

# Models of primary care for frail patients

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## Abstract

**Objective** To discuss models of care for frail seniors provided in primary care settings and those developed by Canadian FPs.

### EDITOR'S KEY POINTS

- Management of frail seniors remains one of the many challenges of family medicine. Recognizing frailty and understanding a patient's cognitive condition, physical function, and functional reserve might alert FPs to consider the best ways to provide care.
- Family physicians should be involved in developing and implementing models of care that meet the needs of individual patients and communities. For these models of care, organizational and remunerative supports, as well as communication between sectors and sites, will be required.
- Given their knowledge and skills, FPs with care of the elderly training could play an important role in many of the described models. Fee-for-service models and primary care reform have not always helped these physicians put their skills to best use. There are barriers that prevent FPs from providing care outside of traditional comprehensive practices. Governments and health policy planners need to reduce these obstacles.

### POINTS DE REPÈRE DU RÉDACTEUR

- La prise en charge des aînés fragiles demeure l'un des nombreux défis en médecine familiale. La reconnaissance de la fragilité et la compréhension de l'état cognitif, du fonctionnement physique et des réserves fonctionnelles peuvent inciter les médecins à envisager les meilleures façons de prodiguer des soins à ces patients.
- Les médecins de famille devraient participer à l'élaboration et à l'implantation de modèles de soins qui répondent aux besoins de chaque patient et des communautés. Il faudra du soutien organisationnel et sur le plan de la rémunération, ainsi qu'une bonne communication entre les secteurs et les établissements pour que ces modèles de soins fonctionnent bien.
- Compte tenu de leurs connaissances et de leurs compétences, les médecins de famille ayant une formation en soins aux personnes âgées pourraient exercer un rôle important dans bon nombre des modèles décrits. Les modes de rémunération à l'acte et les réformes des soins primaires n'ont pas toujours aidé les médecins à mettre pleinement à contribution leurs compétences. Certains obstacles empêchent les médecins de famille d'offrir des soins en dehors des pratiques traditionnelles de soins complets. Les gouvernements et les décideurs du secteur de la santé doivent éliminer ces obstacles.

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**Sources of information** Ovid MEDLINE and the Cochrane database were searched from 2010 to January 2014 using the terms *models of care, family medicine, elderly, and geriatrics*.

**Main message** New models of funding for primary care have opened opportunities for ways of caring for complex frail older patients. Severity of frailty is an important factor, and more severe frailty should prompt consideration of using an alternate model of care for a senior. In Canada, models in use include integrated care systems, shared care models, home-based care models, and family medicine specialty clinics. No one model should take precedence but FPs should be involved in developing and implementing strategies that meet the needs of individual patients and communities. Organizational and remunerative supports will need to be put in place to achieve widespread uptake of such models.

**Conclusion** Given the increased numbers of frail seniors and the decrease in access to hospital beds, prioritized care models should include ones focused on optimizing health, decreasing frailty, and helping to avoid hospitalization of frail and well seniors alike. The Health Care of the Elderly Program Committee at the College of Family Physicians of Canada is hosting a repository for models of care used by FPs and is asking physicians to submit their ideas for how to best care for frail seniors.

## Modèles de soins primaires pour aînés fragiles

### Résumé

**Objectif** Discuter des modèles de soins aux aînés fragiles offerts en soins primaires et de ceux élaborés par des médecins de famille canadiens.

**Sources des données** Une recherche a été effectuée dans Ovid MEDLINE et dans la

base de données Cochrane de 2010 à janvier 2014 à l'aide des expressions en anglais *models of care, family medicine, elderly et geriatrics*.

**Message principal** Les nouveaux modes de financement des soins primaires offrent des possibilités d'adopter différents moyens pour soigner les patients fragiles plus âgés. La gravité de la fragilité est un facteur important et les niveaux accrus de fragilité devraient inciter à envisager d'autres modèles de soins pour aînés. Au Canada, on compte parmi les modèles utilisés les systèmes de soins intégrés, les modèles de soins partagés, les modèles de soins à domicile et les cliniques spécialisées en médecine familiale. Aucun modèle ne devrait avoir préséance, mais les médecins de famille devraient participer à l'élaboration et à l'implantation de stratégies qui répondent aux besoins de chaque patient et des communautés. Il faudra du soutien organisationnel et sur le plan de la rémunération pour favoriser l'adoption généralisée de tels modèles.

**Conclusion** Étant donné le nombre accru des aînés fragiles et la diminution de l'accès aux lits d'hôpitaux, les modèles de soins à privilégier devraient être ceux axés sur l'optimisation de la santé, la réduction de la fragilité et l'évitement de l'hospitalisation des personnes âgées, qu'elles soient fragiles ou en santé. Le Comité de programme sur les soins aux personnes âgées du Collège des médecins de famille du Canada maintient un répertoire de modèles de soins utilisés par des médecins de famille et sollicite les idées des médecins sur les meilleurs façons de dispenser des soins aux aînés fragiles.

## Case

Mrs W. is an 89-year-old woman who likes to come into your office for a checkup. You note that in the past year she has lost 2.25 kg. She has a history of diabetes mellitus, congestive heart failure, and stroke. She reports that for the past 6 months she has been feeling in low spirits, and that in the past 6 months she has also fallen 3 times without injury. She is taking 12 different medications. You sigh and ask yourself, "How can I care for this lady differently?"

Family medicine in Canada has undergone dramatic changes in the past decade. Many provinces have embraced new funding models to improve quality of care. Despite a degree of improvement in the supply of FPs, the introduction of electronic medical records, and enhanced opportunities for interdisciplinary care, the management of frail seniors remains one of the great challenges of family medicine.<sup>1</sup> Aging in Western countries like Canada is characterized by increasing numbers of chronic illnesses, multiple medications, and development of frailty syndromes such as falls or

cognitive impairment.<sup>2</sup> The goal of "compression of morbidity with improved function and lower health costs until relatively close to time of death" has not been realized.<sup>3,4</sup>

Frailty is an important concept in the primary care of seniors; frail patients lose function quickly with illness or other stressors owing to loss of physiologic reserve. Recognition of frailty and efforts to prevent or reverse early frailty are important roles of family medicine.<sup>5</sup> Screening tools, such as frailty scales, and an understanding of a patient's cognitive condition, physical function, and functional reserve might alert the physician to consider the best way to provide care.<sup>6</sup>

The main goals of primary care for frail patients are to improve function and quality of life while avoiding unnecessary admission to hospital or long-term care. The characteristics of high-quality primary care are summarized in **Box 1**, and there are different funding and care models that can help achieve these qualities.<sup>7</sup> This article will describe some of the strategies that focus on frail seniors. Our main intent was to provide FPs and health planners with ideas to guide the development of services for patients with frailty and comorbidities. Our secondary objective was to introduce readers to the development of a "repository" in which FPs could share and disseminate care models and ideas they have found to be effective. This concept is being developed by the Health Care of the Elderly Program of the College of Family Physicians of Canada (CFPC); we hope this article will stimulate FPs to submit and share their models of care.

## Sources of information

This article does not provide a critical review of the literature but presents examples of models that have been evaluated. A critical review done by the Regional Geriatric Program of Eastern Ontario in Ottawa was used to identify and appraise older research. In addition, Ovid

### Box 1. Attributes of high-quality primary care

High-quality primary care ...

- is accessible in the community, with minimal financial or physical barriers
- is person-oriented rather than focused on specific organs or diseases
- emphasizes continuity of care
- includes collaboration with specialist services as needed
- pays attention to the determinants of health and social context
- focuses on helping patients participate in their own health and decisions about care
- coordinates care
- might be the main entry point to other health care; however, the role of gatekeeper is controversial and variable in definitions

Data from Groeneweg et al.<sup>7</sup>

MEDLINE and the Cochrane database were searched from 2010 to January 2014, using the terms *models of care*, *family medicine*, *elderly*, and *geriatrics*. Review articles and original research that related to the integrated system, shared care, home-based care, and family medicine specialty clinics were examined. Clinical outcomes such as hospitalizations, readmission rates, and admission to nursing homes were sought, but articles using patient or provider satisfaction were also reviewed. Citations identified in review articles were used when appropriate.

### Main message

**Integrated care.** Health delivery systems have been developed to care for acute health problems or patients with single medical diagnoses. This has resulted in services that are fragmented and difficult for those with multiple comorbidities to navigate. Integration of services is often proposed as a remedy to these shortcomings; however, what does *integrated care* mean? Service integration is the process of combining social and health service needs to care for a defined population of older patients. In integrated systems, the financial, administrative, and clinical management are aligned with the interdisciplinary team providing care.<sup>8</sup> For example, hospital services trying to discharge an older patient might not need to request services from a home-care organization that has completely separate management, budget, staff, and priorities. The intent is that pooling resources from multiple systems and creating clinical services that are linked and coordinated with resources will lead to more seamless care and better match needs with services.<sup>9-11</sup>

The System of Integrated Care for Older Persons (known as *SIPA*, French acronym for services intégrés pour personnes âgées), a program in Quebec, provides an example of these concepts. This program enrolled frail seniors in a team-based community care program.<sup>10</sup> After enrolment, patients received a comprehensive geriatric assessment and the team used a number of care protocols in collaboration with the primary care provider. Case managers addressed chronic and evolving acute issues in collaboration once again with the FP and coordinated access to on-call coverage, in-home supports, and even short stays in a group home. Case managers also played a role in transitions to and from hospital. Family physicians remained the primary providers of medical care and were funded via their usual model (most commonly fee for service) but also via an annual payment of \$400 per patient per year to compensate for time spent with team communication. A *SIPA* physician acted as a resource to the team and the FPs.

In a well designed randomized controlled trial of more than 1200 participants over 22 months, *SIPA* was found to be cost neutral (total community costs were 44% higher, but institutional costs were 22% lower).<sup>10</sup> Outcomes such as quality of life and function were not studied, but *SIPA*

patients had substantially lower alternate level of care rates and there was a trend toward increasing satisfaction with care (more so among caregivers than among participants). There was no difference in rates of hospitalization or emergency department visits. Incentives for active participation and challenges mobilizing resources within and outside of the *SIPA* team were believed to be factors in the moderate outcomes.

Another example from Quebec is the PRISMA (Program of Research to Integrate Services for the Maintenance of Autonomy) model,<sup>11</sup> which relies on highly coordinated services between separately funded organizations and providers. The *SIPA* and PRISMA programs are summarized in **Table 1**.<sup>10-15</sup> Overall, the promise of integrated care is offset by challenges in reorganizing complicated systems into integrated ones, as well as by the muted benefits seen in randomized controlled trials.

**Shared care.** Shared care refers to close collaboration between an external consultant and an FP, with the consultant being more embedded in primary care than in a traditional specialist model. The shared care concept in Canadian primary care is best known in the realm of mental health. Roles and activities of both the FP and the psychiatrist are defined, coordinated, and complementary.<sup>16</sup> The link between family medicine and psychiatry in shared care formally dates back to 1996 when a task force was struck with the CFPC and the Canadian Psychiatric Association. In geriatric care, the opportunities for a shared approach could be with geriatric medicine or geriatric psychiatry services.

Primary health reform has opened up options for a shared care approach in primary care, but there remain few studies on shared care in geriatrics. Access to sessional fees, interdisciplinary care, and alternate funding arrangements has allowed efforts to integrate specialized geriatric services (medical and psychiatric) or to involve geriatricians or geriatric psychiatrists. A 2012 article published by *Canadian Family Physician* provides an example of shared care with a geriatrician in an Ontario family health team.<sup>12</sup> Moore et al did not include clinical outcomes in their study, but American studies might have relevance to shared care in Canada.

In 2012, the US Department of Veterans Affairs published evidence briefs on geriatric services.<sup>17</sup> When interpreting American literature, it is relevant to remember that both FPs and internists can call themselves geriatricians once they finish training and examinations. In Canada, only internists are called geriatricians and they have different backgrounds and roles than some geriatricians in American models. In American outpatient services, there is evidence for greater benefit when geriatricians provide direct patient care rather than providing input to team conferences or to specific clinicians. Geriatricians working

**Table 1. Examples of models of care in Canadian literature**

PROGRAM	POPULATION	DESCRIPTION	MAIN OUTCOMES
<b>Integrated care</b>			
<ul style="list-style-type: none"> <li>SIPA<sup>10</sup></li> </ul>	Community-dwelling adults aged > 64 y (N = 1270)	Patients received comprehensive geriatric assessment from interdisciplinary teams with full clinical responsibility for delivering care through community-health and social services and the coordination of hospital and nursing home care. Patients were encouraged to continue to see their own FPs who collaborated with evidence-based management protocols. The teams had access to intensive home care, group homes, and a 24-h on-call service. Case managers followed patients through care locations, assuring continuity. FPs received \$400 per SIPA patient annually to compensate for time. The SIPA staff physicians served as a backup and resource	<p>In this RCT (SIPA group vs control group) there</p> <ul style="list-style-type: none"> <li>was a 50% reduction in the number of acute hospital patients in the SIPA group who became ALC patients;</li> <li>were no differences in admissions, use of services, or costs for other components of institutional care (ie, ED, acute hospital, and nursing home);</li> <li>was a trend for increased satisfaction among SIPA participants observed at 1 y; and</li> <li>caregivers' satisfaction was substantially higher for SIPA users</li> </ul> <p>SIPA was cost neutral. Community costs were 44% higher for SIPA group compared with control group users, whereas institutional costs were 22% lower</p>
<ul style="list-style-type: none"> <li>PRISMA<sup>11</sup></li> </ul>	People aged ≥75 y with multiple disabilities who needed > 3 services (N = 1501)	This semi-integrated service focused on coordination. A case manager assessed and coordinated a patient's required services and supported and directed a multidisciplinary team involved in care. Case managers could be nurses, social workers, or other health professionals. Although FPs participated in team meetings and communicated with case managers, there were issues related to FPs' understanding and collaboration with case managers	<p>In the fourth year of the study, the annual incidence of functional decline was lower by 137 cases per 1000 in the experimental group. Prevalence of unmet needs, satisfaction with services, and empowerment were better in the experimental group. Rates of hospitalizations and ED visits were also lower in the experimental group</p>
<b>Shared care</b>			
<ul style="list-style-type: none"> <li>Seniors Collaborative Care Program<sup>12</sup></li> </ul>	Patients aged > 75 y in an FHT who were randomly selected to be evaluated for risk of cognitive impairment and falls (N = 25)	At-risk patients or those with clinical issues received comprehensive assessment by FHT clinicians (FPs or nurse practitioners) and were referred to other FHT clinicians (eg, social worker, pharmacist) as indicated. Care was provided at home or in clinic. A visiting geriatrician provided consultation to the team, attended case-based meetings, and saw patients when deemed appropriate by the team. Capacity building was part of the program	During this pilot project, the geriatrician was involved in 25% of cases. There were no clinical outcomes published, but there was good satisfaction from care providers, with cited improvements in wait times, crisis prevention, and teamwork
<b>Home-based care</b>			
<ul style="list-style-type: none"> <li>Primary Integrated Interdisciplinary Elder Care at Home<sup>13</sup></li> </ul>	Patients aged > 75 y enrolled in a primary care home-based practice (N = 248)	The program focused on frail patients referred for care by health professionals. Care was provided primarily by physicians or registered nurses but there was access to physiotherapists (89% saw physiotherapists at least once). On-call coverage was provided by other FPs	In this comparison study of hospital use before and after enrolment in the program, there was a 39% reduction in hospital admission rates, 37% reduction in hospital days, and 20% reduction in ED visits. Of deaths that occurred, 46.9% occurred at home. There were no data on nursing home admission rates
<ul style="list-style-type: none"> <li>Hospital at home<sup>14</sup></li> </ul>	Patients aged > 65 y in the South East Toronto Family Health Team Virtual Ward	Patients being discharged from hospital were enrolled in a virtual ward if at high risk of readmission according to LACE (length of stay, acuity of admission, comorbidities, ED visits in past 6 mo) score. Remote monitoring of vital signs was done using telehomecare equipment. Care was provided by nurses and physician's assistants with supervision from an FP, along with conventional home-care services that were arranged as needed	Using before-and-after data, 48 patients were evaluated. CHF and COPD were primary diagnoses. Hospital admission rates decreased statistically significantly (although clinical significance was hard to ascertain). Qualitative data suggested satisfaction with care and enhanced perception of continuity for patients. Staff reported greater integration of care
<b>Family medicine specialty clinics</b>			
<ul style="list-style-type: none"> <li>Memory clinic<sup>15</sup></li> </ul>	FHT patients referred to a primary care-based memory clinic	The memory clinic was staffed by FPs, pharmacists, social workers, and registered nurses. Referrals to the memory clinic were made by FPs within the FHT. A geriatrician was available to the clinic for telephone consultation. The approach was based on a chronic disease management model	Mean wait time to see patients was 2.2 mo. For 20.5% of patients, complaints were caused by conditions other than dementia. Satisfaction ratings among patients, caregivers, and referring physicians were high. FPs reported greater comfort with managing dementia than before their involvement with the clinic

ALC—alternate level of care, CHF—congestive heart failure, COPD—chronic obstructive pulmonary disease, ED—emergency department, FHT—family health team, PRISMA—Program of Research to Integrate Services for the Maintenance of Autonomy, RCT—randomized controlled trial, SIPA—services intégrés pour personnes âgées (System of Integrated Care for Older Persons).



in teams or as consultants have been shown to improve function, reduce use of health services, and delay move to nursing homes.<sup>18</sup> There is limited research on geriatricians as primary care providers; studies have found improvements in medication management but no improvements in mortality with geriatric involvement.<sup>19</sup> In Canada, geriatricians do not provide primary care and there are no studies of care (shared or otherwise) provided by FPs with enhanced skills in care of the elderly.

Other health disciplines can work with primary care physicians in shared care for frail seniors. Ideally these services are embedded within the Patient's Medical Home, as described by the CFPC, which presents a large advantage for seniors given their familiarity with their FPs and their FPs' practice locations.<sup>20</sup> Advance practice nurses might focus on specific chronic diseases such as diabetes, heart failure, or chronic obstructive pulmonary disease.

Palliative care services might be developed using the shared care approach in which the FP maintains responsibility for issues not related to the terminal diagnosis.<sup>21</sup> The Palliative and Therapeutic Harmonization program in Nova Scotia is of relevance to primary care of very frail seniors. This service provides consultation to primary care to review goals of care for patients with multiple comorbidities and frailty, and makes recommendations about targets for care and prescribes medications to match function and prognosis.<sup>22</sup> This model could be developed as shared care within a primary care group; the role does not need to be performed by a geriatrician and could be done by an FP, with or without additional training in care of the elderly.

**Home-based care.** Interest in home visits for elderly patients is being revitalized by practitioners' awareness of their relevance in keeping frail seniors at home and by provincial governments' promotion via funding or policy.<sup>23</sup> The value of home visits is well recognized, but models have been developed that go beyond the traditional home visit by the family doctor. Two main family medicine roles are providing ongoing care to home-bound seniors and providing care for acute or subacute illness (the hospital-at-home approach). There are several published examples of interprofessional teams for elder care, such as the Toronto House Call program (as seen in the documentary *House Calls*).<sup>24-26</sup> Home-based care might be provided by a physician as part of a focused or comprehensive practice; in Ontario, an alternate funding program has helped make this an option for full- or part-time practice.

The hospital-at-home concept focuses on keeping patients at home during an acute illness by optimizing home supports without hospital admission. A hospital at-home or virtual ward program has been tried in Canada.<sup>14,27</sup> Patients who would traditionally have been admitted to hospital for illnesses such as pneumonia and delirium are cared for at home with enhanced

home support services and physician visits. With this model, the primary care physician is not always the most responsible physician for care.<sup>28</sup> However, we think many FPs would be able to provide care for common illnesses seen with geriatric patients and could function as the most responsible physician at home in many cases. Rapid response teams for newly discharged patients are more common; their effect on transitions back to family medicine care is not clear.<sup>29</sup>

**Family medicine specialty clinics.** Family physicians sometimes see patients who are referred from outside their own practices for consultation about specific issues such as dementia, Parkinson disease, and incontinence. An example of this model is the family medicine memory clinic developed in Ontario, where patients are seen by FPs for comprehensive assessment and management of dementia.<sup>30</sup> There are now more than 50 memory clinics in primary care settings. Evaluations have shown accurate diagnosis with good patient and physician satisfaction and low rates of referral to geriatricians or neurologists (8%).<sup>15</sup> No clinical outcomes are available, but an audit tool based on Canadian dementia guidelines might provide more evaluation in future.

**Human resources and training.** Geriatricians are experts in caring for frail seniors; however, there will never be enough geriatricians to provide care to even a small majority of these patients. Family physicians need to be comfortable and capable of providing care to frail seniors in any care setting. For this reason it is crucial that core family medicine residents receive training in the care of frail seniors and are comfortable dealing with patients with multiple comorbidities and with seeing patients at home. Practising FPs should also optimize their knowledge and skills given the demographic imperative experienced in most practices. There are barriers that prevent FPs from providing care outside of traditional comprehensive practices. Governments and health policy planners need to reduce these obstacles.

What is the role of FPs with enhanced skills in care of the elderly? This group could play an important role in many of the models described here, given their training and skills and their grounding in the principles of family medicine. Fee-for-service models and primary care reform have not always helped physicians who have care of the elderly training put their skills to best use. A survey done in 2005 found that most of the physicians with care of the elderly training still provided comprehensive care; they were also likely to work in long-term care facilities.<sup>31</sup> A substantial proportion of the surveyed physicians had focused practices with specialized geriatrics programs. There has been little study or evaluation of

the role of physicians with this form of training in home-based or shared care models.

## Conclusion

Family physicians play a central role in the care of frail seniors. Given the increased numbers of frail seniors and the decrease in access to hospital beds, primary care systems should focus on optimizing health, decreasing frailty, and helping to avoid hospitalization or institutionalization for all seniors. No one model should take precedence but FPs should be involved in developing and implementing strategies that meet the needs of individual patients and communities. Organizational and remunerative supports will need to be put in place to achieve widespread uptake of such models. Methods of improving communication between sectors and sites will be increasingly important for all models of care; particularly between community and hospital providers.

In Mrs W.'s case, she can be well cared for in a variety of primary models. She is a good candidate for a program of integrated care in which home support services are linked via a case manager to direct resources and home supports from the primary care practice. She would also benefit from a shared care approach in her family practice setting with geriatric medicine services to review medications and their interaction with fall risk. If her function declines further, home-based care by a team including a physiotherapist and occupational therapist in conjunction with external home support services could allow her to remain at home as long as possible.

There are a variety of ways to improve care of frail seniors. Family physicians should consider which models might work within their own practices. Physicians should also consider external collaborations, which require more effort and patience.

We want to hear from you! How do you best care for the frail patients in your practice? Please go to the CFPC Health Care of the Elderly Program website at [www.cfpc.ca/HCOE](http://www.cfpc.ca/HCOE) and share your ideas about and experiences with caring for frail seniors.

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### Contributors

**Drs Frank** and **Wilson** contributed to the literature review and interpretation, and to preparing the manuscript for submission.

### Competing interests

None declared

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