

MEETING THE CHALLENGE OF MANAGING SENIORS WITH MULTIPLE COMPLEX CONDITIONS: THE CENTRAL ROLE OF PRIMARY CARE



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**Linda Lee, MD, MCISc(FM),
CCFP, FCFP**, family physician,
Kitchener, Ontario; director of
the Centre for Family Medicine
Memory Clinic; director of
Primary Healthcare Education
for the Schlegel-UW Research
Institute for Aging; associate
clinical professor in the
Department of Family Medicine
at McMaster University;
assistant clinical professor in
the Department of Family
Medicine at Queen's University
and Western University and the
University of Waterloo School
of Pharmacy

**George Heckman, MD,
MMATH, MSc, BAsc, FRCPC**,
Schlegel research chair in
geriatric medicine; associate
professor in the Department of
Health Studies and
Gerontology at the University
of Waterloo; and assistant
clinical professor in the
Division of Geriatric Medicine,
Department of Medicine,
McMaster University

Correspondence may be directed to
joelinda5@rogers.com.

With the aging population, primary care physicians will be increasingly challenged to manage more seniors with complex chronic conditions. The North American population aged 65 years and above is projected to increase from 14% in 2009 to 24% by 2036,¹ and, by 2050, the average life span worldwide is expected to extend another 10 years.² Three quarters of seniors have one or more chronic conditions³; in one Canadian study, nearly half of patients had five or more types of chronic disease.⁴ It is well established that chronic diseases contribute to disability, diminished quality of life, as well as increased health costs.^{2,3,5} Yet currently, Canadian seniors with chronic disease receive suboptimal quality of care.⁵ Most primary care physicians do not appear able to properly manage chronic illness although most of the visits for chronic conditions are provided in primary care.⁶ Continued poor management of chronic conditions is expected to have a profound impact on health system utilization and quality of life for these persons and their families. This article reviews evidence that can help to inform the development of future programs aimed at improving care for seniors with chronic illnesses. Data suggest that health service utilization is driven by the number of chronic conditions affecting an individual, rather than age per se; in 2011, Canadian seniors with three or more chronic conditions accounted for 40% of health care use.⁷ But the number of chronic diseases alone does not reflect complexity of care required or patient morbidity^{8,9} because certain clusters of conditions can synergistically affect disability and functional decline,^{10–13} resulting in poorer outcomes.^{14,15} Complex chronic syndromes such as cognitive impairment, heart failure, chronic obstructive pulmonary disease (COPD), and falls account for the highest numbers of acute and alternate level of care (ALC) hospitalization days in Canada,¹⁶ yet these conditions are amongst the most difficult for primary care physicians to manage.^{17–20} Canadian data suggest that dementia accounts for over 30% of ALC hospitalization days,²¹ and heart failure and COPD result in

nearly 50% of chronic disease-related hospitalizations.²² Importantly, geriatric syndromes such as cognitive impairment often complicate the course of co-existing conditions such as heart failure, falls, and COPD,^{23,24} leading to worse outcomes.^{25,26} Persons with these complex geriatric conditions represent a highly vulnerable subset of the older population.

To date, the vast majority of chronic disease interventions in primary care have targeted single conditions rather than multimorbidity,^{27,28} and most interventions have been aimed at diseases such as diabetes, depression, and asthma²⁹ – nonterminal, prevalent conditions with well-established clinical guidelines for care – rather than the complex chronic conditions that are most difficult to manage and involve disproportionately greater use of acute care resources.¹⁶ Moreover, interventions designed for complex chronic conditions have generally been specialist-oriented and poorly integrated into the primary care management of the patient, some seeming to run independently of the patient's system of health care delivery and, as shown in a recent Cochrane systematic review, most demonstrating limited effectiveness.³⁰ Successful management of chronic conditions must be rooted in primary care which can provide comprehensive, coordinated longitudinal health care with sustained relationships over time.^{6,31–33} Indeed, management of seniors with multiple complex conditions often involves “trade-off” decisions^{34–37} because many current clinical guideline recommendations are impractical or irrelevant in the presence of multimorbidity.^{38,39} Given the dynamic, multidimensional aspects of frailty and disability involving physiologic, psychological, social, and environmental factors,¹⁵ primary care practitioners are in a unique position to consider the effect of multimorbidity in the context of the person's individual circumstances and tailor treatment recommendations to realistically attainable health care goals.⁴⁰ Successful interventions for complex chronic disease must be integrated and sustained within primary care. There is growing recognition that system-related

issues present a major barrier to adequate care for persons with multiple chronic conditions.^{41,42} Health care infrastructure is designed to address acute illness rather than chronic disease^{5,33,43,44}; without significant system change, expected improvement in the primary care management of chronic disease may be unrealistic.⁴⁵ Numerous studies have demonstrated that those with multiple chronic conditions are at greater risk of suboptimal primary care management^{46,47} and adverse drug events,⁴⁸ and greatly increased risk of avoidable hospital admissions and complications that could be prevented with better management in primary care.⁴⁹ To develop more effective models of care for these persons will require interventions that change the system of care, well beyond the distribution of guidelines, tool kits, and practice aids to primary care physicians which have been shown to have relatively little impact.^{50–52}

To date, despite elaborate study designs, interventions for elderly persons with multiple chronic conditions have demonstrated limited success.⁵³ Most programs have been based on the Chronic Care Model,⁵⁴ a framework that has been widely adopted by health care organizations to improve the management of various chronic diseases in ambulatory care. The framework promotes six interrelated elements: multidisciplinary care, patient self-management, coordinated care, delivery system redesign, clinical information systems, and evidence-based care. In the US, randomized controlled trials of four interventions – Guided Care,⁵⁵ Geriatric Resources for Assessment and Care of Elders (GRACE),⁵⁶ Geriatric Evaluation and Management (GEM),⁵⁷ and Chronic Care Clinics⁵⁸ – have shown modest benefits in some but not all clinical outcomes, seemingly restricted to subsets of higher risk patients. Potential reasons for lack of benefit may include targeting of complex interventions at patients too healthy to benefit, insufficient redesign of primary care processes, under-utilization of inter-professional resources, and, in some cases, limited integration of specialist resources with the patient's existing primary health care system.^{30,55–58}

Selective targeting of interventions to provide the right amount of care for the right patient will become an increasingly important strategy as limited health care resources are stretched to meet the needs of an aging population. The Chronic Care Model proposes that patients with chronic conditions be stratified according to risk of poor outcomes and that the intensity of management be escalated according to patient needs.⁵⁹ Specifically, the model recommends low-intensity chronic disease management for the majority of patients and implemented at the primary care level, mid-intensity interventions for 15–20% of patients which might involve direct or indirect input from specialists, and high-intensity interventions for the 5–10% of complex, high-risk individuals requiring direct specialist input, comprehensive geriatric assessment, intensive case management, and care coordination.⁶⁰ Consistent with these principles, a recently developed primary care memory clinic model has shown promising results with respect to improved patient outcomes, care coordination, and health service utilization.^{61,62} The model is designed to build capacity at both the primary and specialist care levels; interventions include enhanced geriatric education for the entire health care team and additional support from a geriatric specialist using a shared care approach. The model fosters truly collaborative relationships between family

Key Points

- *Interventions are needed to better manage chronic complex geriatric conditions that are associated with disproportionate use of health system resources. These include cognitive impairment, heart failure, falls, and COPD.*
- *Interventions are needed to better manage multimorbidity rather than single disease states.*
- *Management of the most challenging complex chronic conditions requires a fundamental redesign of the structure of primary care that is both patient centred and provider centred.*
- *Interventions should be integrated and sustained in primary care, involving a truly collaborative shared-care approach between primary care physicians, specialists, and inter-professional health care providers.*
- *To ensure the most highly efficient use of specialists and other limited health care resources, interventions should stratify patients according to risk of poor outcomes and tailor the intensity of management accordingly. For most chronic diseases, the majority of care can be adequately managed at a primary care level.*

physician, specialist, inter-professional health care providers, and community supports.

Such collaborative relationships are most effective if health care providers focus on supporting patients with chronic conditions and family caregivers to better manage self-care tasks. In chronic conditions, patients and their family members become the principal caregivers and adequate self-care is critical to ensuring adherence to treatment protocols and managing the effects of illness on daily functioning.⁶³ Successful shared care involves a collaborative working relationship between all health care providers across the continuum of care, with clearly defined responsibilities, expectations, and appropriate boundaries of care that are determined by mutual agreement.^{64–66} A clear plan of care can ensure that duplication of workload is avoided and health services are provided efficiently. Ideally, the primary care physician should maintain the central role in care while patients move seamlessly across this spectrum of health care providers.⁶⁷

Summarizing insights gained from the literature, the following considerations may help to guide the development of future programs for seniors with chronic illness:

1. Interventions are needed to better manage chronic complex conditions associated with an aging population that have the greatest impact on health system utilization, specifically cognitive impairment, heart failure, falls, and COPD. Of these, dementia should be considered the keystone chronic condition because the

self-care required for successful management of any other chronic disease depends on cognitive functioning.

2. Interventions are needed to better manage multimorbidity rather than single disease states, involving coordinated, comprehensive, and integrated care for all of the patients' chronic conditions.
3. To ensure the most highly efficient use of specialists and other limited health care resources, interventions should stratify patients according to risk of poor outcomes and tailor the intensity of management accordingly. For most chronic diseases, the majority of care can be adequately managed with low intensity interventions at a primary care level.⁵⁹
4. Interventions should be integrated and sustained in primary care, involving a truly collaborative shared-care approach between primary care physicians, specialists, and inter-professional health care providers.

Complex multiple comorbidities affecting aging Canadians is a major driver of the pressures faced by our health care system. This system, in its current configuration, is poorly suited to addressing the needs of such patients. Provincial health care funding agencies must recognize that the management of the most challenging complex chronic conditions requires investment in a fundamental redesign of the structure of primary care that is both patient centred and provider centred.^{43,68}

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