthesize the results of these 4 EBAs into a single cohesive analysis.

Synthesis of Evidence from EBAs on Multidisciplinary Care

The evidence from previous EBAs on heart failure, COPD, diabetes, and chronic wounds was compiled by outcome (mortality, hospitalization, emergency department visits, length of stay, disease-specific outcomes, and quality of life). Based on the compilation of these outcomes, it seems that specialized community-based care (SCBC) is effective at improving outcomes in patients with heart failure, COPD, and diabetes. The evidence on intermediate care for chronic wounds is sparse and of very low quality.

When the interim results of the evidence synthesis on intermediate care were presented to the Ontario Health Technology Assessment Committee (OHTAC) in the fall of 2011, OHTAC requested that more work be done to define the type of setting, components of care being provided, mix of services, types of patients, and other specific factors associated with effectiveness. OHTAC also suggested that the recommendation reflect disease-specific models and define an optimal model of practice.

The components that make a chronic disease management intervention effective were examined by disaggregating the components of the interventions described by each of the studies. The programs were quite heterogeneous in terms of how they were delivered, patient recruitment, services offered, and duration of the program.

The multidisciplinary teams in the heart failure programs always included a heart failure specialist (either a nurse or physician) and at least 1 other health professional. The teams in the COPD studies reviewed consisted of a variety of health care providers, including physiotherapists, nurses, physicians, and respiratory therapists. The teams for the diabetes programs included a combination of a physician and either a pharmacist or a nurse, and a dietitian.

An interesting result from the heart failure programs pertained to medication titration and the role of nursing function. Three studies reported that nurses could alter the dosages of medications. These same 3 studies were also the only studies to report a survival benefit of the intervention compared to the control group.

Recently a field evaluation of the heart failure clinics in Ontario was completed by the Toronto Health Economics and Technology Assessment (THETA) Collaborative. THETA reported that in the 34 clinics identified, there was a wide spectrum of service, funding, and practice models. Overall, they found that high-intensity heart failure clinics decreased mortality and increased hospitalization. There are also ongoing field evaluations on multidisciplinary clinics for diabetes and chronic wounds. In addition, OHTAC recommended a field evaluation to evaluate long-term impacts of the effectiveness and cost-effectiveness of multidisciplinary care for COPD.

Expert Panel Meeting With the Cardiac Care Network

After reviewing the analysis by HQO and the results of the field evaluation by THETA, OHTAC requested that HQO consult with the Cardiac Care Network (CCN) and invite them to participate in developing a more granular recommendation for this project.

There was wide agreement that specialized community-based heart failure clinics are effective in reducing patient morbidity and mortality. The expert panel discussion led to the identification of priorities and key attributes that guide the design of heart failure clinics in Ontario.

Decision Determinants

A decision-making framework has been developed by OHTAC that consists of seven guiding principles for decision making and a decision-making tool, called the Decision Determinants (DD) tool. When making a decision, OHTAC considers 4 explicit main criteria: overall clinical benefit, value for money, feasibility of adoption into health system, and consistency with expected societal and ethical values. For more information on the Decision-Making Framework, please refer to the *Decision Determinants Guidance Document* (http://www.health.gov.on.ca/english/providers/program/mas/pub/guide_decision.pdf).

A summary of the Decision Determinants can be viewed in Appendix 1.

OHTAC Recommendations

Based on moderate-to-high quality evidence of improved patient and health system outcomes through specialized community-based care (intermediate care), OHTAC recommends the following:

- Access to specialized community-based care (intermediate care) should be made available for patients with chronic diseases, and whose diseases are becoming uncontrollable despite primary care.
- Recognizing that primary care is the optimal way of treating and coordinating the care of patients with co-morbidities, patients should be returned to primary care for further follow-up with the revised treatment plan once they have been stabilized through intermediate care access.
- Recognizing the complexities of these recommendations, HQO should develop a high-level implementation plan that would provide advice regarding the adoption of these recommendations. In addition, Local Health Integration Networks should be approached to seek their interest in implementing OHTAC intermediate care recommendations in collaboration with experts.
- Evidence-based standards for multidisciplinary community-based care derived from EBAs, economic analyses, and field evaluation studies, as appropriate, should be derived for each of the chronic diseases.
- Health Quality Ontario should consider developing quality performance indicators based on these standards of care, tracking adherence to these standards and using this evidence base for developing quality-based funding.

Based on evidence of effectiveness, economic analysis, and a field evaluation study, OHTAC makes the following recommendations relating to standards of care for specialized multidisciplinary heart failure clinics. These standards were endorsed by a CCN expert working group. Further standards of care will be considered by OHTAC for diabetes and wound care once the results from field evaluation studies (currently underway) become available, and for COPD once the expert review panel has reviewed the evidence and formatted standards for OHTAC's consideration.

Evidence-Based Components

1. Active medication titration to evidence-based target doses should be a key priority of heart failure clinics.

- The expert panel agreed that the beneficial effect of appropriate titration of medications on patient outcomes and hospitalization rates observed in the HQO and THETA analyses were likely a reflection of the use of the evidence-based medications in those clinics.
- Targets for medication titration should be consistent with best evidence so that patients are treated with evidence-based heart failure medications and reach evidence-based target doses of medications.
- Clinics should develop processes that support flexible and responsive medication-titration services, including multidisciplinary personnel and delegated medical acts where appropriate.

- 2. Care should be consistent with evidence-based guidelines for the management of heart failure.**
 - See recommendation 1, above.
- 3. Health care professionals should provide education, self-management training, and counselling to patients and their informal caregivers. Special efforts should be made to encourage informal caregivers to participate in patient management to ensure knowledge translation has been successful whenever possible.**
- 4. Mechanisms that enable appropriately frequent follow-up should be built into the model of heart failure clinics.**
 - Achieving optimal community-based medication titration will depend on a health care delivery model that can accommodate frequent patient follow-up, tailored to the patient's risk and clinical status, especially for patients whose disease is not fully stabilized (such as patients who have been recently discharged from hospital).

Expert Opinion-Based Components

- 5. Mechanisms that enable rapid access (within 1–3 days) to specialized care should be built into the model of heart failure clinics.**
 - Hospitals are currently serving as the rapid access points for the deteriorating patient.
 - A capacity for preferably community-based rapid intervention should be developed. Many patients who experience deterioration in their clinical status often require only a transient period of stepped-up care in an observation unit where they can be diuresed and monitored. Because of the lack of availability of these types of services, patients do not have options other than the emergency department in these cases.
- 6. A structure of the roles and responsibilities, collaboration, and communication between heart failure specialists, primary care providers, and hospital inpatient physicians should be developed and implemented to facilitate efficient and effective seamless care.**
 - Heart failure clinics should be positioned to care for patients with advanced disease. Primary care clinics are well positioned to provide care to the greater majority of patients with more stable chronic heart failure.
 - Heart failure clinics and primary care clinics can take on complementary roles and should collaborate in a more focused way. This would involve ensuring that primary care providers understand how to interact, communicate, and consult with heart failure specialist teams in the management of individual patient cases.
 - Because heart failure patients commonly have multiple coexisting illnesses and often complex social circumstances, primary care plays a critical role in delivering patient-centred care for these patients. Therefore, integration and coordination of specialty and primary care is essential.
 - Formal structure and mechanisms should be developed to facilitate efficient and effective seamless care between in-hospital care management and heart failure specialists, and primary care providers and home-care providers. There should be patient discharge letters that provide explicit medication titration parameters as guidance for primary care providers. A heart failure action plan is essential for the successful management of these patients.

- These considerations should guide how specialists and primary care providers should interact, in a manner consistent with the Chronic Disease Model. While there clearly is a need for specialists to provide direct consultation services, particularly for the most complex patients, there is also a need for specialists to be involved in capacity building. This may take place in the form of formal or informal case reviews, or by having the specialists and primary care clinicians seeing patients together. The traditional formal silo between the primary care clinician and the specialist needs to be broken down, as even the best and most timely consult letter will not convey what is needed for the primary care clinicians to become comfortable managing heart failure. An important consequence of breaking down this silo will be the development of a greater understanding of the needs of primary care by the specialist, as well as the building of trust. A further consequence is that a formal and close working relationship between the specialist and primary care can act as a knowledge transfer and exchange conduit for disseminating the results of new clinical trials or guideline recommendations.
- Before the program is launched, appropriate standards and training should be more clearly defined to ensure delivery of quality care by providers with adequate competency and experience.
- An important consideration in the design of linkages between specialists and primary care is the type of training the primary care practitioners in heart failure care receive. Most of the exposure of primary care trainees to heart failure specialists occurs on inpatient acute care units. Few primary care practitioners receive training from heart failure specialists on the outpatient management of chronic heart failure. Most of their learning comes from continuing medical education events or other family medicine residency preceptors or colleagues. As a result, primary care practitioners lack confidence in their cardiovascular clinical skills or may not be comfortable managing complex patients with vital sign abnormalities that a heart failure specialist may regard as normal. In addition, primary care clinicians may be unfamiliar with techniques that specialists routinely use to titrate medication doses (e.g., reducing nitrates or diuretics in order to have “blood pressure room” to increase the dose of angiotensin-converting-enzyme inhibitors).

- 7. Once patients are stabilized, heart failure clinics need to demonstrate that they are referred back to primary care with a care management plan.**
- 8. HQO will work with experts, CCN, and heart failure clinics to develop and promulgate standards to be followed by heart failure clinics and their referral base throughout the Local Health Integration Networks.**

Appendix 1—Decision Determinants

Decision Criteria	Sub Criteria	Decision Determinants Considerations	
Overall Clinical Benefit	Effectiveness	<p>Mortality</p> <p><i>Heart failure</i> Significant reduction RR 0.71 (95% CI 0.56, 0.91) (MODERATE) (8 RCTs)</p> <p><i>COPD</i> Non-significant reduction RR 0.79 (95% CI 0.52, 1.27) (VERY LOW) (3 RCTs)</p> <p>Not reported in studies included in EBAs for diabetes or chronic wounds.</p> <p>Hospitalization</p> <p><i>Heart failure</i> Non-significant reduction RR 0.96 (95% CI 0.85, 1.08) (LOW) (7 RCTs)</p> <p><i>COPD</i> Significant reduction RR 0.75 (0.64, 0.87) (MODERATE) (4 RCTs)</p> <p>Not reported in studies included in EBAs for diabetes or chronic wounds.</p> <p>Emergency department visits</p> <p><i>COPD</i> Significant reduction RR 0.59 (95% CI 0.43, 0.81) (MODERATE) (2 RCTs)</p> <p>Not reported in studies included EBAs for heart failure, diabetes or chronic wounds.</p> <p>Disease-specific patient outcomes</p> <p><i>COPD</i> Non-significant improvement in lung function WMD 2.78 (95% CI -1.82, 7.37) (VERY LOW) (2 RCTs)</p> <p><i>Diabetes</i> Significant reduction in HbA1c WMD -1.05 (95% CI -1.57, -0.52) (HIGH) (2 RCTs)</p> <p>Significant reduction in SBP WMD -7.13 (95% CI -11.78, -2.48) (MODERATE) (2 RCTs)</p> <p><i>Chronic wounds</i> Significant increase in the proportion of healed wounds OR 4.17 (95% CI 2.28, 7.62) (VERY LOW) (1 RCT)</p> <p>Quality of life</p> <p><i>Heart failure</i> Trend toward improvement</p> <p><i>COPD</i> Significant improvement WMD -4.05 (95% CI -6.47, -1.63)</p> <p>Not reported in studies included EBAs for diabetes or chronic wounds.</p>	
		Safety	A formal systematic review of safety was not conducted. No included studies examined adverse events of intermediate care. Potential adverse events are perceived to be low and of minimal consequence.
		Burden of Illness	The burden of heart failure, COPD, diabetes, and chronic wounds is substantial in Ontario.
		Need	Alternative management is typically care provided by a family physician without the support of allied health professionals, with referral to specialist as needed.
Consistency with Societal/Ethical Values	Societal and Ethical Values	<ul style="list-style-type: none"> • More frequent consultations • Safety (i.e., referral to specialist for complications) • Attention to psychosocial and medical issues • Mechanisms for complaints • Access to medical records 	
Value for Money	Economic Evaluation	<p>Heart failure</p> <p>Specialized community based care within heart failure clinics:</p> <ul style="list-style-type: none"> • Estimate based on literature review: ICER \$18,259 (Cdn) per life-year gained • Estimate based on Ontario field evaluation: ICER -\$158,000 (Cdn) per life-year gained <p>COPD</p> <p>Specialized community based care within COPD clinics has a mean cost/QALY of \$9,315 (Cdn).</p> <p>Diabetes</p> <p>Specialized community based care within diabetes clinics has a mean cost/QALY of \$19,869 (Cdn).</p> <p>Chronic wounds</p> <p>No economic evaluation was completed</p>	
Feasibility of Adoption	Organizational Feasibility	Unknown	