abstract



In light of the aging population trend and the complex needs of the aging population, there is an increasing impetus to develop innovative service delivery models that focus on health promotion and disease prevention and management, are easily accessible for older adults of diverse ethnic backgrounds, are community-oriented, and incorporate an interprofessional team approach.

This article describes the development, implementation, and evaluation of the Seniors Wellness Clinic, an innovative health promotion model of care for older adults focusing on primary and secondary disease prevention and disease management.

Key words: *health services for the aged, multidisciplinary care team, program development, health promotion*

The Seniors Wellness Clinic: An Interprofessional Health Promotion and Disease Prevention Care Model

Lina Medeiros, MSW, *Social Worker, University Health Network - Toronto Western Hospital, Toronto, ON.*

Debbie Kwan, MSc, *Assistant Professor, University of Toronto; Pharmacist, University Health Network - Toronto Western Hospital, Toronto, ON.*

Carol Banez, MAN, *Clinical Nurse Specialist, University Health Network - Toronto Western Hospital, Toronto, ON.*

Beatrise Poroger-Edelstein, MHSc, *Manager of Elder Care, North York General Hospital, Toronto, ON.*

Kitty Mak, BHthSc, *Nurse, University Health Network - Toronto Western Hospital, Toronto, ON.*

Keegan K. Barker, MEd, PhD(c), *University of Toronto, Toronto, ON.*

Rory Agellon, BSc, *Dietitian (Retired), University Health Network - Toronto Western Hospital, Toronto, ON.*

Introduction

Various factors pose significant challenges in the provision of ambulatory health care services to the older adult population. By the year 2021, it is expected that 6.7 million of Canada's population will be 65 years of age or older,[1] and in the United States that number is estimated to be 70 million by 2030.[2] The incidence of chronic disease[3] and disability[4] is associated with increasing age.[3] In the United States, the majority of those over the age of 70 have at least one chronic condition,[3] causing significant implications for the health care system.[5]

Access to quality health care is highly dependant on various determinants of health.[6] For instance, age, ethnicity, and socioeconomic status have been shown to be barriers in taking recommended health actions.[6] These barriers are also occurring in a health care system that shows trends towards decreased average lengths of stay (ALOS) for inpatients. The United States reported a decrease of 2.9 days over 31 years.[7] Similarly, Canadian statistics indicate a decrease of 3.8% between 1995 and 2000.[8] Ultimately this trend can affect the quality of inpatient care and has been shown to lead to increased re-admissions for several conditions following discharge.[9]

Decreased ALOS and rising health care costs[10] have contributed to an increased emphasis on community-based health education programs.[11] Health promotion strategies address patients' health educational needs related to chronic conditions and facilitate a connection between health status and lifestyle change.[12] Evidence illustrates that group education has promoted physical activity for physically underactive seniors,[13] improved knowledge and quality of life, resulted in better symptom control, prevented functional decline, and reduced hospitalizations and utilization of emergency health services in community-dwelling older people with chronic conditions.[14,15] Provision of formalized education programs outside the traditional hospital setting has also

been shown to increase patient knowledge.[16]

The interprofessional team approach focusing on integrated and coordinated care is becoming more prevalent[17] and is more effective in delivering quality patient care compared to approaches that focus on each function and/or specialty.[18] Although the terms interdisciplinary and interprofessional are frequently used interchangeably, they are in fact different. *The Webster's Third New International Dictionary* defines discipline as a field of study, whereas profession is defined as a calling requiring specialized knowledge and often long and intensive preparation.[19] As such, interdisciplinary can be taken to mean different specializations in the same profession.[20] For instance, psychiatry and family medicine are both disciplines in medicine,[20] and nurse practitioner and registered nurse are both disciplines in nursing. In light of the need for greater clarity, the term "interprofessional" has been the preferred term as it refers to different professional groups (i.e., social work, nursing, medicine) working collaboratively.[20] It has been shown that community-based health promotion programs using an interprofessional, collaborative practice model can improve healthy behaviours, self-care disease management, and quality of life measures as well as help maintain the functional independence in individuals reporting a high number of chronic health conditions.[4]

In light of the factors described above, an interprofessional health promotion model of care aiming to promote and support a healthy aging process was developed. The Seniors Wellness Clinic (SWC) focuses on primary and secondary disease prevention and the concept of self-management of chronic diseases. This article describes the development, implementation, and evaluation of the SWC.

Development of the Program

In October 1996, in response to health services restructuring and regionalization, an interprofessional task force was created with the vision of developing and implementing an ambulatory service with the goal of promoting a healthy aging process for older adults living in the surrounding community. In 1996, older adults aged 65 and older comprised 11.7% (approximately 40,000 individuals) of the hospital's catchment area population; of those older adults, 13% were living alone. Approximately 45.4% of residents' mother tongue was not English or French. The most common languages spoken at home were English, Portuguese, Chinese, Italian, Spanish, Vietnamese, Polish, and Greek. The catchment area housed 18% of Toronto's population with less than grade 9 education.[21]

Various initiatives were implemented in establishing the SWC including literature reviews that were conducted to understand the evidence base for programs and programmatic components; telephone interviews and site visits that were carried out to compare facilities offering outpatient geriatric programs to generate benchmarks; needs assessment surveys that were distributed to family physicians and older adults in the community to determine older adults' common health issues, needs and concerns, and perceived barriers to attend health promotion programs; and an extensive community consultation (via focus groups) with community health workers and community health and social agency executive directors was conducted to establish the strengths, weaknesses, opportunities, and barriers to developing and implementing the proposed SWC. Based on the results, the team designed a program that was comprehensive, interprofessional, culturally and linguistically sensitive, and easily accessible to the older adults in the community.

The development of the SWC was grounded on the conceptual frameworks of the primary health care concept[22] and the philosophy of health education/promotion programs.[22] The most common barriers in attending the proposed SWC identified by the older adults were physical limitations, language, and transportation. To address these concerns, the SWC team utilized the primary health care concept[22] of working in partnership with the community through the principle of public participation and intersectoral collaboration. Community partnerships were established through the initiative of the clinical nurse specialist (CNS) in order to make the clinic portable, delivering services to various community centres, agencies, and older adults' residences.

In tune with the philosophy of health education/health promotion programs,[23] the SWC team supported the process of individual and community empowerment by acting as a point of entry to bring older adults together and facilitate supportive interactive relationships among themselves, creating an environment conducive to increasing knowledge, and supporting behaviour modification to maintain health/prevent disease, increasing awareness and facilitating access to resources, supporting older adults in taking personal action/responsibility for their health, expanding older adults' understanding of health through a holistic approach, and improving the continuum of care by developing partnerships with other providers that offer services to older adults within the community.

Description of the Program

Seniors' Wellness Centre is based at the Toronto Western Hospital (TWH), a 260-bed tertiary care hospital that is part of the University Health Network, an umbrella organization comprised of three hospitals. Seniors' Wellness Centre is a community-oriented program targeted to adults 55 years of age and above who have some degree of frailty. Frailty in older persons is defined as having multiple acute or chronic health problems compounded with functional and/or cognitive impairments and the need for supportive care.[24] However, the type of patients that benefit from this program are those that have one or more chronic illnesses affecting their physical and psychosocial health, but who are still able to provide some self-care and are cognitively capable of participating in the group sessions and individual counselling.

The SWC is comprised of an inter-

Table 1: Full Time Equivalence (FTE) and Language Spoken of Team Members

Professional	FTE	Second Language Spoken
Clinical Nurse Specialist	0.6	Filipino
Registered Nurse	0.5	Chinese
Dietitian	0.5	Filipino
Social Worker	0.4	Portuguese
Pharmacist	0.1	Chinese
Physiotherapist	0.6	Russian
Occupational Therapist	0.2	None
Psychologist	0.2	Portuguese and Spanish
Cognitive Behavioural Therapist	*	Portuguese and Spanish
Chiropodist	0.05	Portuguese and Spanish
Secretary	0.5	None
Care of the Elderly Physician	*	None

* By referral only.

professional team (Table 1). All the clinicians affiliated with SWC are full-time employees of the hospital, but also work in other programs. Most of the staff can speak a second language but the hospital interpretation services department provides interpreters when needed.

Implementation of the Program

The SWC delivers its program at the hospital and in community centres, retirement homes, and other senior's residences within the hospital's catchment area. The hospital groups are recruited via individual referrals from family physicians and other health care providers, community centres, and self-referrals. The community worker of the facility in which the program is to be delivered does the recruitment for offsite groups. These participants complete a registration form, which is brought back to the hospital for the secretary to register them as patients of the TWH. The team travels to these offsite locations by taxi and use wheeled-backpacks/suitcases to transport the patient's charts, any necessary teaching aids and medical supplies (such as blood-pressure cuff, glucometer, gloves, etc.). Attendance is taken at every session for both in-house and offsite groups so that visits can be registered in the hospital database system. The program runs once per week for 2 hours over a period of 16 weeks, and group size varies between 10 and 20 participants. Four different programs are run concurrently on separate days. Due to the multicultural nature of the population, each program is language specific (English, Chinese, Portuguese, Vietnamese, Greek, Italian, and Spanish are included). In 2005, the clinic had 1,858 patient visits (one visit = one face-to-face contact per day). As is the case with other hospital outpatient visits in Ontario, attendance in the SWC is covered by the Ontario Health Insurance Plan at no cost to the patient.

The SWC includes the following components: assessment, group education, group exercise, individual counseling and follow-up.

Assessment

The first four sessions of the 16-week program are used to orient patients, collect demographic information, and conduct a comprehensive individual assessment. To allow for consistency of information collected, the SWC developed an interprofessional assessment form, designed so that any health professional could conduct the assessment. This four-page form consists of medical history, nutritional profile, medication data, physical activity, stress management, social assessment, and patient's expressed concerns/goals.

After all patients have been assessed, team rounds are held to review the assessment information and develop a care plan. The care plan identifies which team members need to see a patient individually, any necessary referrals that need to be made within and outside the hospital, and any recommendations for the family physician. Team members also consult with each other informally as needed throughout the program. Team rounds are held again at the end of the 16-week program to prepare the discharge reports for each patient's family physician.

Group Education

Following assessment, each of the weekly 2-hour sessions consists of an interactive discussion during the first hour, delivered by the various team members on a wide range of health topics pertinent to older adults.[24] In the second hour, an exercise class led by a registered physiotherapist takes place (Table 2). The concepts and strategies in teaching are based on principles of adult education.[25] Team members use a variety of interactive approaches and teaching aids, such as games or culturally appropriate food replicas, tailored to suit the learning needs of older adults[26] and their diverse ethnocultural backgrounds. A comprehensive manual containing information and key messages from each of the topics is provided to each patient.

Group Exercise

Patients participate in the exercise class once their physician completes a medical clearance form. The exercise class is performed at low-to-moderate intensity, monitored by taking a pulse prior to warm-up and cool-down exercises. The exercises are tailored to suit individuals as well as the entire group depending on participants' fitness levels and the extent

of their disabilities. Low-to-moderate aerobic exercise is included as it has been found to be effective for older adults in the management of type II diabetes, hypertension, and cardiovascular disease.[27] Resistive/strengthening exercises for upper and lower extremities are included, as these have been found to be effective in osteoarthritis and osteoporosis management for older adults.[27,28] Finally, balance exercises are added as they have been found to be effective in reducing falls among older adults when combined with strengthening and aerobic exercises.[29] Each session is 45 minutes in duration and is comprised of a warm-up (5 minutes), flexibility exercises (5 minutes), chair aerobic exercises (15 minutes), strengthening and balance training (15 minutes), and a cool-down (5 minutes). The majority of exercise is performed in sitting position and involves rhythmic movement of upper and lower extremities. All upper and some lower extremity strengthening is done with the use of elastic exercise bands (TheraBands™). The remaining lower extremity strengthening and balance exercises are performed in a standing position using chairs for support.

Individual Counselling and Follow-up

Ongoing individual counselling to address patient-specific issues is provided during the 16-week program and as needed after the program ends. Six months after the end of the program, a group follow-up is scheduled so that team members can follow-up with the patients they had counselled individually during the program in order to assess progress and address any outstanding and/or new concerns.

Patients also have an individual consultation with the Care of the Elderly Physician if requested by their family physician, and a consultation note with findings and recommendations is sent to the patient's family physician.

Evaluation of the Program

The following are outcome indicators that have been used to evaluate the SWC.

Patient Satisfaction

At the end of each program, patients complete an 11-item questionnaire to evaluate the program. This tool, developed by team members, includes open and closed-ended questions about the different components of the program and what lifestyle changes they already made and/or plan to make. The results from this measure have been predominantly positive. In 2004, 82 patients completed the questionnaire. The following program elements were identified as being helpful: educational sessions (94%); exercise sessions (91%); and individual counselling (79%).

Knowledge Outcome Indicator

To evaluate the effectiveness of the educational sessions, a 12-item pre- and post-program multiple-choice questionnaire

Table 2: Sample Schedule of the 16-Week Program

Week	First Hour	Team Member	Second Hour
1	Introduction to SWC	Any team member	Registration/Individual Assessment*
2	Introduction to Exercise	Physiotherapist	Individual Assessments*
3	Hypertension	Nurse	Individual Assessments*
4	Arthritis	Occupational therapist	Individual Assessments*
5	Healthy Eating	Dietitian	Exercise class
6	Home and Pedestrian Safety	Occupational therapist	Exercise class
7	Stress Management	Psychologist	Exercise class
8	Safe Use of Medication	Pharmacist	Exercise class
9	Power of Attorney and Wills	Social worker	Exercise class
10	Immunization	Nurse	Exercise class
11	Foot Care/Skin Care	Chiropodist	Exercise class
12	Stroke	Occupational therapist & physiotherapist	Exercise class
13	Financial & Community Resources	Social worker	Exercise class
14	Diabetes	Nurse	Exercise class
15	Osteoporosis	Nurse	Exercise class
16	Health information & Resource Centre	Guest speaker from this centre	Program Evaluation & Graduation

* When patients complete their individual assessment they need not stay for subsequent assessment sessions.

Key Points

Challenges posed by the aging population and increasing health care costs lend support to the need for more innovative healthcare delivery models that promote and support a healthy aging process.

Key elements that are crucial for the success of disease prevention and management programs are:

- easy accessibility and community-oriented to overcome the effects of various biosociocultural barriers (e.g. mobility deficits, cost of transportation, cultural beliefs/norms); and
- using an interprofessional team approach particularly in geriatric care due to the complex and chronic care needs of these patients.

was developed to measure change in knowledge. Due to the length of time it took for patients to complete the questionnaire, this measure was implemented for a short period of time. Of eighteen patients who completed the questionnaire, an increase in knowledge was noted: 68% of the questions were answered correctly at baseline compared to 90% at the post-test.

Behavioural Outcome Indicators

From January 2002 to February 2003, the team undertook a pilot study to assess the effectiveness of the exercise component of the program. Patients completed a 6-minute walk test[30] and a self-reported exercise activity questionnaire developed by the team. Both of these measures were administered pre- and post-program. Data for sixty-one patients indicated a significant ($P<0.05$) increase in metres walked from 398.3 (pre) to 425.1 (post). Complete publication of these results is forthcoming. Patients' self-reported exercise activity also significantly ($P<0.05$) increased from 161.8 minutes (pre) to 281.3 minutes (post). The self-reported exercise questionnaire appears to be more sensitive to program-induced changes than the 6-minute walk test. The reliability of the self-reported exercise activity questionnaire was tested from August to September 2004 using a Pearson correlation and was found to be a reliable measure ($r=0.980$, $P=0.000$) to evaluate physical activity among older adults from multicultural backgrounds.

Community Worker Satisfaction

To measure the effectiveness of our community partnerships, a seven-item questionnaire including open and closed-ended questions was developed. At the end of each offsite program, the community worker who assisted with recruitment and management of the group was asked to complete the questionnaire. This evaluation tool was recently implemented therefore the results are from five community partners who all indicated the program filled a gap in existing community services and reported they would use our services again.

Challenges and Lessons Learned

The fact that all team members are part-time in the SWC, despite being full-time hospital employees, has been a challenge. Limited human resources coupled with the high demand of Toronto's socially and economically disadvantaged inner city senior population,[21] means that we must limit the group size and number of programs delivered per year.

Identifying appropriate outcome indicators and measures that are feasible to implement in a multicultural population with low-literacy levels has been another challenge. We discovered that multiple-choice questions are not well understood by our patient population. Consequently, we have developed measures that require only "yes" and "no" responses. In addition, the anecdotal evidence and the aforementioned outcome measures are indicative of short-term outcomes only. A longitudinal study is necessary to evaluate the long-term outcomes of the program, such as whether the program contributes to improving the quality of life of older adults and impacts on the development of long-term health complications, hospital admissions and healthcare costs.

No competing financial interests declared.

Funding sources and related paper presentations: This model of care was presented at the Ontario Gerontology Association, Toronto, Ontario, November 2003, and Registered Nurses Association of Ontario, Toronto, Ontario, October 2003.

Acknowledgements

The authors thank Dr. Shabbir Alibhai, Geriatrician and Senior Scientist at Toronto General Hospital and Debra Bourne, Director of Nursing at Toronto General Hospital for their review of the article and feedback.

References

1. Health Canada. Interdepartmental Committee on Aging and Seniors Issues. Canada's aging population: a report. Ottawa:2002.
2. Services USDoHaH. Fiscal Year 2004 Budget Request. In.
3. Nesse RE. The demographics and economics of chronic disease.[comment]. Health Affairs 2002;Suppl Web Exclusives:W125-6.
4. Nunez DE, Armbruster C, Phillips WT, et al. Community-based senior health promotion program using a collaborative practice model: the Escalante Health Partnerships. Public Health Nursing 2003;20:25–32.
5. Druss BG, Marcus SC, Olfson M, et al. Comparing the national economic burden of five chronic conditions. Health Affairs 2001;20:233–41.
6. Services USDoHaH. Healthy People 2010. 2nd ed. Washington, D.C.: U.S. Government Printing Office; 2000.
7. Statistics DoHC. 2001 National Hospital Discharge Survey. In.
8. Information CIfH. Hospital Days and Average Length of Stay for Canada, Provinces and Territories, 1994/95 to 1999/00. In.
9. Heggestad T, Full N, Heggestad T. Do hospital length of stay and staffing ratio affect elderly patients' risk of readmission? A nation-wide study of Norwegian hospitals. Health Services Research 2002;37:647–65.
10. Canada H. Speaking Notes for Michele M.

Jean Deputy Minister of Health Canada. In.
11. Labrador GoN. Health and Community Services planning for the future. In.
12. Baldwin DM. Disparities in health and health care: focusing efforts to eliminate unequal burdens. Online Journal of Issues in Nursing 2003;8:2.
13. Stewart AL, Verboncoeur CJ, McLellan BY, et al. Physical activity outcomes of CHAMPS II: a physical activity promotion program for older adults. Journals of Gerontology Series A-Biological Sciences & Medical Sciences 2001;56:M465–70.
14. Riemsma RP, Kirwan JR, Taal E, et al. Patient education for adults with rheumatoid arthritis.[update of Cochrane Database Syst Rev. 2002;(3):CD003688; PMID: 12137706]. Cochrane Database of Systematic Reviews 2003(2):CD003688.
15. Renders CM, Valk GD, Griffin S, et al. Interventions to improve the management of diabetes mellitus in primary care, outpatient and community settings. Cochrane Database of Systematic Reviews 2001(1):CD001481.
16. Phelan EA, Williams B, Leveille S, et al. Outcomes of a community-based dissemination of the health enhancement program. J Am Geriatr Soc 2002;50:1519–24.
17. Committee on Quality Health Care in America. Crossing the quality chasm: a new health care system for the 21st century: Washington D.C.: National Academy Press; 2001.
18. Dixon DL. New perspectives on interdisciplinary teams in LTC. Caring for the Ages 2003;4:16–19.
19. Webster's third New International Dictionary. Springfield, MA: Merriam-Webster; 2002
20. Oandadan I, Reeves S. Key elements for interprofessional education. Part 1: The learner, the educator and the learning context. Journal of Interprofessional Care 2005 May;1:21–38
21. Community and Population Health Profile. Toronto: University Health Network; 2001.
22. Anderson E, McFarlane J. The process of community as partner. In: Brogan J, Barishek V, editors. Community As Partner: Theory, and Practice in Nursing. 1st ed. Philadelphia: Lippincott; 1996.
23. Stewart MJ. Primary health care principles. Health promotion with older adults. In: Stewart MJ, editor. Community Nursing: Promoting Canadians' Health. 1st ed. Toronto: W. B. Saunders; 1995.
24. Principles for medical care of older persons. CMAJ 2000;162:1871–4.
25. Knowles MS, Holton E, Swanson RA. The adult learner: the definitive classic in adult education and human resource development. 5th ed. Houston: Gulf Pub. Co.; 1998.
26. Davis LA, Chesbro SB. Integrating health promotion, patient education, and adult education principles with the older adult: a perspective for rehabilitation professionals. J Allied Health 2003;32:106–9.
27. Petrella RJ. Exercise for older patients with chronic disease. Physician and Sportsmedicine 1999;27:79–80.
28. Christmas C, Andersen RA. Exercise and older patients: guidelines for the clinician.[see comment]. J Am Geriatr Soc 2000;48:318–24.
29. Lord SR, Castell S, Corcoran J, et al. The effect of group exercise on physical functioning and falls in frail older people living in retirement villages: a randomized, controlled trial. J Am Geriatr Soc 2003;51:1685–92.
30. Butland RJ, Pang J, Gross ER, et al. Two-, six-, and 12-minute walking tests in respiratory disease. BMJ Clin Res Ed. 1982;284:1607–8.