

Interprofessional and integrated care of the elderly in a family health team

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Abstract

Problem addressed Family physicians provide most of the care for the frail elderly population, but many challenges and barriers can lead to difficulties with fragmented, ineffective, and inefficient services.

Objective of program To improve the quality, efficiency, and coordination of care for the frail elderly living in the community and to enhance geriatric and interprofessional skills for providers and learners.

Program description The Seniors Collaborative Care Program used an interprofessional, shared-care, geriatric model. The feasibility of the program was evaluated through a pilot study conducted between November 2008 and June 2009 at Stonechurch Family Health Centre, part of the McMaster Family Health Team. The core team comprised a nurse practitioner, an FP, and a registered practical nurse. Additional team members included a pharmacist, a dietitian, a social worker, and a visiting geriatrician. Twenty-five seniors were evaluated through the pilot program. Patients were assessed within 5 weeks of initial contact. Patients and practitioners valued timely, accessible, preventive, and multidisciplinary aspects of care. The nurse practitioner's role was prominent in the program, while the geriatrician's clinical role was focused efficiently.

Conclusion The family health team is ideally positioned to deliver shared care for the frail elderly. Our model allowed for a short referral time and easy access, which might allow seniors to remain in their environment of choice.

Soins interprofessionnels et intégrés de la personne âgée dans une équipe de santé familiale

Résumé

Problème à l'étude Les médecins de famille prodiguent la plupart des soins aux personnes âgées fragiles, mais plusieurs défis et obstacles peuvent entraîner des difficultés, avec comme conséquence des services fragmentés, inefficaces et inefficients.

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Cet article a fait l'objet d'une révision par des pairs.

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EDITOR'S KEY POINTS

- This paper describes an interprofessional, integrated geriatric program within a family health team and includes a preliminary evaluation from the perspective of primary care providers and patients.

- Patients were screened for depression, nutrition, and medication risks by a registered practical nurse. This was followed by a comprehensive geriatric assessment by an FP or nurse practitioner. Other team members were accessed as needed. Assessments were made in the clinic or in patients' homes for housebound seniors. Practitioners, including the geriatrician, attended regular monthly, case-based team meetings.

- This model offered numerous advantages. Because care remained in the family practice, coordinating care was easier. It was facilitated by fast, effective communication through electronic medical records, shared medication profiles, and regular case-based team meetings, which also enhanced teamwork. The model also offered educational advantages. The expertise of the geriatrician built capacity within the team, and the program provided an ideal learning forum for practitioners, residents, and other health professional students.

POINTS DE REPÈRE DU RÉDACTEUR

- Cet article décrit un programme gériatrique intégré interprofessionnel au sein d'une équipe de santé familiale, et comprend une évaluation préliminaire du point de vue des soignants de première ligne et de leurs patients.

- Une infirmière auxiliaire diplômée a effectué un dépistage chez les patients concernant la dépression, la nutrition et les risques liés à la médication. Par la suite, une évaluation gériatrique complète a été effectuée par un MF ou une infirmière praticienne. Les autres membres de l'équipe, incluant un pharmacien, un travailleur social, une diététiste et un gériatre visiteur étaient appelés à participer au besoin. Les évaluations ont eu lieu à la clinique ou au domicile des patients confinés à la maison. Les médecins, y compris le gériatre, ont assisté aux rencontres mensuelles régulières de l'équipe portant sur les cas.

- Ce modèle offrait plusieurs avantages. Parce que les soins demeuraient à l'intérieur de la clinique familiale des patients, ils étaient plus faciles à coordonner. Cela était rendu possible par une communication rapide et efficace entre les membres de l'équipe par l'entremise des dossiers médicaux électroniques, du partage des profils de médication et des réunions régulières de l'équipe pour discuter des cas, qui favorisaient aussi le travail d'équipe. Ce modèle était aussi avantageux au plan éducationnel. L'expertise du gériatre a amélioré les habiletés au sein de l'équipe, et le programme offrait un forum d'apprentissage idéal pour les médecins, résidents et autres professionnels de la santé en formation.

Objectif du programme Améliorer la qualité, l'efficacité et la coordination des soins des personnes âgées fragiles vivant dans la communauté, et accroître les compétences gériatriques et interprofessionnelles des soignants et des étudiants.

Description du programme Le Seniors Collaborative Care Program s'est servi d'un modèle gériatrique interprofessionnel à soins partagés. La faisabilité du programme a été évaluée grâce à une étude pilote effectuée entre novembre 2008 et juin 2009 au Stonechurch Family Health Centre, qui fait partie du McMaster Family Health Team. Le noyau principal de l'équipe comprenait une infirmière praticienne, un MF et une infirmière auxiliaire diplômée. S'y ajoutaient un pharmacien, un diététiste, un travailleur social et un gériatre visiteur. Trente-cinq personnes âgées ont été évalués au cours du programme pilote. Elles ont été évaluées moins de 5 semaines après le contact initial. Patients et praticiens ont apprécié le fait que les soins ont été opportuns, accessibles, préventifs et multidisciplinaires. L'infirmière praticienne avait le principal rôle dans le programme, tandis que le gériatre clinique était utilisé de façon efficace.

Conclusion L'équipe de santé familiale est la mieux placée pour prodiguer des soins partagés aux personnes âgées fragiles. Notre modèle permettait un court délai de référence et un accès facile, ce qui pourrait permettre aux personnes âgées de rester dans leur milieu de prédilection.

The number of Canadians older than 80 years of age will more than double by 2036.¹ The frail elderly, characterized by complex biopsychosocial and functional problems, represent the fastest growing segment of the aging population.² Primary care practitioners provide most of the care for this population, but many challenges can lead to difficulties with inefficient, fragmented, and ineffective services,³ while access to specialized care is limited by a shortage of geriatricians.⁴

Family physicians experience barriers and challenges when managing the multiple aspects of care for this population.⁵ Traditional one-to-one approaches do not adequately address the needs of these individuals. Health Force Ontario recommends interprofessional care as the delivery method of choice for frail seniors.⁶ Family health teams (FHTs) in Ontario have been identified as ideally suited for implementing integrated care for frail elderly patients.⁷

Integration, long established between primary care and mental health services,^{8,9} has recently become an important theme in health reform for care of the elderly. Little is known about how teams function in these models. Although primary care clinicians are important stakeholders, and it has been argued that successful integration must be initiated or led by primary care

providers,⁷ there is limited understanding of this perspective in the context of integrated care for seniors.

This paper describes an interprofessional, integrated geriatric program within an FHT and includes a preliminary evaluation from the perspective of primary care providers and their patients.

Program description

The Seniors Collaborative Care Program (SCCP) began as a pilot program at the Stonechurch Family Health Centre (SFHC) in 2008 and continues to operate. The SFHC is part of the McMaster FHT of the Department of Family Medicine at McMaster University in Hamilton, Ont. The SFHC serves 15204 patients including 737 seniors older than 75 years of age. The composition of the McMaster FHT has been described elsewhere.¹⁰ Each SCCP core team consists of 1 nurse practitioner (NP) (who dedicates 0.35 full-time equivalent [FTE] hours to the team), 1 FP (0.10 FTE), and 1 registered practical nurse (RPN) (0.05 FTE). Additional SCCP members include a pharmacist, a social worker, a dietitian, and a visiting geriatrician.

The goals of the SCCP were to improve the quality, efficiency, and coordination of care for frail elderly patients living in the community, and to enhance geriatric and interprofessional skills for SFHC practitioners and learners. The objectives of the pilot project were to determine the feasibility of the new model to learn what would work and what resources would be required, and to understand team roles and the integration of a geriatrician.

The pilot study was conducted between November 2008 and May 2009. A case-finding strategy was used to identify seniors at risk of cognitive impairment or falling. These conditions were chosen to identify patients who could most benefit from multidisciplinary approaches to care. The pilot program emphasized providing care in the homes of housebound seniors, which is a less prominent aspect of usual care at the SFHC.

Approximately 6 new patients per month were evaluated during the pilot study. Patients were seen within 5 weeks of initial contact, which compares favourably with the 6-month delay for nonurgent referrals to geriatricians in our region.¹¹

Initially each patient was seen by the RPN and the FP or the team NP. The RPN screened for depression, nutrition, and medication risks to involve appropriate SCCP professionals with care. The FP or NP then provided a more comprehensive assessment, including identification of patient and caregiver goals and preferences. These assessments were done sequentially at the same visit at the SFHC or, for housebound patients, in their homes. Standardized assessments for falls and cognition were conducted, based on Quality Indicators for the Management and Prevention of Falls¹² and the Third Canadian Consensus Conference on the Diagnosis and Treatment of Dementia.¹³

When identified needs exceeded the scope of the FP, NP, or RPN, other SCCP members were accessed. For example, when medication risks were identified, a request for pharmacist assessment was made. For diagnostic clarification or advice with challenging management strategies, a visiting geriatrician was involved. The geriatrician attended regular monthly, case-based team meetings with the SCCP team and other SFHC learners and practitioners involved with care. The geriatrician provided consultation to the team and direct care as deemed necessary by the team. As with initial assessments, visits with any provider, including the geriatrician, could occur at the SFHC or in the patient's home. Team plans were communicated and implemented, and follow-up arrangements were negotiated among the SCCP, the patient's main care team, community care providers, caregivers, and patients. **Figure 1**¹⁴⁻¹⁷ shows patient flow through the pilot SCCP.

This model offers numerous advantages. Coordinating care is easier because it remains within the patient's family practice. It is facilitated by fast, effective communication among SCCP members and the patient's main practitioners through internal electronic messaging embedded within the patient's Web-based electronic medical record (EMR). Shared medication profiles contribute to prescribing safety and rational treatment. Teamwork is enhanced by bringing SCCP members together for case-based team meetings with access to EMRs, promoting uninhibited interactions and shared assignment of care plans.

Another advantage is educational. The expertise of the geriatrician builds capacity within the team. When FPs have exhausted all their own resources, it is

important that they receive team support quickly and easily. It is an ideal learning forum for SFHC practitioners, residents, and other health professional students. Team-based case meetings provide educational opportunities, emphasizing approaches to the "geriatric giants" of dementia, delirium, falls, incontinence, and polypharmacy as they converge with common chronic or degenerative conditions. Group problem solving stimulates creative and expanded options for patients and families, and provides an opportunity to appreciate each profession's scope of practice. Learning opportunities are bi-directional. The geriatrician learns about the challenges facing primary care practitioners when caring for frail elderly patients.

Evaluation

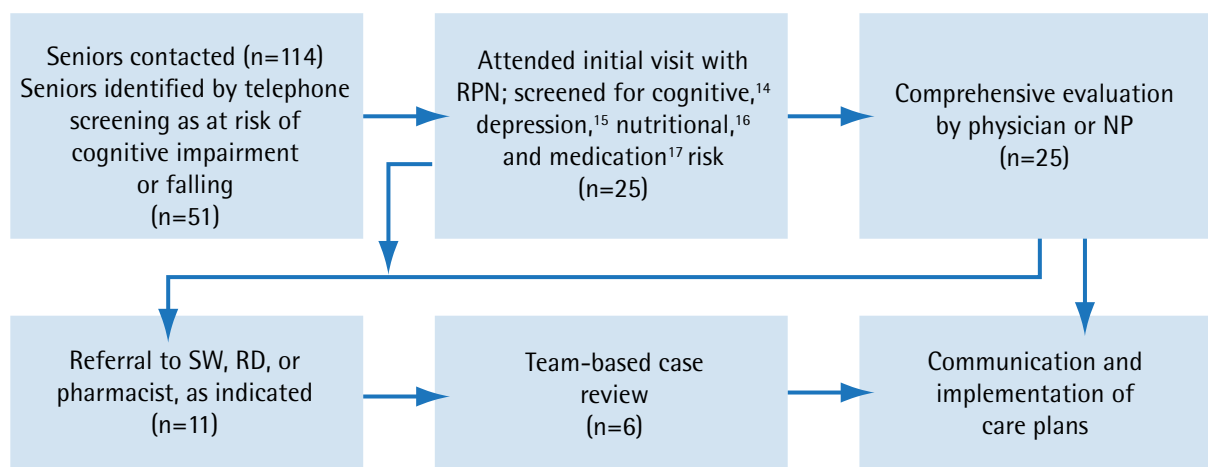
Approval for this study was obtained from the Research Ethics Board of the Hamilton Health Sciences Faculty of Health Sciences.

For the pilot study, seniors older than 75 years of age at SFHC were randomly assigned numbers using a random number generator to be contacted by telephone to evaluate their risk of cognitive impairment and falling. **Table 1** summarizes telephone-screening results.

Seniors identified as at risk by telephone screening were invited for further assessment. Screening continued until 25 seniors were evaluated. **Table 2** summarizes their demographic characteristics, wait times, and nutrition, cognitive, and depression scores.¹⁴⁻¹⁷

Table 3, showing time spent by SCCP members with direct and indirect pilot patient care, demonstrates the prominent role of the NP and the focused role of the geriatrician.

Figure 1. Care path for pilot study patients



NP—nurse practitioner, RD—registered dietitian, RPN—registered practical nurse, SW—social worker.

Table 1. Telephone screening questions to identify seniors at risk: Of 163 calls, contact was established with 114 seniors and 76 completed the telephone screen; of the 51 identified as at risk, 31 accepted the appointment for further review and 25 attended for evaluation.

QUESTION (SCORE)	NO. OF PILOT STUDY PATIENTS COMPLETING TELEPHONE SCREEN	NO. OF PILOT STUDY PATIENTS IDENTIFIED AS AT RISK
Risk of cognitive impairment: • Please name as many 4-legged animals as you can (Score < 11 in 60 s suggestive of cognitive impairment; patients invited to attend clinic for further assessment)	76	31
Risk of falls: • Have you fallen more than once in the past year? • Have you fallen and hurt yourself within the past year? • Are you afraid of falling? (Positive response to any question suggestive of risk of falling; patients invited to attend clinic for further assessment)	76	20

Table 2. Characteristics of patients screened by telephone and recruited for the pilot phase: N = 25 (7 men and 18 women).

CHARACTERISTIC	MEAN (SD)
Age, y	82 (4.6)
Wait time to be seen from initial contact, d	36 (10)
MoCA ¹⁴ cognitive screening score at initial clinic visit (score < 26 suggestive of Alzheimer disease)	20 (6.0)
GDS ¹⁵ depression screening score at initial clinic visit (score > 5 suggestive of depression)	2.8 (3.5)
SCREEN ¹⁶ nutrition screening score at initial clinic visit (score < 54 suggestive of eating or nutritional problem)	53 (4.5)
Medication ¹⁷ screening score at initial clinic visit (score > 3 suggestive of a risk of medication complications)	2 (1.9)

GDS—Geriatric Depression Screening, MoCA—Montreal Cognitive Assessment, SCREEN—Seniors in the Community: Risk Evaluation for Eating and Nutrition.

Table 3. Time spent by patients and SCCP practitioners with direct and indirect care during the pilot phase

PARTICIPANT	TOTAL HOURS	PROPORTION OF CASES INVOLVED WITH CARE	MEAN (SD) HOURS PER CASE
Patients	85.0	NA	2.7 (1.9)
NPs	37.0	70	2.1 (1.6)
FPs	15.0	40	1.4 (0.3)
RPNs	14.7	88	0.7 (0.3)
Pharmacist	9.1	30	1.1 (0.5)
Social worker	10.0	20	2.0 (0.0)
Geriatrician	6.0	25	1.0 (0.1)

NA—not applicable, NP—nurse practitioner, RPN—registered practical nurse, SCCP—Seniors Collaborative Care Program.

Interviews were conducted to obtain opinions about the successes and limitations of the program. All pilot patients were invited to provide feedback approximately 2 weeks after the intervention. Six patients or caregivers consented to interviews. All 5 NPs and all 5 FPs attached to pilot study patients consented to interviews. A combination of Likert ratings and open-ended questions were used to determine satisfaction with the program. Interviews and open-ended responses were audiotaped, transcribed, and evaluated for thematic content. Patients, NPs, and physicians who provided feedback were highly satisfied with the program overall and agreed it was worthwhile for seniors (Table 4).

Participants identified several common themes that made the program workable or that were benefits of involvement. For practitioners, the ease of access

Table 4. Satisfaction of pilot study patients, NPs, RPNs, and FPs with the SCCP

ACCEPTABILITY OF PROGRAM	MEAN (SD) RATING
Patient feedback (n/N = 6/25)	
• Overall satisfaction*	4.4 (0.54)
• How worthwhile is the program for seniors? [†]	4.2 (0.44)
FP feedback (n/N = 5/5)	
• Overall satisfaction*	4.8 (0.44)
• How worthwhile is the program for seniors? [†]	4.8 (0.44)
NP and RPN feedback (n/N = 5/5)	
• Overall satisfaction*	4.9 (0.25)
• How worthwhile is the program for seniors? [†]	5.0 (0.00)

NP—nurse practitioner, RPN—registered practical nurse, SCCP—Seniors Collaborative Care Program.
*Rated on a scale ranging from 1 (not very satisfied) to 5 (very satisfied).
[†]Rated on a scale ranging from 1 (not very worthwhile) to 5 (very worthwhile).

facilitated by short wait times and the flexibility to have services in patients' homes were important. They also identified fast and effective communication among team members as contributing to program success. Several respondents commented on the benefits of multidisciplinary contributions that provided information and support from multiple perspectives.

One of the most important factors identified was the preventive nature of the program, which in some cases included identification and elimination of home fire and falling hazards, food procurement problems, and caregiver exhaustion. Practitioners reported that identification of problems and potential hazards allowed the team to put plans in place quickly to prevent crises. As a result, it is possible that patients might have been able to be maintained at home rather than going into an institution, although this was not measured. Nurses and FPs appreciated the opportunities for SFHC learners, who are involved in all stages of care, to learn about a growing segment of the population for their future work.

Although seniors expressed satisfaction with the program and found it worthwhile (based on Likert ratings), responses to open-ended questions indicated that they did not have sufficient recollection of the program to provide detailed commentary.

Respondents reported confusion with defining roles and responsibilities between SCCP practitioners and the patient's main care team (eg, who responds to telephone calls from patients and caregivers). Roles and expectations are now clarified during initial team meetings.

Table 5. Characteristics of referred patients reviewed by the SCCP since completion of the pilot phase: N = 67 (25 men and 42 women).

CHARACTERISTICS	VALUES
Mean (SD) age, y	81 (7.8)
Reason for referral, %	
• Multimorbidity	41
• Functional decline	25
• Falling	25
• Cognition concerns	51
Mean (SD) wait time, d	32 (22)
Mean (SD) MoCA ¹⁴ cognitive screening score (score < 26 risk of cognitive impairment)	20 (4)
Mean (SD) GDS ¹⁵ depression screening score (score > 5 risk of depression)	4 (3)
Mean (SD) SCREEN ¹⁶ nutrition screening score (score < 54 suggestive of eating or nutritional problem)	49 (6)
Mean (SD) medication ¹⁷ screening score (score > 3 suggestive of risk of medication complications)	3.8 (1.9)

GDS—Geriatric Depression Screening, MoCA—Montreal Cognitive Assessment, SCCP—Seniors Collaborative Care Program, SCREEN—Seniors in the Community: Risk Evaluation for Eating and Nutrition.

Patients are no longer recruited by telephone, as this case-finding method is inefficient. The FPs and other allied providers at the SFHC now identify which seniors they require assistance with and refer them for any issue. Seniors are no longer screened for pilot-study inclusion criteria (risk of falling and cognitive impairment). Since completion of the pilot project, approximately 4 patients per month are now referred and reviewed. **Table 5** summarizes the characteristics of these referred patients, which are similar to those of pilot study patients in terms of age and cognitive scores.¹⁴⁻¹⁷ The pilot study is too limited to make further comparisons between seniors identified by telephone screening and those referred to the program. The average wait time for referred patients is 32 days. As illustrated in **Table 5**,¹⁴⁻¹⁷ these patients are at high risk of medication complications and cognitive impairment, and are primarily referred for "cognition concerns" (51%) and "multimorbidity" (41%).

Discussion

Recruitment by telephone screening in this setting is inefficient. Seniors, particularly those at risk of falling, might have been reluctant to attend the clinic because recruitment was conducted during the winter. In the future, feedback from seniors will be sought immediately after care to avoid challenges with recall and to improve the feedback response rate. The NP role, which includes a case-coordination function, is prominent in the program. The geriatrician's role is focused efficiently to provide team consultation or direct care for 25% of patients. The timeliness, accessibility, and multidisciplinary aspects of the program that were valued by practitioners and patients are aligned with overall program objectives.

Successful collaborative integration, built on foundations of trust, is established through personal relationships that are facilitated by co-locating team members.⁷ Most integrated models do not incorporate the geriatrician at the primary care site,¹⁸⁻²⁰ and communication between primary and secondary caregivers is generally indirect and does not synchronously involve the team and the most-responsible FP. Opportunities for bi-directional understanding between specialists and generalists are limited.

The Geriatric Resources for Assessment and Care of Elders model²¹ involves a geriatrician who makes recommendations that are communicated by the team nurse to the primary care physician during 5-minute face-to-face discussions. Another collaborative care model for seniors with dementia in an FHT integrates the geriatrician by telephone or e-mail for consultation around more complex cases.¹¹ The geriatrician is contacted by the FP team lead, who communicates recommendations through the EMR back to the most-responsible FP.¹¹

In contrast, the SCCP model is distinguished from other models through regular monthly meetings that bring the geriatrician and primary care practitioners together for face-to-face discussion and shared planning. This process fosters relationships and enhances interprofessional and geriatric skills within the team and clinic. Practitioners in our study appreciated the opportunity to participate in this format that cultivates multidisciplinary approaches and provides direct access to the geriatrician.

The small number of respondents limits this study. Further evaluation is required. Other practitioners within the SCCP and perspectives of learners will be sought. Program evaluation and clarification of roles within the team and clinic are ongoing.

Compensation issues often impede integration.²² Geriatricians were not funded through the McMaster FHT during the study period. Applications to the Ontario Ministry of Health and Long-Term Care have resulted in contractual sessional funding, negotiated annually, for visiting geriatricians to the health team.

Conclusion

The interprofessional primary care setting is ideally positioned to deliver integrated, shared care for the frail elderly living in the community. Our model, which incorporates the visiting geriatrician into the primary care setting, highlights the benefits of shared care, which is more closely aligned with the needs of elderly patients. It allows for a short wait time and easy access.

Learners, practitioners, and vulnerable seniors will further benefit from opportunities provided by this service delivery model once roles are more clearly defined and sustainable funding challenges are addressed. A prospective, non-randomized controlled trial is planned to evaluate patient, practitioner, caregiver, and health system outcomes.

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Contributors

Dr Moore, **Patterson**, and **Nair**, **Ms White**, and **Ms House**, contributed to the concept and design of the program. **Mr Kadhim-Saleh** and **Ms Brown** contributed to data gathering and analysis. All authors contributed to the interpretation of the results, preparing the manuscript for submission, and providing final approval for publication.

Competing interests

None declared

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