

Community-Based Health Care for Frail Seniors: Development and Evaluation of a Program

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The delivery of relevant and coordinated health care to community-dwelling frail older adults is challenging. The community-based program described in this article applies a collaborative and flexible approach to the management and coordination of care of frail older adults. Although a feature of the program is its small size, its connection with professionals and services within a comprehensive health care system creates a much larger "virtual team." Effectiveness of care is maintained through ongoing communication with care providers and the development of connections within the larger team.

Key words: frail older adults, geriatric evaluation and management, community-based care

Introduction

The Edmonton Northeast Community Health Centre Seniors' Program is part of the Northeast Community Health Centre (NECHC) in Edmonton, Alberta. NECHC is a community-based health care facility whose mission is to provide primary health care services to the population of Northeast Edmonton, a previously underserved area of the Capital Health region. The Capital Health region is a geographical area that encompasses Edmonton and the surrounding communities (serving a population of approximately one million people). The region is managed by Capital Health, which is responsible for both community- and facility-based care. It has a staff of 29,000 and an annual operating budget of \$2.2 billion.¹

The planners and administration of NECHC (opened in 1999) wanted a sen-

iors' health component. However, because they realized the complexities of this issue, they were willing to have this service evolve rather than be constrained by a predefined program that might ultimately prove impractical.

The NECHC Seniors' Program was started in September of 2000 with a team composed of a full-time nurse practitioner (in geriatrics), a full-time administrative/clinical assistant, and a physician with advanced training in geriatrics (having received Care of the Elderly certification), initially funded for 12 hours a week. The physician funding has gradually been increased to a full-time position. All positions are fully funded by Capital Health. The physician funding is allotted on an hourly rate as opposed to a fee-for-service model. The program is overseen by an NECHC manager.

Evolution of the Program

The program began in September of 2000 with the only expectation being the development of a relevant program for older adults in Northeast Edmonton. The program's initial focus was to establish rapport with community health care providers, including family physicians, home care case managers, recreation managers of senior centres, and representatives for older adults.

Initial meetings were set up to determine the community's expectation of the NECHC Seniors' Program. The nurse practitioner attended the home care biweekly complex patient rounds, at which difficult cases are discussed in a group setting. Attendance at these meetings allowed for the identification of older adults who would most benefit from specialized geriatric services. This process was important in developing working relationships and formalizing a referral process. These meetings, as well as ongoing personal communications, were beneficial for both parties: they gave home care managers the opportunity to recognize the potential benefit of geriatric assessments, and they provided the nurse practitioner with an opportunity to gather insight into the strengths and limitations of the home care system.

The introduction of the program to the physicians in the area was initiated by letters describing the potential benefits of the program. Meetings were set up with clinic office managers to review potential cases and to discuss the referral format.

To introduce the program to the emergency department (ED), the nurse practitioner made daily trips to the ED to review prospective cases with the triage nurse and the ED social worker. The partnership with the ED evolved slowly on a case-by-case basis. The ongoing connection with the ED is the provision of follow-up on referred cases within 2 weeks.^{2,3} Due to a rise in the number of referrals and a lengthening wait list, the physician's time was increased in increments over a 3-year period to that of a full-time position.

Meetings with the representatives from senior centres focused on the per-

ceived needs of the well older adult population. As a result of these meetings, a biweekly clinic was set up within a senior centre. Self-referred individuals were reviewed, and recommendations regarding their health status were made. This clinic operated for approximately 1 year. At evaluation, it was determined that this subpopulation of older adults was not benefiting significantly from this program. They were generally well connected with health care services, and the program was not contributing significantly to their well-being.^{4,5} Due to the questionable benefit of this program and the increasing demands of referrals involving frail older adults, the clinic for well older adults was handed over to the recreation centre's outreach worker. The NECHC Seniors' Program stayed connected on an as-needed basis.

The NECHC Seniors' Program now runs a clinic 5 days a week. Generally, two new patients and several follow-ups are scheduled daily. This allows for the flexibility to accommodate telephone consultations, urgent home visits, and emergency consultations.

In 2004, the program accessed six beds at the Glenrose Rehabilitation Hospital. Rounds on these patients are done daily by the clinic physician and the nurse practitioner prior to attending to clinic patients.

Within the second year of operation, the population the clinic was serving was almost exclusively frail older adults. These patients all received a comprehensive geriatric assessment (CGA), and approximately 44% have been channelled into the geriatric evaluation and management (GEM) stream. This stream involves the direct management of patients for a period approximating 8–12 weeks. When these patients are stabilized, the program's involvement is gradually withdrawn. During the period of direct management, telephone follow-up and coordination of care are carried out by the nurse practitioner and the clinic physician. The time spent in managing their care is calculated into the cost of the clinic by tracking the amount of time spent on each case. This information is

reported to Capital Health accounting. Clinic and home visits are undertaken as necessary.

As a result of the nature of the population being served, significant emphasis has been put on the provision of home visits. This has limited the need for extensive in-house facilities. NECHC has a laboratory and basic diagnostic imaging (radiography and ultrasonography), as well as ED availability.

Database Description

The database for the NECHC Seniors' Program was established using the statistical program SPSS Version 12. Starting in January 2002, data were collected on all new people attending the clinic and were entered by the clinical assistant. The total of 1,023 new people entered during the time frame of January 1, 2002, to August 31, 2006.

Patient Description

The average age of those seen was 82 years. Fifty percent were in the age group of 75–85 years, and 20% were in the age group of 86–90 years. Sixty-three percent of the individuals were women. Fifty-one percent of the patients lived alone, and 79% lived in their own home. Eighty-two percent had some degree of informal support. Fifty-six percent had some degree of home care support. Forty-one percent of patients had three or more chronic health conditions. The most prevalent chronic health conditions were cognitive impairment (40%), cardiac issues (39%), and neurological issues other than cognitive impairment (25%).

A Mini-Mental State Examination⁶ was completed in 91% of patients. The

Table 1: Mini-Mental State Examination Results

Score	Percentage of Patients
0–10	4
11–19	18
20–25	34
26–30	35
Other	7

results are shown in Table 1. Modified Barthel scores, measuring functions of basic activities of daily living,⁷ are presented in Table 2. Lawton scores, measuring functions of instrumental activities of daily living,⁸ are noted in Table 3. Information regarding these scores was obtained from patient and caregiver reports.

Features of the Program Community Basis

NECHC is based on the primary care health care model.⁹ A variety of community-based multidisciplinary services are combined with a 24-hour ED in one building.¹⁰ Our location within the functional milieu of Capital Health situates us suitably for “embeddedness”¹¹ and provides opportunities for collaboration, cooperation, and the facilitation of appropriate linkages—“cobbling”¹² together an appropriate array of services rather than defaulting this task to patients and their caregivers. A community-based focus, by necessity, involves a close working relationship with home care and family physicians.

Table 2: Modified Barthel Scores for Basic Activities of Daily Living

Scores	Grading	Percentage
0–20	Totally dependent	2
21–60	Severely dependent	5
61–90	Moderately dependent	34
91–99	Slightly dependent	25
100	Totally independent	34

Table 3: Lawton Scores for Instrumental Activities of Daily Living

Task	Ability to Perform Task (%)		
	Without Help	With Some Help	Completely Unable
Using the telephone	60	18	22
Transportation	38	36	26
Shopping	29	32	39
Housework	30	21	49
Laundry	29	21	50
Handy work	27	12	61
Taking medications	28	32	40
Finances	33	36	31
Meal preparation	31	25	44

Edmonton has an excellent program of home care provision, and the NECHC Seniors' Program is cognizant of the fact that a large number of non-facility-based "at risk older adults" receive home care services. It is thus natural that a significant effort has been made to establish a collaborative working relationship with this service.^{13,14} This involves a more structured level of communication than is usually available in the typical ad hoc type of relationship between home care and community-based health care personnel. A collaborative working relationship has been achieved through extensive personal contact and, ultimately, mutual effort on difficult cases.

Services such as the NECHC Seniors' Program may be perceived by family physicians as being intrusive and irrelevant. Recognizing this perception, the program has made an effort to provide a relevant and useful service (through GEM) to primary care physicians. Through ongoing efforts, the program is now perceived by most of these physicians as useful.

The capability for the provision of home visits has further allowed the program to broaden its community-based commitment. Fifty-eight percent of all direct patient contacts are done through home visits. Home visits are performed

for a number of reasons, most notably a degree of patient frailty that precludes easy transport to a clinic setting. Other older adults benefiting from this service include those with a lack of informal support and those who have become disconnected from, or disillusioned with, the health care system.

Home visits allow for an opportunity to assess an older adult's living situation and function. As well, the visits can facilitate the establishment of ongoing rapport and the subsequent improved opportunity for patient compliance.^{13,15}

Targeting Frail Older Adults

Frailty in older adults may be defined as a loss of reserve such that the older adults' level of functioning is significantly compromised and their current living situation is jeopardized. Frailty is a continuum, and a frail older adult may, through the establishment of a successful care plan, move away from that designation to one of improved function and relative stability.¹⁶

The frail older adult population has been perceived as being elusive. Ongoing efforts are made to identify this cohort^{11,13,17} to allow for the appropriate delegation of specialized geriatric services. It is noted that frail older adults benefit significantly from involvement with

specialized geriatric services; the well older adult population does not.^{4,5}

The NECHC Seniors' Program uses an open referral system, accepting referrals primarily from home care, family physicians, and ED physicians. With this approach, a group of older adults has been accessed who would qualify, by most definitions, as being frail. Most notably, these are individuals who have had a functional falloff related to a decline in health, cognitive ability, or a significant change in psychosocial circumstance.

The referral system has been developed primarily through communication with home care managers and family physicians in Northeast Edmonton. Connections with family physicians were slower to develop, but the number of referrals from them now approaches that received from home care: home care 40%, family physicians 29%, ED 13%, and others 18%.

On the receipt of referrals, the clinical assistant reviews all referral documentation, which usually includes a brief reason for referral section and pertinent historic and clinical data. Home care referrals include a documentation of the patient's functional status and a description of the level of services provided. Further information is obtained from NetCare¹⁸ Capital Health's electronic health record. The nurse practitioner and physician determine the level of priority for each case.

Case Management and Optimizing Function

Clinic notes from the initial visit, which follow a typical CGA format, contain a prioritized diagnosis-based problem list from which a preliminary care plan is developed. This is used as a basis for ongoing management. The preliminary care plan may range from advocacy for acute care admission to the gentle institution of home care services. Generally efforts are directed at optimizing the management of the older adult's chronic health issues and linking the patient to appropriate programs.

Forty-four percent of patients seen are followed up for an extended period

of management (typically 8–12 weeks). For most of the others, a brief and less structured follow-up is undertaken. Those patients seen in the clinic who have evidence of ongoing cognitive decline are generally reviewed on a 6- to 12-month basis. All active cases are reviewed on a weekly basis by the nurse practitioner and physician to ensure adequate follow-up.

With the acquisition of rehabilitation hospital beds at the Glenrose Hospital, the program has been further able to assist community-living older adults who have functional decline. The Glenrose Hospital is a rehabilitation hospital that is physically and functionally connected to the Royal Alexandra Hospital, a tertiary-level acute care hospital. This connection provides the capability for specialist consultation and for advanced diagnostic imaging. In the Glenrose Hospital, a team approach is used to optimize patients' function.

Flexibility

By its nature, an extensive health care network such as Capital Health must be very structured. This characteristic, although necessary for functional operation, is not necessarily good for the care of frail older adults who present with varied and often unique circumstances. The NECHC Seniors' Program has tried to introduce a degree of flexibility into the care of frail older adults. This requires an extensive amount of advocacy.¹⁹

The team's small size lends itself to this flexibility. Although the core team consists of three individuals, our program has, by virtue of its embeddedness, access to a very large virtual team of health care professionals (physiotherapists, occupational therapists, social workers, and nurses) and programs specific for older adults. One of the program's major functions is to connect people to appropriate services and programs by triaging effectively. Connections can be made appropriately and expertise directed and used efficiently.¹⁹ The capability to perform home visits provides a degree of flexibility: the system adapts to an older adult's needs.^{19–21}

Key Points

Keys to developing a relevant program for frail older adults:

Target appropriate individuals

Collaborate and link with other health care providers

Maintain flexibility—it is important to recognize the uniqueness of each case

Develop options for treatment through connections with geriatric rehabilitation, community supports, and acute care

Respond to problems with appropriate timeliness

The management component of the GEM model provides the program with further options for flexibility, helping to navigate patients through times of crisis with coordinated and adaptable care plans. By attempting to leave appointment slots open for urgent cases, the program strives to be available to those patients who might benefit most from our service. This feature can be particularly useful to home care managers who are providing older adults with a level of care surpassing what the system can normally accommodate. This feature is also useful to family physicians who are struggling with community-dwelling older adults whose function has fallen off precipitously.

Ongoing communication with referral sources postassessment allows for adjustments of care plans. This process involves significant give and take and fosters the development of a spirit of trust and cooperation.

Senior-Friendly Approach

It is recognized that older adults' (and their caregivers') satisfaction with the CGA process significantly influences their degree of compliance with any proposed interventions and care planning.¹⁵ The NECHC Seniors' Program has tried to structure its assessments such that they

are done in a timely, friendly, and not overly formal manner.

The assessments typically last approximately 1.5 hours. A strong effort is made to have them begin on time. In most cases, the visits entail the nurse practitioner and physician spending time with both the patient and caregivers (individually and together). With this format, it is generally found that the caregivers feel heard and that patients feel less overtly scrutinized and have ample opportunity to express their feelings and wishes. Each assessment concludes with a general summing up and discussion with the patient and caregivers regarding possible investigations and therapeutic interventions. The agreed-upon care plan is then shared as promptly as possible with involved community caregivers via consultation letter and also usually by phone follow-up. Consultation letters are generally faxed within 3–5 days following each visit.

The philosophy that the program tries to promote is one of realistic optimism—recognizing an older adult's strengths while at the same time acknowledging weaknesses and deficits. Often, with this information conveyed in a relaxed and nonjudgmental way, some degree of patient and caregiver buy-in

Clinical Pearl

A team oriented management component is essential if a community based geriatric program is to be effective and relevant.

can be achieved. In difficult cases, the team's involvement in direct case management provides continuity of care, which is useful in allaying the anxiety and stress associated with the transfer of care management from one group to another.

Program Outcomes

Telephone follow-up questionnaires were completed by an NECHC staff member who had not been directly involved with patient care. These calls were done by random selection and ultimately included approximately one quarter of all patients seen ($n = 270$). The calls were made within 3 months of each patient's initial visit.

Based on a review of the pertinent literature,^{5,22,23} the question felt most applicable to the program was that pertaining to compliance. Eighty-seven percent of respondents (patients and caregivers) had followed one or more of the team's recommendations.

As an inferred measure of the program's usefulness, it is noted that the rate of referrals continues to increase.

Lessons Learned

Although there may be strong community advocacy for the application of specialized geriatric services to the well older adult population, this group generally does not require or benefit from such a service. Our experience in this regard is in keeping with reports well documented in the literature.^{4,5}

A small and adaptable community-based team can be useful in providing care to non-facility-based frail older adults. By working within an extensive health care system and establishing a network of communication and collaboration, the team can function as a link between the many diverse components of the system. To be useful, this linkage needs to be an ongoing and evolving process and must be carried out on a personal level.

A community-based geriatric team is well situated to assume an advocacy role for frail older adults. This often involves the promotion of individualized and cre-

ative care plans. The advocacy role can be facilitated by the forging of alliances throughout the system. The biggest challenge facing programs that care for frail older adults is a disconnection between community-based care and acute care services. In Capital Health, this issue is improved significantly by NetCare,¹⁸ which allows for information to be shared more effectively.

Possible solutions to this disconnection may include the direct involvement of community-based teams in acute care management, and the development of strong personal connections between the community-based teams and delegated personnel in EDs and on medical units designated for care of older adults.

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