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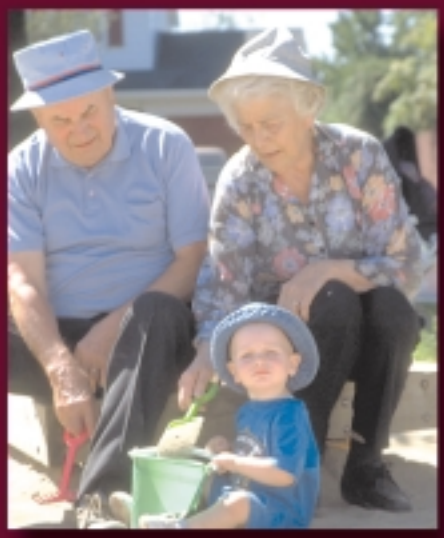

SYNTHESIS SERIES

Seniors' Health

Canada

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SHARING THE LEARNING

The Health Transition Fund

SYNTHESIS SERIES

Seniors' Health

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This report is one in a series of 10 syntheses of HTF project results covering the following topics: home care, pharmaceutical issues, primary health care, integrated service delivery, Aboriginal health, seniors' health, rural health/telehealth, mental health, and children's health. The tenth document is an overall analysis. All are available electronically on the HTF website (**www.hc-sc.gc.ca/htf-fass**), which also contains information on individual HTF projects.

Executive Summary

The Health Transition Fund (HTF), a joint effort between federal, provincial, and territorial governments, was created out of the 1997 federal budget to encourage and support evidence-based decision making in health care reform. Between 1997 and 2001, the HTF funded approximately 140 different pilot projects and/or evaluation studies across Canada. In order to communicate research evidence from the projects to decision-makers, experts were employed to synthesize the key process and outcome learnings in each of nine theme or focus areas: home care, pharmacare, primary care/primary health care, integrated service delivery, children's health, Aboriginal health, seniors' health, rural health/telehealth, and mental health. This document summarizes the key learnings from 25 projects in the seniors' health theme area. It has been prepared by Anne Martin-Matthews, Ph.D., Professor of Family Studies in the School of Social Work and Family Studies at the University of British Columbia.

Health of Seniors in Canada

Among Canada's population of just over 30 million people, 3.7 million (approximately 12 per cent of the population) are over the age of 65. This figure is projected to rise to 5 million (14 per cent of the population) by 2011; by 2025, an estimated 18 per cent of the population will be seniors (Moore & Rosenberg, 1997). The number and proportion of elderly people of advanced age (75 years or older) in the population are increasing rapidly. One of the reasons for the interest in seniors' health issues at the national policy level is the concern that population aging will put pressure on health resources because of the rate at which older individuals use hospitals and other health services (Lassey, Lassey, & Jinks, 1997, p. 73).

However, the issues in seniors' health and in seniors' use of health services as currently constituted are exceedingly complex.

Among older people there is a wide range of individual differences in the incidence of acute and chronic illnesses, in the availability of health care, and in the reaction to declining health conditions. Illness in old age is more often chronic than acute, and our health care system, which typically focuses on short-term, acute hospital care, currently places comparatively little emphasis on helping seniors deal with the chronic conditions of aging, such as heart disease and hypertension, respiratory problems, and arthritis. It is estimated that activity limitations due to chronic health conditions are experienced by approximately 18 per cent of those aged 65 to 79, 22 per cent of those aged 80 to 84 and 40 per cent of those aged 85 years and older.

Elderly people threatened with a decline in, or loss of, independence need a complex combination of social and health care support provided by community-based services, hospitals, or long-term care facilities. These services are often fragmented, with little or no integration between them, with the result that each sector of the system deals with one or more, but not all, of a senior's complex health needs. The person is rarely treated "as a whole."

The 25 Health Transition Fund projects on seniors' health reflect the priority areas of study for researchers in gerontology and geriatrics in Canada (and around the world) and the trends noted by seniors' advocacy groups such as the National Advisory Council on Aging. Much of the research in gerontology and geriatrics reflects the belief amongst clinicians, researchers, and elderly people themselves that the physical declines associated with aging are best dealt with through community services that support independent living, mutual aid (self-help), and health promotion. Thus, 14 (56 per cent) of the

25 HTF projects relating to seniors' health addressed issues of home care. This bears out the relative importance of community care in the provision of services to older persons. Projects supported by the HTF focused on ways to improve the delivery of specific types of services along the continuum of care; at least three of them looked specifically at the way in which home support workers (HSWs) are assigned to cases and paid for their case assignments.

Similarly, the integration of service delivery was the focus of research in 10 (40 per cent) of these projects. These projects had as their goal the elimination or reduction of fragmentation and, in some cases, duplication of services. This was achieved by developing and evaluating mechanisms that bring together and allow for contact between the people providing services to an elderly person. This "integration" might be as focused as the communication between a physician and a pharmacist (ON221), between a mental health professional and a home support worker (PE121), or between various health professionals and discharge planners linked to the emergency department (QC429).

On the other hand, some HTF studies took a broader approach to the study of integration of services. The critical interface between the hospital and the home at the time of discharge was a particular focus of research. For example, projects looked at integrated service delivery at particular junctures, as at the point of discharge from hospital or from the emergency department or in relation to receipt of home care services. Other studies examined such methods of coordination as the development of a standardized assessment tool or a similar communications device. Some of the largest studies supported by the HTF developed or evaluated a range of services within a specific region or, more comprehensively, the full spectrum of service delivery and related funding arrangements within and across one or more health authorities or geographical regions. Each project was based on the recognition of a problem of integration and interface between the various services used by seniors along the continuum of care.

Other projects funded through the HTF dealt with each of the four principal issues of relevance to seniors' use of pharmaceuticals: prescribing practices; use of and compliance with drug treatment regimens; drug interaction problems; and costs. In addition, both HTF projects involving rural seniors targeted specific types of services, one involving rehabilitation and the other palliation.

Health human resource issues pervaded the findings of HTF projects on seniors' health. From the most focused and targeted initiatives within a single service sector to the more elaborate and complex pilot projects and evaluations of broad inter-sectoral and integrative initiatives, researchers consistently noted the importance of health care workers in effecting outcomes. For the most part, these studies indicate that personnel are working at the limits of their capacity, with evidence of high rates of staff turnover, stress, burnout, and general willingness but ultimate inability to participate in endeavours that increase work demands. Projects were most successful when they altered the pattern of working arrangements in a fundamental (and not merely additive) way, or when they provided personnel with new job responsibilities, such as developing a position that was not there before. However, even in these cases, success of the initiative often hinged on the pattern of communication between health care professionals in different sectors and on the clarification of roles and responsibilities. One consistently noted cross-sectoral issue in these projects was the lack of computerized access systems in many jurisdictions.

Policy recommendations in the area of home care for seniors include:

- In the orientation, structure, and organization of services, it is crucial to recognize the two functions of home care for seniors: its emerging role in sub-acute post-hospital care, and its somewhat better known role in the management of elderly persons' chronic care needs.
- There is a need to find and implement alternatives to case-based funding.
- For health care workers involved in providing home care for seniors, it is important to develop new and more flexible case management initiatives, and to train staff in the use of complex assessment tools, in order to promote the goal of continuity of services to seniors.
- The unique characteristics of seniors as clients of home care services must be recognized, and those at high risk for revisits to hospital should be linked to appropriate community-based (home care) and supportive services before they are discharged from hospital.

Policy recommendations concerning integrated service delivery for seniors include:

- The concerns of health care personnel in integrated service delivery must be taken into account when defining roles and responsibilities, with particular consideration paid to the distribution and nature of the workload, and to minimizing the role ambiguity of service providers in related jurisdictions.
- Physicians must be included as active players in system reform. They should be given the training needed to shift their focus from the primacy of the acute care sector to recognize the role and place of community care services.
- There is a need for resources to enhance the integration of service delivery for seniors and to fund integrated service delivery initiatives.

Policy recommendations concerning pharmacare and seniors' health include:

- There is a need for standardized administration (i.e., common drug classification systems and assessment tools).
- Collaboration between physicians and pharmacists must be facilitated and expanded.

Policy recommendations on the health of rural seniors include:

- Rural seniors require access to a spectrum of needed services across distances and in a context that is not service intensive.

Together, these reports of research financed through the HTF underscore the undeniable fact that as the population ages, the health care system must shift from a focus on acute care treatment to recognizing and supporting family care and community care. These research reports provide ample evidence that while the imperative of the continuum of care has "been well captured in the rhetoric of current health care reform, it is not happening in practice" (National Forum on Health, 1996, p. 56).

Preface

In recent years, Canada's health care system has been closely scrutinized with a view to quality improvement and cost-effectiveness. Fiscal pressures and changing demographics are resulting in initiatives to explore how the efficiency of the health care system can be increased while ensuring that high-quality services are affordable and accessible. Within this context, there has been a need for more research-based evidence about which approaches and models of health care have been working and which have not. In response to this requirement for evidence, and on the recommendation of the National Forum on Health, the Health Transition Fund (HTF) was created out of the 1997 federal budget to encourage and support evidence-based decision making in health care reform.

A joint effort between federal, provincial and territorial governments, the HTF funded 141 pilot projects and/or evaluation studies across Canada between 1997 and 2001, for a total cost of $150 million. Of that, $120 million supported provincial and territorial projects and the remaining $30 million funded national-level initiatives. The HTF targeted initiatives in four priority areas: home care, pharmaceutical issues, primary health care, and integrated service delivery. Various other focus areas emerged under the umbrella of the original four themes, including Aboriginal health, rural health/telehealth, seniors' health, mental health, and children's health.

The HTF projects were completed by the spring of 2001. In order to communicate the evidence generated by the projects to decision-makers, experts were employed to synthesize the key process and outcome learnings in each theme area. This document summarizes the key learnings in the seniors' health theme area. It has been prepared by Anne Martin-Matthews, Ph.D., Professor of Family Studies in the School of Social Work and Family Studies at the University of British Columbia.

Unique Nature of the HTF Projects

The HTF was quite different from other organizations that fund health-related research in this country, such as the Canadian Institutes for Health Research and its predecessor the Medical Research Council.

- It was a time-limited fund, which meant that projects had to be conceived, funded, implemented, and evaluated all in four years – a very short time in the context of system reform.
- It was policy-driven; policy-makers were involved in the project selection process, and wanted to focus on some of the outstanding issues in the four theme areas in the hope that results would provide evidence or guidance about future policy and program directions.

In order to encourage projects to address issues and produce results that would be relevant to decision-makers, the HTF developed an evaluation framework consisting of six elements (access, quality, integration, health outcomes, cost-effectiveness, and transferability). Each project was required to have an evaluation plan addressing as many of these elements as were relevant. In addition, all HTF projects were required to include a dissemination plan (for which funding was provided) in order to ensure that results were effectively communicated to those best able to make use of them. In addition to these individual dissemination plans, the HTF Secretariat is implementing a national dissemination strategy, of which these synthesis documents are one element. This emphasis on evaluation (systematic learning from the experience of the pilot initiatives) and dissemination (active sharing of results) was unique on this scale.

Most national projects were selected by an inter-governmental committee following an open call for proposals, while provincial/territorial initiatives were brought forward by each individual jurisdiction for bilateral approval with the federal government. At both levels, applications came not just from academics in universities, or researchers in hospital settings, but also from non-traditional groups such as Aboriginal organizations, community groups, and isolated health regions. Groups that had rarely, if ever, thought in terms of research, evidence, evaluation, and dissemination began doing so, and these developments bode well for improved understanding and collaboration among governments, provider organizations, and researchers. The role of federal, provincial, and territorial governments in the selection process ensured that the projects delved into the issues that were of high concern in each jurisdiction. By the same token, there was considerable scope in the range of project topics, and the body of projects was not (and was never intended to be) a definitive examination of each theme.

This unique focus and selection process imparts specific features to the HTF body of projects. The projects that were funded represent good ideas that were put forward; they do not represent a comprehensive picture of all the issues and potential solutions in each of the theme areas. The relatively short time frame meant that many researchers struggled to complete their work on time and the results are preliminary or incomplete; some pilot projects might take a number of years to truly show whether they made a difference. This must be left to others to carry forward and further investigate. Perhaps the greatest value in the large body of HTF projects comes from the lessons we can learn about change management from the researchers' struggles and challenges as they undertook to implement and evaluate new approaches to longstanding health care issues.

Acknowledgements

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1. Setting the Context

1.1 Socio-Demographic Profile

Among Canada's population of just over 30 million people, 3.7 million (approximately 12 per cent of the population) are over the age of 65. This figure is projected to rise to 5 million (14 per cent of the population) by 2011; by 2025, an estimated 18 per cent of the population will be seniors (Moore & Rosenberg, 1997). This is a considerably lower proportion than in western Europe, the United States, and Japan, as Canada has a relatively young population compared to other advanced industrialized countries.

Current life expectancy at birth in Canada is 75 years for men and 81 years for women (McPherson, 1998). This figure varies across the country, however, with individuals living in large urban areas living one year longer on average than those in smaller cities or in rural areas (Dumas and Bélanger, 1997). At age 65, life expectancy is 16 years for men and 20 years for women; at age 80, men can expect just over seven more years of life, and women just over nine (McPherson, 1998). However, among men and women of Canada's First Nations, life expectancy is seven years less than the overall Canadian average.

While an estimated 7 per cent of the population aged 65 and over lives in some form of long-term care institution (Statistics Canada, 1999), approximately 35 per cent of those aged 85 years and older are resident in long-term care. Another way of looking at these figures is to consider that fully 93 per cent of Canada's senior population live in their own homes; even after the age of 85, at any given time, fully 65 per cent of very old seniors are community-dwelling. However, these figures do vary considerably from one province and territory to another across Canada.

The number and proportion of elderly people of advanced age (75 years or older) in the population are increasing rapidly. One of the reasons for the interest in seniors' health issues at the national policy level is the concern that population aging will put pressure on health resources because of the rate at which older individuals use hospitals and other health services (Lassey, Lassey, & Jinks, 1997) . However, the issues in seniors' health and in seniors' use of health services as currently constituted are exceedingly complex.

1.2 Seniors' Health Profile

Among older people there is a wide range of individual differences in the incidence of acute and chronic illnesses, in the availability of health care, and in the reaction to declining health conditions. Some of these differences reflect former and current lifestyles as well as environmental factors (rural versus urban residence; pollution; amount of exercise; use of alcohol, tobacco, or drugs; nutrition). Others are more directly related to age cohort, to heredity, or to characteristics such as race/ethnicity, gender, education, socio-economic status, marital status, and income (McPherson, 1998).

As a result, there is wide variability in the health status of older persons. Some experience health decrements in their 60s and find themselves spending a lot of time during their later years in the health care system, while others maintain comparatively good health with high levels of physical well-being into their 80s and 90s, and die following a short final illness. In addition to varying need for services, seniors' access to health care will also differ. While many elderly people live in areas where a range of health services is available to them, others (particularly those in rural and remote regions of Canada) do not. Some of those who live in areas with a wide range of services do not access them because of their own health beliefs, their lack of familiarity with large complex bureaucracies and their inability to negotiate them, and the nature and accessibility of the services themselves. Some services

may be readily accessed through referral by a family physician; in other cases, an existing service well suited to a senior's needs may not be known, may be perceived as unavailable, or may be inaccessible for reasons as fundamental as a lack of transportation or language barriers. All these factors will determine how seniors use (or don't use) health care.

Illness in old age is more often chronic than acute. Our health care system typically focuses on short-term, acute hospital care, and it currently places comparatively little emphasis on helping seniors deal with the chronic conditions of aging, such as heart disease and hypertension, respiratory problems, and arthritis (Chappell, 1996). In addition, many seniors report the presence of more than one continuing health problem (co-morbidity), although the presence of one or more chronic conditions does not necessarily result in reduced activity or functional incapacity in the short term. It is estimated that activity limitations due to chronic health conditions are experienced by approximately 18 per cent of those aged 65 to 79, 22 per cent of those aged 80 to 84, and 40 per cent of those aged 85 years and older (Moore & Rosenberg, 1997).

Because of their chronic health conditions and co-morbidities, seniors are prescribed an array of medications. Seniors account for 12 per cent of Canada's population but consume 28 to 40 per cent of prescription drugs (Shapiro & Havens, 2000). On average seniors take between 3.2 and 4.5 prescribed medications per year, and this average increases substantially with age. However, rigorous research has shown that while age-specific use rates of pharmaceuticals in Canada have increased over the past forty years, "closer examination ...reveals that [this] trend is in large measure price inflation masquerading as increasing utilization" (Evans, McGrail, Morgan, Barer, & Hertzman, 2001, p. 167). Extensive Canadian research, particularly by Tamblyn and her colleagues (2000), has emphasized the complexity of the issue of seniors' use of pharmaceuticals. The rising costs of medications, inappropriate prescribing practices, poor adherence to treatments, and lack of effective communication between seniors and physicians or pharmacists have all been identified as factors warranting attention. Pharmaceuticals are the most rapidly rising cost within the health care system, which causes Shapiro and Havens (2000) to note that inappropriate drug use among seniors and problems with compliance, which lead to extra hospital stays and doctors' visits when patients reduce or quit taking their medication, have become important issues. The effects that drug companies' direct-to-consumer advertising have on ambulatory visit costs, on drug costs, and even on the cost of adverse drug effects remain largely unknown, despite their importance (Shapiro & Havens, 2000). This makes the use of pharmaceuticals a particularly salient issue in the context of seniors' health in Canada.

Elderly people threatened with a decline in or loss of independence need a complex combination of social and health care support provided by community-based services, hospitals, or long-term care facilities. These services are often fragmented, with little or no integration between them, with the result that each sector of the system deals with one or more, but not all, of a senior's complex health needs. The person is rarely treated "as a whole." There is considerable evidence that this results in increased use of short- and long-term hospitalizations and long-term care facilities. Not only are these the most costly resources of all, but they also represent the type of care least favoured by seniors themselves (National Advisory Council on Aging, 1989).

"Much of the policy research on health care and aging in Canada, as in most of the industrialized world, has revolved [around the question of] the extent to which elders experience more health problems and/or incur more health costs" (McDaniel & Chappell, 1999, p. 124). We know that seniors are heavy users of the

health care system in Canada (Rosenberg & James, 2000). However, the evidence does not support the popular assumption that seniors' use of health care services is inappropriate or constitutes misuse of the system. The use of such terms as "bed blockers" and the frequent allegations that problems in the health care system are due simply to the growth in the number of seniors are inappropriate and incorrect. They persist despite the well-researched and scientifically rigorous efforts by researchers in health services utilization and aging to document that it is the way in which we deliver services to older persons, and not the health concerns of elderly Canadians themselves, that is the problem (see Evans, et al., 2001; Rosenberg & James, 2000; Shapiro & Havens, 2000). The persistence of these myths associated with the aging of the population has been termed "apocalyptic demography" and has been the focus of much recent discussion and debate amongst the gerontological research community in Canada (Evans, et al., 2001; Gee & Gutman, 2000).

In the face of continued health system restructuring, health care remains focused largely on acute care issues that do not necessarily reflect seniors' characteristics, conditions, and needs. Gerontological research in Canada has consistently found that a "major shortcoming in the formal health care system is its failure to meet the needs of the chronically ill elderly" (Chappell, 1988). For many seniors the issue is not so much the presence (or absence) of one or more chronic illnesses, but rather the extent to which their ability to function is impaired. In recognizing the broad range of factors which may combine to impair or limit functioning, " a broad definition of health is called for. Such a definition would include economic, social, and psychological as well as medical aspects" (Chappell, 1988, p. 78). In this context, it is noteworthy that so many of the projects on seniors' health funded by the HTF were developed with the goal of finding ways to anticipate and respond to the complex needs of an aging population, and to coordinate and integrate the range of services that seniors receive in both community- and hospital-based settings.

No profile of seniors' health would be complete without acknowledging the especially important role of community care, a relatively neglected aspect of Canada's health care system, as fundamental to our society's ability to meet the needs of our aging population. Again, it is no accident that many of the HTF projects reflect this understanding, both in their emphasis on home- and community-based services, and on the link between hospital-based services and the services that seniors receive in their homes after they are discharged from hospital. The data presented in Section 1.1 are critical to this understanding; despite the range of chronic health conditions and functional impairments experienced by many seniors, fully 93 per cent of Canada's senior population live in "the community"; even after the age of 85, fully 65 per cent are community-dwelling at any given time, although many will experience intervals of hospitalization and institutionalization at some point before death. Reflecting this reality, the principal focus of the HTF studies of seniors' health is, as it should be, on enhancing the coordination of and communication between the range of services used by seniors living at home.

2. Overview of the HTF Studies on Seniors' Health

The Health Transition Fund supported 25 projects relating to seniors' health (see Appendix A). These projects totaled $7,357,885 in funding, and ranged from a small $35,000 study of patient and family perspectives of geriatric psychiatry outpatient consultations for elderly depressed patients (QC428) to broad overviews of

hospital and home care for elderly clients within a specified geographical region (SK124, $242,888) to extensive initiatives involving the establishment and initiation of system-wide integrated care models (QC404, $2,798,781).

These projects reflect the priority areas of study for researchers in gerontology and geriatrics in Canada (and around the world) and the trends noted by seniors' advocacy groups such as the National Advisory Council on Aging. Thus, 14 (56 per cent) of the 25 projects relating to seniors' health addressed issues of home care. This bears out the relative importance of community care in the provision of services to older persons, noted in Section 1.2. Similarly, the integration of service delivery was the focus of research in ten (40 per cent) of these projects. The emphasis was on mechanisms for reducing fragmentation and duplication of services used by seniors, and on facilitating the process of "having older individuals, their families and formal service providers work together collaboratively, or 'in partnerships' to provide care for seniors with long-term care needs" (Penning & Keating, 2000, p. 76).

Other research themes, such as the role of pharmacare in seniors' health, rural health, primary care, and mental health are also represented among these reports. However, this synthesis is organized around four principal research themes: home care, integrated service delivery, pharmacare, and rural health. While primary care issues are considered in two of these projects (in one project focused on rural health and in another focused on pharmacare), primary care is not a principal focus of research on seniors' health in and of itself; rather, it is considered to be one element of the spectrum of services to seniors in the context of a system of integrated health services. Therefore, discussion of these reports is included in the synthesis of the integrated service delivery projects. Similarly, while mental health is also considered in two reports, the focus of these studies is on integrated service delivery and thus the synthesis of these small projects is included in that research theme.

In the synthesis of these projects, common issues emerged across these four research themes. In projects focused on home care, integrated service delivery, pharmacare, and rural health, human resource concerns involving staffing, training, remuneration, and workloads repeatedly arose. So too did issues of funding, with specific reference to the costs of services provided not only by the health care system, but also by elderly persons and their families. The pivotal role of physicians as key agents in system reform was evident in projects across all four areas. The need for standardization of assessment tools and protocols was a repeated finding, whether in reference to home care, to integrated service delivery, or to pharmacare.

3. Discussion of Significant/ Relevant Findings

3.1 Home Care for Seniors

The provision of health services to seniors may be conceptualized as a "continuum of care." This continuum includes the full spectrum of services and supports that elderly people require to maintain health and enhance functional abilities, from those provided in the setting of their homes (including self-care and mutual aid,[1] health promotion, and illness and accident prevention), through to chronic and acute care, including sub-acute care and

[1] The World Health Organization (1983) defines self-care in terms of the activities that individuals, families, and communities undertake with the intention of enhancing health, preventing disease, limiting illness, and restoring health. These activities are derived from knowledge and skills from the pool of professional and lay experience, and are undertaken by people on their own behalf, either separately or in collaboration with professionals (as cited in Morrongiello & Gottlieb, 2000). Mutual aid, on the other hand, includes self-help and refers to reciprocal aid that is exchanged either among members of support groups or among individuals in informal helping relationships (Gottlieb, 2000).

rehabilitation, to palliative care. References to the "continuum of care" in the provision of health services to seniors are common in the language of gerontological research and enquiry in Canada, and its extensive consideration in the Health Transition Fund projects reflects the recognition of its importance to seniors' health.

Early home care programs tended to offer medically oriented services and to be a means of shortening hospital stays. They were not viewed as approaches to treating and maintaining people needing chronic or long-term care (typically seniors) in the community. In a review of the history of home care programs, Chappell (1988) notes that during the mid- to late-1970s, home care programs developed, and a broad definition of services also evolved. Home care came to be viewed as a service in its own right rather than as a means of shortening hospital stays. These social services, geared primarily although by no means exclusively to seniors, came to be considered as necessary additions to medical services. The need for coordination with other health services was accepted (Chappell, 1988) and is reflected in the documents of the 1974 Federal-Provincial Working Group on Home Care established by National Health and Welfare.

Today, seniors usually consider home care a necessary component within a continuum of care responsive to their health needs. In international reviews of home care, "a common theme was for services enabling the elderly to remain in their own homes for as long as possible"(Chappell, 1988). However, our formal health care system is organized around physician and institutional services rather than long-term community care, and a challenge to the provision of resources for seniors' home care in Canada is society's general acceptance of hospital and medical services as more important than community-based and supportive services. These latter services are generally viewed as add-ons to an already expensive system (Chappell, 1988).

Despite measurement variability from province to province, which reduces the comparability of the data, it is estimated that provincial expenditures on community care consume only between 2 and 5 per cent of provincial budgets (Health Canada, 1998, as cited in Shapiro & Havens, 2000). Home care is an important element of the partnership and interface between self-care, informal care, and formal care of seniors in the community.[2] In fact, there is considerable gerontological research in Canada which demonstrates that community care programs and their practitioners are "already actively working in partnership with clients and informal caregivers and that increasing the availability of formal resources does not result in the withdrawal of or reduction in self-care or in the amount of informal care rendered"(Shapiro & Havens, 2000, p. 181). Penning and Keating (2000) provide compelling evidence that informal carers (as they are described in much of the European literature) continue to be very involved in caring for seniors who need help in the community. They also show that partnerships already exist between seniors who need help and their informal helpers and formal service providers, and the provision of formal care per se does not encourage informal caregivers to withdraw or reduce their involvement. Instead, these formal services supplement and complement self-care and informal care.

The place of home care in the continuum of care for Canada's seniors is becoming increasingly important in the face of health reform. For example, "the trend toward earlier hospital discharges and the

2 Informal care or informal support is help provided in the home or community by family, friends, neighbours, or volunteers. This kind of assistance may involve offering companionship; assisting with transportation, shopping or home maintenance; or even providing personal care (such as help with bathing or dressing) as health care needs change (McPherson, 1998). Formal support or formal care is paid care provided by trained health care and social care professionals, often following an agency assessment of care needs. Examples include the services provided by home care workers, nurses, physiotherapists, and physicians.

performance of most surgeries on an out-patient basis, is now 80 per cent in Toronto" (Deber & Williams, 1995). This leads to a need not only for home care that addresses the health issues of seniors with chronic health conditions, but also for community home care that provides post-acute care outside hospital (McDaniel & Chappell, 1999, p. 129).

One drawback to early discharge is that by the time new home care clients receive rehabilitation, they have become further debilitated and dependent on the care. It is difficult and expensive for the rehabilitation therapists and the clients to change dependent behaviours. Current rehabilitation services tend to be reactive, with emphasis on treatment of the most evident and pressing problem, rather than proactive and emphasizing long-term changes in health behaviours. However, if rehabilitation goals are set at the time of referral to home care services, clients are more likely to re-establish their independence and less likely to need ongoing services.

This point was illustrated by *The Effects and Expense of an Early Health Promotion/Rehabilitation Intervention in an Elderly Home Care Population* (NA1007), which implemented and evaluated the effectiveness and efficiency of an early, individualized health promotion/rehabilitation intervention by occupational therapists (OTs) and physiotherapists (PTs) for clients who were discharged from an acute care facility and were referred to home care services including homemaking and/or nursing. Therapists promoted behaviours and environmental adaptations that optimized their clients' functional abilities and autonomy. Preliminary analyses of data on 160 of the 201 study participants show that the rehabilitation services have improved clients' functional abilities in daily activities (as measured by the Philadelphia Geriatric Centre Instrumental Activities of Daily Living Scale) compared to the control group, and early results provide support for the benefit of early rehabilitation intervention for older adults. However, these findings could change when the final results are known, based on all study participants.

Much of the research in gerontology and geriatrics reflects the belief amongst clinicians, researchers, and elderly people themselves that the physical declines associated with aging are best dealt with through community services that support independent living, mutual aid or self-help, and health promotion. Several projects supported by the HTF focused on ways to improve the delivery of specific types of services along the continuum of care; at least three of these focused specifically on home care, particularly on the way in which home support workers (HSWs) are assigned to cases and paid for their case assignments.

Cluster Care Pilot Program (BC122) tested a team-based, flex-time approach to home support services for seniors, an alternative to conventional one-to-one case assignments and fixed period visits. The pilot program allocated home support services so that teams of HSWs rather than individual workers served "clusters" of clients residing in high-density seniors housing complexes. The purpose was to ascertain if shorter, more frequent visits would translate into better care and more efficient services and encourage client independence. There were weekly team meetings where cases were reviewed, unstable situations discussed, and active problem-solving and care planning undertaken. The study found that the cluster care approach suited most clients well and was particularly appropriate for those living in high-density residential buildings and receiving a large number of home support hours. A slight increase in costs was offset by high levels of satisfaction for clients, informal caregivers, and formal care providers, as well as the clients' belief that services were accessible (as care providers were visible within the building and clients knew how to reach them when needed) and responsive to their needs (at-risk clients could be monitored more closely with frequent visits, which allowed them to remain at home). The success of this project suggests it could be used in high-density

housing units across the country. These findings are especially relevant in the context of the analysis of administrative data in *An Exploratory Study of the Impact of Home Care on Elderly Clients Over Time* (SK101). This project emphasized the potentially important role of seniors' housing in the continuum of care, although the findings are most valuable in suggesting key issues for further research.

Further insight into alternative ways of funding HSWs and integrating home support services into the broader continuum of care is gained from *Frail Seniors Service Delivery Model Evaluation* (BC123), a six-month experiment with integrated home care to 30 frail seniors. These people received ongoing attention from a project care coordinator with a nursing background and significantly restricted caseload (maximum of 25 very frail elders, where the normal caseload is 150 to 200), as well as having the consistent services of a salaried home support worker whose hours were flexible in response to the evolving needs of each client. Participants also had access to rehabilitation services in excess of the norm, an adult day program (although it was not well used), recreation therapy, and mental health and geriatric outreach teams. Each participant's case was discussed at regular bi-weekly interdisciplinary team conferences, and the salaried home support worker participated as a member of the team.

BC123 showed that the employment of HSWs on salary rather than by the hour gave HSWs more flexibility to base the length of a visit on the client's evolving needs and also gave them more time to participate in case conferences and to interact directly with the clinical staff. Further, the study demonstrated that this kind of funding arrangement, which is typically associated with lower levels of staff turnover, helps to retain HSWs. It is well known that seniors prefer continuity in the form of a familiar service provider rather than a steady stream of new faces, and this was likely especially critical in the context of BC123, as 56 per cent of the seniors in the treatment group had no informal caregiver available. Over a six-month period, the total cost of services for the treatment group was $7,367 per client, compared to $11,279 per client for a comparison group, with no significant differences in health outcomes of clients and caregivers in the two groups. Treatment group clients spent a significantly higher number of days living at home, and were more likely to access community organizations and recreation programs than were the comparison group.

The conclusions of the *Enhanced Case Management Project* (BC124) similarly reinforce the need for a strengthened case management approach and the need for continuity of HSWs. Education and guided practice sessions amongst case managers, home support supervisors, and home support workers in a rural area led to more referrals to community support agencies with an anticipated reduction in dementia-related hospital admissions and in the number of medical and family crises experienced by those caring for someone with dementia.

Many of the home care studies addressed human resources issues. Findings in this area will be summarized in Section 4.0, *but Impact of the Single-Window Approach in CLSCs: Use of Services, Costs and Experience of Workers* (QC101) showed that human resource issues were especially relevant when assessing the success of integration of services along the continuum of care, and it will be discussed here. QC101 was designed to describe and evaluate the impact (on structure and organization of workload and service allocation) and the implementation of a single point of entry system to maintaining aging clients in their homes. Single point of entry had been mandated for local community health centres (known by their French acronym CLSCs, for *centres locaux des services communautaires*) in Montréal in late 1996. Interviews with 93 case managers and a review of 685 patient charts revealed that the single point of entry system was criticized by practitioners because

it increased their workload, giving them more tasks to do, more clients to serve, new mandates to meet, new formalities to follow, and shorter time lines in which to complete these tasks. Nursing staff were particularly distressed by physicians' lack of interest in the single entry system and their unwillingness to supply needed information. The success of new integrated modes for delivering services to seniors clearly hinges on the co-operation of health care professionals in meeting goals and not being unduly burdened in the process.

While health services delivered in the home by community-based workers were the focus of the HTF studies on seniors' health, studies of issues in health services delivery at other points in the continuum of care were also completed. *Hospital and Home Care for the Elderly Client in Saskatoon* (SK124) followed the admissions of 967 patients, 75 years and over, to three Saskatoon hospitals over a nine-month period. The study provides a comprehensive view of the progress of elderly patients through a city hospital system to home care placement and is especially informative about the number of ALC days (11.8 per cent) for seniors. These are days that seniors remained in acute care hospital beds when an alternate level of care (ALC) – typically home care – would have been appropriate. Those with cognitive impairment had significantly more ALC days than those without. The relationship between inappropriate use of hospital days, the role of discharge planning, and access to home support services was especially emphasized in the findings of this study. For example, seniors who were female, over the age of 80, and who had cognitive impairment, baseline disability scores, and home care previous to hospital admission had significantly more ALC days than other patients. As the study notes, if these characteristics are assessed and recognized at the time of admission, appropriate discharge plans can be implemented more effectively and appropriate referrals for home care acted upon.

Another valuable aspect of this study was its inclusion of data on the costs of the post-acute hospital care not only to the health care system, but also to patients and family. The roles of seniors and their families as partners in the continuum of care has been noted; this study, however, was one of the few to recognize and assess the implications of ALC days and discharge without appropriate access to home support services as issues not only for patients but for families as well.

Overall, the 14 projects that examined issues of home care services and seniors' health identified a range of issues, including the orientation, structure, and organization of services; the funding of home care services; staffing and training in home care; the unique characteristics of seniors as clients of home care services; and the resources necessary to enhance the delivery of home care services to seniors. The policy implications of each of these will be discussed in Section 6.1.

3.2 Integrated Service Delivery

Integrated service delivery, single points of access, and seamless, coordinated transition along the continuum of care are all considered to be vital elements in the delivery of a host of services designed to meet seniors' health needs. Two goals of the current health reform agenda in Canada are the reduction of duplication and fragmentation of services (McWilliam, Diehl-Jones, Jutai, & Tadrassi, 2000). The proliferation of individual preventive, health promotion, and other programs makes it difficult for seniors to know which program to access and which program would best serve their needs.

Specific examples of this confusion and the associated lack of efficient and effective use of services are conveyed in HTF reports. The research projects addressing issues of integrated service delivery had as their goal the elimination or reduction of fragmentation and, in some cases, of service duplication. This was achieved by developing and evaluating

mechanisms that bring together the people providing services to an elderly person. This integration might be as focused as the communication between a physician and a pharmacist (ON221), between a mental health professional and a home support worker (PE121), or between various health professionals and discharge planners linked to the emergency department (QC429).

Other projects focused on integrated service delivery at particular junctures, as at the point of discharge from hospital or from the emergency department or in relation to receipt of home care services. The critical interface between the hospital and the home at the time of discharge was a particular focus of research. For example, *Impact of an Emergency Room Discharge Coordinator on the Successful Discharge of Elderly Patients* (QC429) created the position of nurse discharge coordinator to coordinate the discharge of elderly patients from the emergency department either to their own homes or to seniors' residences. This study involved a specialized nurse intervention model with high-risk patients. Seniors are typically discharged with complex treatment plans and new or changed prescriptions; usually discharge is the responsibility of the acute care emergency department (ED) team and involves no follow-up to assess how the community-based treatment is proceeding or what problems may be emerging. In this project, the nurse discharge coordinator kept in contact following discharge, and there was a dedicated phone line that allowed patients to contact the nurse directly to speak about concerns in the week following discharge. The position was shared by a team of three nurses, so the discharge coordinator was available in the evenings and on the weekends. The report described these nurse discharge coordinators as "the constant that followed the patient from admission to discharge."

There were significant differences in the number of unscheduled return visits to the hospital, which decreased by 27 per cent at one week following discharge, with a 19 per cent reduction at two weeks. Patient compliance with new medications and patient well-being were higher at the end of one week for those maintaining contact with the discharge coordinator. These differences were found despite more frailty among the seniors in the intervention group. Higher levels of satisfaction among these depressed and very sick patients suggest the positive impact of more attention provided by the discharge nurse. The study also found some evidence that physicians were willing to discharge elderly patients more quickly if they knew that the nurse would follow up within 24 hours. Overall, this study demonstrates the value of ongoing communication between health care professionals and seniors in the transition from acute care to home care, both for seniors, in terms of their well-being, and also for the system in terms of the prevention of return visits to hospital. This study identified the following factors as fundamental aspects of successful discharge planning in the transition from hospital to home: taking adequate time to assess and address the needs of the patient/ family unit; building close and trusting ties with community agencies; and giving patients the ability to phone to discuss problems or concerns.

Intervention at point of discharge may not always reduce the rate of return visits to the ED, although other beneficial outcomes can be demonstrated. *Outcomes Screening and Intervention* (QC405) was based on the perception that seniors who visit the ED are at high risk of functional decline and other adverse outcomes. There are many documented deficiencies in ED care of this high-risk population, including failure to recognize problems that could benefit from more careful assessment (either in the ED or another setting), failure to refer to appropriate community services, and failure to communicate to the primary physician in a timely fashion the problems identified and interventions implemented at the ED visit. The purpose of QC405 was to determine whether a brief two-stage nursing ED intervention

that attempts to correct these problems would improve the continuity of care of seniors from the ED to the community and prevent some of the adverse outcomes that follow an ED visit. The two-stage intervention consisted of the following steps. First, a previously developed and tested screening tool was administered to ED patients, aged 65 and over, who were expected to be released from the ED. Those at increased risk were referred to an intervention nurse. Then the same patients underwent a brief, standardized, geriatric nursing assessment. After completing the assessment, the intervention nurses consulted with hospital ED and geriatric staff and made referrals, as needed, to community support agencies, the primary physician, the geriatric outpatient clinic, or other community services.

In comparison with QC429, which had a shorter time frame and outcomes focused more on seniors' satisfaction and well-being, compliance with medications, and rate of return visits to the ED, QC405 had a longer time frame in which to assess outcome. The intervention significantly reduced the rate of functional decline during the four months after the ED visit. This beneficial outcome was associated with three improvements in the care of patients. First, there was systematic detection in the ED of problems that may lead to functional decline, and systematic transfer of this information to the primary physician, which led to a more appropriate or focused approach. Second, there was more rapid contact with the primary physician, especially for patients with an ongoing relationship with this physician. Third, there was earlier provision of home care services, particularly for patients not previously known to the local community health centre. The intervention produced no increase in overall societal costs, considering public and private costs incurred either at the ED visit or during the four months after.

While these projects focused on the role of health personnel at discharge and on the interface between hospital and home, some HTF studies focused on other methods of coordination. In some cases the mechanism developed for addressing fragmentation and duplication was as deceptively simple as the development of a standardized assessment tool (NA122) or other similar communications device (SK424). *Safety of Persons Suffering From Dementia and Living at Home* (NA122) developed and validated a tool, the Safety Assessment Scale (SAS), to collect clinical data useful to the case management of elderly patients with dementia. It was developed as a questionnaire addressed to health care practitioners and was designed to identify and quantify potential behavioural risks for these patients. While the validity and reliability of the tool were established, the assessment of the utility and practicality of the tool proved problematic. Very low compliance among health care professionals in completing the instrument reflected the inherent problems in coordination activities when staff are simply asked to increase their work loads and to take on additional tasks. Initiatives such as QC429 and QC405, which strategically provide for additional staff with specified responsibilities, are more successful than those targeted to all staff without evidence of expected benefit.

Other studies focused on integration of services to seniors around specific substantive and treatment issues, such as *Integrated Mental Health Response* (PE121) or *Geriatric Psychiatry Outpatient Consultation* (QC428). QC428 focused on the evaluation of psychiatric consultation involving seniors who have been referred for depression or other common psychogeriatric complaints such as anxiety or cognitive deficits. The goal of the project was to examine the consultation process from the perspectives of the patient and family, the referring physician, and the psychiatric consultant. The results, based on data from 149 elderly patients, emphasize the many obstacles that impede the overall process: unclear

patient expectations; low concordance between referring and consulting physicians about the reason for referral; and difficulty in completing follow-up with the referring physicians (60 of 141 follow-ups were never completed by physicians). This study concludes that the nature of the communication (or lack thereof) between health care professionals is fundamental to success or failure in achieving the goal of adequate and appropriate mental health care. Human resource issues also limit satisfaction for patients: the lack of depth in their relationship with the psychiatric consultant and the short time for consultation were particularly important factors.

Some of the largest studies supported by the HTF took a system-wide approach to the study of integration of services. These studies developed and/or evaluated a range of services within a specific region (QC403 and QC123) or, more comprehensively, the full spectrum of service delivery and related funding arrangements within and across one or more health authorities or regions. For example, the SIPA project's (QC404) ambitious objective was to develop and test a complex, system-wide integrated service delivery model for an entire geographical area and was atypical in that it addressed issues of integrated financing arrangements (which themselves are frequently a barrier to integrated service delivery). Each project was based on the recognition of a problem of integration and interface between the host of services used by seniors along the continuum of care.

Geronto-Geriatric Services Coordination Mechanism of the Bois-Francs Region (QC403) implemented a service coordination mechanism that integrated the whole range of geronto-geriatric services in the region, from health promotion and illness prevention to diagnosis, treatment, rehabilitation, home support, lodging, and palliative care. Existing methods of remuneration and existing organizational structures (where administrative, legal, and financial systems are organized on the basis of separate jurisdictions) were retained. The project was designed to determine the impact of this coordination model on elderly persons experiencing loss of autonomy and on their support network up to 36 months after the implementation of the project; to track the impact of the model on the use of health services and social services; and to document the principal functions of a service coordination mechanism. Unlike most HTF projects, which had a six-month to one-year observation period for pilot projects, this study covered a three-year period and involved a quasi-experimental design, with measures taken prior to implementation of the model and at one, two, and three years thereafter in the region and in a control area which was not part of the pilot project. The sample included 976 clients who had an active case manager assigned to them at the time of data collection.

The results suggest that the implementation of the service coordination mechanism was associated with some modest observable outcomes, such as a decrease in institutionalization and in waiting lists; no effect on the mortality rate; a decrease of burden on support persons; better perceived services; and improvement in global satisfaction at test intervals.

The companion study, *Development and Implementation of a Cost System for Home Care and Home Services in Connection with the Demonstration Project for an Integrated Services Network in the Bois-Francs* (QC123), addressed the question of cost of the new integrated model of health care delivery. The project examined the complexity of determining what it actually costs to provide care to an individual who receives treatment and services from many sources. These findings are relevant for other projects as well, such as QC429, which could not estimate relative costs because of the way the data were collected. QC123 developed and analyzed a system of cost analysis to evaluate the results of coordinating services to frail elderly persons. A comprehensive list of costs were calculated, including costs of the geriatric short-term stay unit, intensive

care, nursing care, surgery, day surgery, long-term care, day hospitals services, day centres, medical services, prescription costs, home care services, and private costs relating to home care services. Costs were compared for 272 people in the experimental group in the region and 210 in a control group in a region rigorously matched in characteristics. QC123 concluded that the coordination of services is economically viable and brings significant benefits to patients. The study found that some costs were higher in the control group, while others were higher in the intervention group. One caveat, which is important in the context of the partnership between informal and formal care providers in the continuum of care to seniors, is that information as to home care costs assumed by seniors and their families was not available at the time the report on QC123 was written.

The demonstration project *Un Système de services Intégrés pour Personnnes Âgées en perte d'autonomie* (QC404), known by its French acronym SIPA, was the most comprehensive, ambitious, and complex of the research projects relating to integrated service delivery. It was designed to test the feasibility and cost effectiveness of an integrated model of organizing, financing, and delivering services for frail elderly persons. Two local health authorities or districts (CLSCs) in Montréal implemented the system with the involvement of interdisciplinary teams that coordinated all medical and social services, both primary and secondary, including health promotion, rehabilitation services, and supply of medications and technical aids. Elderly people suffering from functional impairment were recruited and randomly assigned to one of two groups, one receiving the SIPA services and the other (a control group) receiving the regular CLSC program. The project involved a 24-hour-a-day, 7-days-a-week on-call service that could deliver a combination of social and health care services whatever the location; collaboration and coordination between institutions; development of partnerships between physicians and institutions; an increased budget for community intervention; and promotion within the SIPA team of a broad financial perspective to consider the cost of all social and health care services, whatever the institution or setting involved.

The findings indicate that patients and caregivers in the SIPA group perceive a higher quality of services and a greater sense of security than do those in the control group. The speed of response in emergency situations, the prompt follow-up, the 24-hour on-call service, and the ability to have clinical procedures (i.e., blood samples, blood pressure, etc.) done in their own home are all service elements especially valuable to an at-risk population of seniors.

Among the SIPA group there was significantly lower use of hospital resources (fewer people were awaiting short-term hospitalization and the length of stay in emergency departments was shorter) and less likelihood of being institutionalized during the demonstration project period. Nevertheless, at the time the report was written, overall costs of care were slightly higher for the SIPA group; during the time interval of the study, the reduced use of hospital services was not enough to compensate for the increased use of community services. (This finding contrasts with that of BC123, a smaller, more targeted study in a community with a different socio-demographic profile, which was able to demonstrate shorter-term cost savings). However, as the SIPA report suggests, this finding may change as the cost of long-term care is factored in over a longer period of time (extending beyond the study period). Despite the fact that some of the outcomes of this rigorous, complex project are as yet unknown, the substitution of community services for institutional services does appear both economically viable and appropriate to meeting seniors' needs. The success of SIPA has resulted in the receipt of funding from other sources to continue beyond the end of the HTF support, and the Montréal regional health board has recently decided to begin implementing networks of integrated services for the frail elderly population, based on the SIPA model.

As valuable as the outcome data from the SIPA project are the lessons learned about the process of implementing a system-wide integrated care model within, essentially, two health authorities in a large metropolitan area. Even though two years had gone into planning the initiative before the funding was obtained, and although planning continued for well over a year before the project became operational, many difficulties and delays plagued implementation. The report contributes to the process of health reform in Canada by identifying obstacles to effective management of the project, particularly the difficulty integrating physicians in private practice to the SIPA teams (although many were gradually integrated in the process) and the rigid provincial or local collective labour agreements that complicated the recruitment process to the clinical SIPA teams. The instability of human resources, discussed more fully in Section 4, was a factor here.

In various studies conducted for the HTF, the issue of tools for clinical assessment and administrative follow-up were an issue, and SIPA is no exception. The tools created specifically for SIPA include inter-disciplinary intervention protocols, a guide for contacting private practice doctors, a grid for integrated intervention plans and integrated service plans, and a tool to monitor case discussions and processes of critical services management.

Together, the 10 projects that examined integrated service delivery for seniors identified a range of issues, including the roles of health care personnel in integrated service delivery systems, the role of physicians as key agents in system reform, the resources needed to enhance the integration of service delivery, and the funding of integrated service delivery initiatives. The policy implications of each of these will be discussed in Section 6.2.

3.3 Pharmaceutical Use Among Seniors

There are four principal issues of relevance to seniors' use of pharmaceuticals: prescribing practices; use of and compliance with drug treatment regimens; drug interaction problems; and costs. Substantial improvements in the use of prescription drugs would enhance the benefits of therapy and minimize adverse effects, particularly for seniors. As Tamblyn and Perrault (2000) have noted, increasing expenditures for prescription drugs have placed seniors in the spotlight of health reforms because they are heavy users of prescription drugs. A variety of problems has been documented, including the overuse and underuse of drug therapy, prescribing errors, treatment non-compliance, and cost-ineffective prescribing.

Tamblyn and Perrault (2000) recommend an integration of key policies and interventions into a comprehensive solution for optimal drug use. Recommendations specifically relevant to seniors' health include regulations requiring adequate drug testing in seniors for drug approval and a Consumer Health Institute to provide a central objective resource for patient information and decision support systems. While HTF projects did not deal with these particular issues, they did focus on issues of prescribing practices, compliance with drug treatment regimens, and mechanisms for minimizing drug interaction problems.

Interprovincial Comparison of Medication Use in Pharmacare: Anti-Infective Drugs in Seniors and the General Population (NA228) used the World Health Organization drug classification system and the defined daily dose (DDD) to compare the use of anti-infective drugs in Nova Scotia, Manitoba, and Saskatchewan. The project found considerable interprovincial variation in prescribing practices for these medications and was able to determine where the majority of drugs are prescribed (through home, long-term,

hospital, or primary care). Given that other HTF studies of seniors' health noted the complications of hospital discharge in relation to the changes in medication use that often accompany discharge, these findings are potentially of import in monitoring the change in use of drugs from hospitals to primary care or home care. Researchers such as Evans, et al. (2001) have analyzed the rising costs of highly expensive drugs that provide relatively low value for money (or provide no more benefit – and sometimes less – than less expensive medications). The DDD system enables researchers to evaluate such trends and provides empirical evidence for best practice.

The issue of the seniors' drug costs was the focus of *Do Drug Plans Matter? Effects of Drug Plan Eligibility on Drug Utilization Among the Elderly, Social Assistance Recipients, and the General Population* (NA227), which used data from two population health surveys in ten provinces to predict the influence a national pharmacare program would have on the use of prescription drugs, physician services, and the health status of Canadians. The project identified variations in the extent of prescription drug coverage among the general population and differences in how provinces share costs with seniors and social assistance recipients. The study found that variations in the extent of drug coverage do not appear to affect drug-use patterns among most Canadians; however, a striking finding in terms of seniors' health was the wide provincial variation in the amounts that seniors are charged in co-payment arrangements for drug coverage. Based on data from the 1997-1998 National Population Health Survey, the mean marginal drug costs for seniors ranged from a low of $4.50 and $4.65 in Ontario and Quebec, respectively, to a high of $25.56 and $26.62 in Manitoba and Saskatchewan, respectively. The costs in these two provinces are close to double that in Prince Edward Island, the province with the next highest mean cost.

Some research suggests that drug interaction problems account for 10 to 31 per cent of hospital admissions. *Randomized Trial Evaluating Expanded Role of Pharmacists in Seniors Covered by a Provincial Drug Plan in Ontario – Seniors Medication Assessment Research Trial* (SMART) (ON221) was designed to address the issue of drug interaction problems amongst seniors. It involved 889 senior patients, each using five or more medications. Fully 88 per cent of the patients were found to have at least one drug-related problem, most typically requiring a drug for an indication and not receiving one. Pharmacists had access to the patient's full medication profile through access to their charts in the physician's office and through interviews with the seniors themselves. Physicians agreed to implement 84 per cent of the recommendations they received from the pharmacists, and within five months, 57 per cent of those changes had been implemented successfully. The qualitative interviews confirmed that physicians appreciated having a support system to balance complex drug regimens required for maintaining the functional health status of older patients with multiple morbidities. This pilot project improved collaboration between two health care providers (family physicians and pharmacists) who have traditionally worked in isolation.

The six HTF projects examining the relationship between seniors' health and pharmaceuticals identified a range of issues that apply to the population as a whole rather than specifically to seniors' health. These include the need for drug classification systems, training of physicians, and collaboration among health care professionals. The policy implications of each of these issues will be discussed in Section 6.3.

3.4 Seniors' Health in Rural Contexts

There is a limited body of knowledge in gerontology in Canada about the circumstances of seniors in rural areas – their concentration and congregation (Joseph and Martin Matthews, 1994) and patterns of access to services (Keating, 1991). In many rural areas of Canada, seniors are highly concentrated, so that in some communities, especially small towns of between 1,000 and 2,500 persons, as much as 25 per cent of the population is over the age of 65. This poses particular challenges to the delivery of appropriate services, especially in areas where harsh winter conditions and limited access to transportation are factors. Shapiro and Havens (2000, p. 179) note the need for protection of the health care needs of seniors, especially those not within easy reach of urban centres. There is also literature that indicates vast rural regions in the northern and central parts of the country have difficulty attracting sufficient providers to adequately provide ambulatory care and operate hospitals (Lassey, Lassey, & Jinks, 1997).

In contrast to the complexities of projects designed to link the many services in urban areas, both HTF projects on rural seniors targeted specific types of services, one involving rehabilitation and the other palliation. *Enhanced Rural Rehabilitation* (SK326) set out to improve rehabilitation services in the rural Assiniboine Health District by using three full-time physiotherapy assistants to work along with two full-time physiotherapists. Both the number of patients receiving treatment and the frequency of treatments increased, while the length of time patients spent in hospital decreased. However, patients waited longer for physiotherapy services, a finding in direct contrast to the expected results. This was attributed to an increased number of physician referrals, likely due to their perception that more patients would be treated because of the increase in physiotherapy staff.

An Evaluation of Lakeland Regional Health Authority Integrated Community-Based Palliative Care Program (AB301-17), which evaluated a pilot project based in a rural area of east-central Alberta, resulted in the development of a set of regional policies and practice guidelines for the delivery of palliative care services, development of a regional service delivery model, and establishment of palliative care consultation teams. The percentage of in-home deaths in the pilot area increased from about 8 per cent before the program started to almost 30 per cent during and after the program.

Both of these projects illustrate the impact of even modest increments in availability of services in areas which are largely service poor and especially lacking in specialized health services such as rehabilitation and palliation. They also point to the important role of para-professionals and specially trained community volunteers in supplementing the complement of health care professionals in rural and remote communities. Rather than trying to replicate urban-based staffing profiles and ratios in the context of remote and rural communities, the alternative approaches demonstrated in these projects represent important initiatives. Given that rural health has been identified as a key priority of the Government of Canada's Rural Action Plan (April 2001), the health of rural seniors and the sustainability of the rural and remote communities in which they live have highly relevant policy implications, which are broadly addressed in Section 6.4.

4. Health Human Resources Implications in Seniors' Health

Health human resource issues pervaded the findings of HTF projects on seniors' health. From the most focused and targeted initiatives within a single service sector to the more elaborate and complex pilot projects and evaluations of broad inter-sectoral and integrative initiatives, researchers consistently noted the importance of health care workers in effecting outcomes. For the most part, these studies convey an impression of personnel working at the limits of their capacity, with evidence of high rates of staff turnover, stress, burnout, and general willingness but ultimate inability to participate in endeavours that increase the work demands already on them. Pilot projects were most successful when they altered the pattern of working arrangements in a substantial and not merely additive way (BC 122) or provided personnel with new job responsibilities, such as developing a position that was not there before (QC404 and QC429). However, even in these cases, success of the initiative often hinged on the pattern of communication between health care professionals in different sectors and on the clarification of roles and responsibilities.

Prominent among health human resources issues was workload. It is noteworthy that two of the studies that implemented system-wide initiatives both included caseload reduction as part of the strategy. In SIPA (QC404), case managers were responsible for 35 to 45 patients, a significant reduction from their normal load, while in BC123, case managers were assigned a maximum of 25 very frail elders, where the normal caseload is 150 to 200.

Some studies revealed workload problems. In *Impact of the single-window approach in CLSCs: Use of services, costs and experience of workers* (QC101), the single point of entry system for integrated services was criticized by practitioners because it increased their workload, giving them more tasks to do, more clients to serve, new mandates to meet, new formalities to follow, and shorter time lines in which to complete these tasks. Nursing staff were particularly distressed by physicians' lack of interest in the single entry system and their unwillingness to supply needed information. The success of new integrated modes of delivery of services to seniors clearly hinges on the cooperation of health care professionals in meeting goals and not being unduly burdened in the process. *Geronto-Geriatric Services Coordination Mechanism of the Bois-Francs Region* (QC403) illustrated how stakeholders' attitudes and resistance to change acted as barriers to coordination and to the implementation of a project. The SIPA report (QC404) recommended better definition of the roles and responsibilities of the attending physician in his or her connection with the case manager and the inter-disciplinary team to address some of these problems.

Other human resource issues emerged in the areas of staffing, scheduling, payment systems, and turnover. The HTF studies noted the role of union regulations and their place in the process of system reform; the instability of human resources in terms of staff turnover and burnout; and the distribution and nature of workload. On the service side, when large numbers of providers are connected to some cases it can make it difficult to "keep everyone in the loop" both in terms of staying informed and having input. This problem is compounded by frequent staff turnover.

While these health human resource issues have general relevance to the population, they are especially important when workers are providing services to seniors, especially the more frail and confused. The potential benefits of the most integrated system of health care delivery are seriously challenged when seniors are faced with a parade of ever-changing providers of those services – new faces, new names, new personalities and work styles to deal with –

especially when these personnel are providing the most intimate personal care within the most private of spheres, one's own home.

A related human resource issue, but also one with cross-sectoral implications, is the need, demonstrated in so many of these studies, for standardization of assessment tools across services and agencies, and the imperative for integration of information systems within jurisdictions if integration is to work on any level.

The resources and training provided to personnel are also important; for example, the appropriate training of staff in the use of complex assessment tools was key to many studies. Further, much of the success of QC429 was contingent upon the integration of the emergency room discharge coordinator into the emergency department team (the same holds true for BC124), and facilitating his or her communication with community agencies by providing a dedicated workplace, phone, computer, and access to appropriate risk assessment tools.

In addition, the role and function of case management in home care services for seniors emerged as a particular concern in these studies. The necessity to define roles and responsibilities, especially for such key players in integrated services as case managers and attending physicians, was especially evident in pilot and demonstration projects designed to implement and assess new and integrated service delivery models.

The role of the family physician was the most prominent of the health human resource issues. This person is so pivotal a link between seniors and the plethora of community- and hospital-based services that his or her willingness to become involved in and remain involved in projects was often the key to their feasibility and outcome. Even complex, system-wide initiatives like SIPA were very much influenced by their ability to involve seniors' family physicians in the initiative. SIPA's companion studies QC403 and QC123 also noted that the presence, participation, and continuity of follow-up of the family physicians was an essential condition for the success of the new model being implemented and tested. Targeted studies of services, such as QC428, which focused on the process by which family physicians referred seniors to specialist (geriatric psychiatry) services, also found the underlying problem to be the unavailability of geriatric psychiatrists and, when they are available, the lack of communication between family physicians and these specialists.

5. Cross-Sectoral Implications in Seniors' Health

While the health human service implications loomed large in these studies, the potential cross-sectoral implications were less prominent. Only one study, *Cluster Care Pilot Program* (BC122), acknowledged the importance of housing and environmental issues in the delivery of home care services to seniors. Specifically, the design of the house and density and location of the residential environment were deemed important in relation to the organization, structure, and financing of home care services to elderly persons. *An Exploratory Study of the Impact of Home Care on Elderly Clients Over Time* (SK101) also considered the role of seniors housing in the continuum of care to elderly persons and suggested that such housing could potentially play an important prophylactic role in delaying the onset of health decrements or minimizing their implications. This is an issue warranting further research.

One other consistently noted issue in these projects was the lack of computerized access systems in many jurisdictions. In some cases, this lack was apparent between departments within the same institutional setting, with the result that researchers did not have

access to information on admissions until the day after admission. In other cases, patients transferred between hospital sites were difficult to track and sometimes mistakenly marked as discharged even though they were still receiving acute care (QC405). *Geronto-Geriatric Services Coordination Mechanism of the Bois-Francs Region* (QC403) similarly concluded that a computerized system adapted to the needs of the milieu and permitting the exchange of clinical information in real time between case managers in different disciplines and facilities would greatly assist the integration of care services.

Given the lack of standardized information-processing systems not only within specific sites and jurisdictions, but also across jurisdictions within single health authorities, the prospect of mounting national initiatives seems infeasible without significant attention to technology transfer issues. For example, *Inter-provincial Comparison of Medication Use in Pharmacare* (NA228) found that in order for a national initiative to be operational, "ideally, the Pharmacare programs would operate on compatible software programs and use similar classification systems in order to make comparisons easier." Given the number of times HTF studies reported problems integrating service delivery to seniors across jurisdictions within one health authority in a city or region, it is obvious standardization is vitally important for the success of national ventures.

6. Implications for Policy and Practice in Seniors' Health

6.1 Policy Issues Involving Home Care For Seniors

6.1.1 Orientation, Structure and Organization of Services

There must be recognition of the two functions of home care for seniors: its role in sub-acute post-hospital care, and its role in the management of elderly persons' chronic care needs. One study introduces as well the role of preventive home care for seniors.

- There is great need for sub-acute or convalescent care for seniors as they make the transition from hospital care to home care.
- The maintenance and restoration of functional capacity must be recognized as a valuable, desirable, and achievable goal in seniors' health, and rehabilitation services must be included within home care.
- Policies to embrace a rehabilitative focus for patients newly discharged from acute care can be easily implemented and cost-effective and can involve reorienting resources rather than deploying new resources in support of home care services to seniors.
- The critical juncture between hospital and home care is often unrecognized. With the expertise of trained and dedicated staff, and facilitation of communication, this transition can be optimized to the benefit of seniors' health.

6.1.2 Funding of Home Care Services

- The ways in which services are funded need to be changed so that, where appropriate, alternatives to case-based funding can be implemented. For example, in some cases funding of services to a "cluster" of clients is both more appropriate and cost-effective.

- Policies directed at cost issues must be based on data that include not only the costs of services provided by the health care system but also by elderly patients and their families.
- Employing home support workers (HSWs) on salary rather than by the hour gives them more flexibility to base the length of a visit on the client's evolving needs and more time to participate in case conferences and to interact directly with the clinical staff. Continuity in HSW case assignments is enhanced by such arrangements.

6.1.3 Staffing and Training in Home Care

- Staff training in the use of complex assessment tools is key to issues involving seniors' health.
- Continuity of services to seniors must be a priority in the provision of home care services.

6.1.4 Seniors as Clients of Home Care Services

- The key characteristics of elderly patients that make them at high risk for revisits to hospital are known and can be acted upon, for example, to link this population to appropriate community-based (home care) and supportive services prior to discharge.
- The referral system for home care should have the capacity and mandate to routinely screen all those at risk for unnecessarily long hospitalizations in order to facilitate home care.
- For seniors, especially those with health concerns involving confusion and cognitive impairments, consistency of personnel providing in-home and personal care services must be a priority.

6.1.5 Resources to Enhance the Delivery of Home Care Services to Seniors

- Systematized information systems are required to track seniors transferred from home to hospital and back.

6.2 Policy Issues in Integrated Service Delivery for Seniors

Underlining all of the following policy recommendations is the recognition, noted in several studies of seniors' health, that elderly people admitted to hospital are in poor health and require hospital services. The health care system as currently structured takes in very sick people, deals with the admitting problem, and discharges them; however, the underlying health problems often remain. The system has only minimally improved the overall health of the senior population. As the report of SK124 notes, "The lesson from this is that although our system is dealing with the immediate problems of the elderly, it is only doing that. We are not affecting their baseline health status, which is poor."

6.2.1 The Roles of Health Care Personnel in Integrated Service Delivery for Seniors

- Recognize human resource concerns in the process of implementing service integration.
- Consider issues surrounding the distribution and nature of workload in order to define roles and responsibilities.
- Minimize role ambiguity of service providers in related jurisdictions.
- Ensure the roles and duties of all health service providers are well-defined as they relate to screening protocols. These protocols must be developed, agreed upon, and implemented.
- Foster organizational commitment to integration of service delivery.
- Service providers must feel that they are included in the process of designing and implementing programs that affect their daily work functions.
- Staff in acute care facilities must be provided with further education regarding the availability of community resources.

6.2.2 The Role of Physicians as Key Agents in System Reform

- Physicians must be included as active players in system reform.
- Physicians will require training in order to shift their focus from the primacy of the acute care sector to recognize the role and place of community care services.
- More training for physicians in geriatric issues will enhance communication between referring physicians and mental health patients so that elderly patients better understand the purpose of their referral for psycho-geriatric assessment.
- Physicians need more support and education regarding community care options; this will help make physicians more comfortable with transferring care to another service provider.

6.2.3 Resources to Enhance the Integration of Service Delivery for Seniors

- There must be standardized assessment tools across services and agencies and integration of information systems within jurisdictions if integration is to work on any level.
- Computerized information systems must be adapted to the needs of the milieu and permit the exchange of clinical information in real time between case managers in different disciplines and facilities.

6.2.4 Funding of Integrated Service Delivery Initiatives

As was the case for home care services, policies directed at cost issues must be based on data that include the costs of services provided not only by the health care system but also by elderly patients and their families.

6.3 Policy Issues Concerning Pharmacare and Seniors' Health

Policy recommendations arising from the National Forum on Health (1996) on the issue of pharmacare are very similar to policy recommendations arising from the HTF studies. The specific policy issues identified in these reports involve two broad areas: administration and human resources. The administration issues largely involve system organization and management across the country, and include drug classification systems and the role of provincial and territorial governments in linkability and accessibility of administrative data across jurisdictions. Important foundational issues here are the implications for seniors of the considerable variation in drug cost coverage from province to province. Human resource issues include communication between key players, especially attending physicians and pharmacists, and the role of Continuing Medical Education (CME) to set standards and practices.

- There is a need for a drug classification system that is common to home care and pharmacare programs and thereby facilitates the tracking of resources from hospital to home care as patients move along the continuum of care.
- Provincial governments must cooperate to improve the content, linkability, and accessibility of administrative data sets on pharmacare issues.
- There is a need to evaluate ways to reach physicians on a whole range of practice issues and improve professionals standards through CME.
- Health care reform must focus on improving collaboration between physicians and pharmacists, particularly in providing physicians with support in balancing complex drug regimens required for maintaining functional health status of older patients with multiple morbidities.

6.4 Policy Issues in the Health of Rural Seniors

Seniors living in rural areas often do not have access to the spectrum of services they need unless they are willing to travel a distance – often a great distance – to get them. As a result, rural health issues have a different emphasis than those we see in non-rural

contexts. For example, in urban regions, the primary health delivery issue is frequently the degree of integration of different types of services and the appropriate mechanisms for facilitating communication among them. In rural areas, in contrast, the primary health delivery issue is more often the sheer availability of qualified staff to provide care within each type of service, particularly specialist services. In the HTF projects dealing with rural health issues, availability of standardized and reliable assessment tools, and achieving adequate levels of staff understanding of and training in the proper use of these tools, were more pressing issues than they were in urban areas.

In rural areas, the focus was far less on system-wide integration of services across jurisdictions than it was on smaller, more incremental changes within jurisdictions, especially in areas where there was perceived to be a significant lack of community resources for seniors. A major policy recommendation of the various HTF reports on rural seniors' health issues is the recognition of the need for strategies of recruitment, retention, and training of health care personnel in rural communities. This is especially true in the case of such specialized services as mental health services, rehabilitation, and palliation.

6.5 Policy Implications of the HTF Research Process

In considering the range of policy issues identified in these studies, it is equally important to consider the process challenges encountered by many of the projects, for these provide potentially important insights into the challenges of implementing health care reform. The most frequently noted process challenge facing these projects was the lack of time to mount initiatives and test their impact. NA1007 and QC404 are particularly noteworthy in this respect, although the problem was widespread. Thus, in implementing health reform, adequate time must be given to the development and implementation of policies and programs, especially in relation to multi-sectoral initiatives central to integrated service delivery.

The pivotal role of physicians in the success (or otherwise) of pilot programs is also instructive to the overall process of implementing health reform. Similarly, rigid national or local collective labour agreements, which complicated the recruitment process to various clinical teams participating in HTF research, will represent process challenges in implementing health reform. The instability of human resources, a finding of numerous HTF projects and discussed more fully in Section 4, is another process challenge to bear in mind.

7. Conclusions

We well know that the primary objective of "living well" into old age is the enhancement and maintenance of independence and autonomy in later life. As Chappell (1996) has noted, "severe mental declines, dependency and poor physical health are stereotypes that are not true for the vast majority of seniors." Major determinants of healthy aging are socio-economic and physical environments. We know that the longest life expectancies are found not in the wealthiest countries but in those countries with the smallest spread of incomes and the smallest proportion of the population in relative poverty.

Because the issues surrounding seniors' health are so broad, the synthesis reports from the HTF projects should not be viewed in isolation. The synthesis reports on the work of the "Determinants of Health" Working Group, convened under the auspices of the National Forum on Health, are also relevant to the overall directions of policy initiatives in relation to

seniors' health. The mandate of the National Forum on Health was to inform and involve Canadians and advise the federal government on innovative ways to improve the health of the population. Papers commissioned by the Forum addressed such issues as key conclusions from the literature related to the determinants of health, sample success stories that address the problem, and policy implications and advice.

Many of the policy recommendations arising from the research on seniors' health in these HTF projects support, reinforce, and extend recommendations made by the National Forum on Health (NFH). For example, NFH recommendations concerning the maintenance and enhancement of independence and well-being in old age include: ensuring adequate support for family and community care; funding community-based programs; assessing cross-sectoral implications of policies developed in such sectors as housing, transportation, and taxation; ensuring that emerging regional and local boards of health are not dominated by traditional vested interests, such as hospitals and physicians; and examining appropriate training and career paths for non-physician health workers (National Forum on Health, 1996, p. 57).

In relation to the use of pharmaceuticals by seniors, relevant recommendations of the National Forum on Health include: seniors should receive help in evaluating the risks and benefits of drug therapy; primary care and pharmacy settings are top priorities for the application of information technology solutions that link physicians with the appropriate information sources and provide them with access to pertinent information; and action plans to improve physician prescribing and patient communication skills should be implemented in medical education programs and evaluated (National Forum on Health, 1996, pp. 69-70).

Thus, these various reports – of the National Forum on Health and of the HTF studies – must be seen as part of a larger package of support for seniors' health policy initiatives that underscore the undeniable fact that as the population ages, the health care system must shift from a focus on acute care treatment to recognizing and supporting family care and community care. The HTF research reports provide ample evidence that while the imperative of the continuum of care has "been well captured in the rhetoric of current health care reform, it is not happening in practice" (Chappell, 1996: 56). A relevant question to be asked here is whether the continuum of care for seniors requires a complete system-wide integration of all programs and services or, more minimally, a range of "educational, inter-organizational and inter-professional activities that promote the removal of these structural barriers" (Shapiro & Havens, 2000). What is clear from these research reports is that innovations in the system continue to be added piecemeal without corresponding changes in the system. We now have over 20 years of research (e.g., Evans, et al., 1981; Kane & Kane, 1985) which indicates that for reasons of both cost control, efficiency, and effectiveness, the system must be treated as a whole. Health researchers have noted that this means that if a new type of care is introduced specifically to substitute for another, then the corresponding component must be withdrawn.

As comprehensive as these projects funded by the HTF were, there remain unexplored areas. For example, researchers still need to examine how, in the process of change from one type of care to another, decisions will be made as to those services to be withdrawn in the reform of health services and those to be added. As well, future research should examine such environmental factors as geographic isolation, lack of access to transportation, and the vagaries of harsh weather conditions as barriers to healthy aging and to the use of appropriate health services.

Health researchers must also recognize that, given the composition of known disadvantaged groups, the needs of Canada's increasingly ethnically and racially

diverse seniors must be addressed by a more culturally sensitive delivery of health care. As Wister (1998) notes, "Increases in population aging and concurrent changes in population health are having a profound effect on the organization and delivery of health care in many countries of the world. The growth in the relative and absolute numbers of elderly people coupled with changes in patterns of morbidity and mortality have drawn attention to issues of quality, efficiency, and efficacy of health care systems....Dramatic shifts in values and beliefs within a particular country over time, and ethnic differences within a country at one specific time, represent important cultural elements having a significant impact on population health, health care organization, and health policy." These observations must guide future research on seniors' health and thereby lead to policy recommendations relevant to the full spectrum of the extraordinarily diverse population of seniors in Canada. The HTF reports have provided a broad foundation for these future research initiatives. The extension of research into the particular needs of at-risk sub-populations within the larger population of seniors in Canada is welcome and will, as Shapiro and Havens (2000) have noted, move us ever closer to the goal of acquiring generalizable evidence on the impact of health reform measures on seniors' health.

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Appendix A: List of HTF Projects Relevant to Seniors' Health

This appendix provides summary information on the HTF projects which were reviewed in the preparation of this document. For further information, please refer to the HTF website (www.hc-sc.gc.ca/htf-fass).

(NA122) Safety of Persons Suffering from Dementia and Living at Home

Recipient: CLSC Côte-des-Neiges, Montréal

Contribution: $178,035

This project developed and validated a questionnaire to evaluate risks to elderly people suffering from dementia and living at home. The questionnaire aimed to identify and reduce risks by assessing appropriate interventions and the impact of counselling the informal caregiver. The questionnaire was developed in two versions (short and long) and in two languages (English and French) through pilot work in urban, semi-urban, and rural settings in Alberta, British Columbia, and Quebec. Health care practitioners who had referred patients to the project were asked to review their patients' questionnaires. The response rate from practitioners was over 50 per cent in Quebec, only 15 per cent in Alberta, and zero in British Columbia. The authors feel that this tool can be used in all provinces to provide a structured assessment interview, particularly on first meeting with a patient who has dementia and is living at home.

(NA221) Benzodiazepine Use in the Elderly

Recipient: Association of Canadian Medical Colleges

Contribution: $618,455

This national project tested the feasibility of a Canada-wide drug utilization review as well as a continuing medical education (CME) component for primary care physicians concerning appropriate benzodiazepine prescribing. The inappropriate prescribing of benzodiazepines in the elderly has been well documented. All eight provinces with medical schools have adopted their own approach to the issue. Ontario and Quebec were able to identify physicians with potentially inappropriate patterns of prescribing and to tailor education efforts to these individuals on a confidential basis. Interventions in the provinces included seminars, the mailing of written material, and patient education handouts. Four provinces also used academic detailing. Two provinces used interactive small-group CME. The thrust of the initiative in all locations was non-coercive and educational. At the time of reporting, follow-up analysis had been completed only in Newfoundland and Ontario; Newfoundland showed no major change in group prescribing data, and Ontario showed a very modest decline in individual prescriptions to seniors.

(NA227) Do Drug Plans Matter? Effects of Drug Plan Eligibility on Drug Utilization Among the Elderly, Social Assistance Recipients, and the General Population

Recipient: Centre for the Evaluation of Medicines, St. Joseph's Hospital, Hamilton

Contribution: $122,372

This study illuminated the debate over a national pharmacare program by using data from two population health surveys in 10 provinces to predict the influence a national pharmacare program would have on the use of prescription drugs, physician services, and the health status of Canadians. The project identified variations in the extent of prescription drug coverage among the general population and differences in how provinces share costs with seniors and social assistance recipients. The project then constructed a range of indicator variables and estimate models of prescription drug use for tracking the impact of various types of drug insurance plans along with several socio-economic, demographic, and health variables. It concludes that variations in the extent of drug coverage do not appear to affect drug-use patterns among people of average socio-economic and health status, which suggests that pharmacare would not encourage most Canadians to use substantially more drugs or professional resources. On the other hand, shifting costs from consumer to government could encourage greater medication use by low-income and sick people for whom prices are a barrier to care, which could in turn lead to improved health status.

(NA228) Interprovincial Comparison of Medication Use in Pharmacare—Anti-infective Drugs in Seniors and the General Population

Recipient: Dalhousie University, Halifax

Contribution: $105,300

This study tested and evaluated a new way of comparing drug use between Canadian jurisdictions – a method that makes adjustment for drugs that come in different strengths, recommended dosages, and formulations. Researchers tested the efficacy of the World Health Organization's defined daily dose (DDD) system for making comparisons on an entire class of drugs, in this case anti-infective agents for oral use (e.g., amoxicillin). They identified individual medications used in three provinces (Nova Scotia, Manitoba, Saskatchewan) in three fiscal years, manually coded them into anatomical therapeutic chemical (ATC) codes, then calculated the number of DDDs of each medication that were filled per 1,000 beneficiaries per year. This allowed them to describe use by province, by drug, and by patient subgroup within both the general population (Manitoba, Saskatchewan) and senior citizen population (Manitoba, Saskatchewan, Nova Scotia). They found that the use of anti-infective agents decreased in Saskatchewan, increased in Nova Scotia, and went down, and then up again, in Manitoba during the three-year study period.

(NA404/QC404) Establishment and Start-up of Integrated Care Model

Recipient: Régie régionale de la santé et des services sociaux de Montréal-Centre

Contribution: $2,798,781

This demonstration project tested the feasibility and cost-effectiveness of a new way of organizing, financing, and delivering services for the frail elderly. It was referred to as SIPA (*Système de services intégrés pour personnes âgées en perte d'autonomie*), a system of integrated services for the frail elderly, in which the financing was a simulation of capitation. The report describes how two CLSC districts in Montréal put the system into practice with the help of interdisciplinary teams that coordinated all medical and social services, both primary and secondary, and dealt with both acute and chronic care for all their patients. The aim was to respond to the needs of the frail elderly and to maintain their autonomy and ability to choose appropriate solutions. For the health and social service system, the goal was to optimize the use of resources, whether community, hospital, or institutional. The report details difficulties and delays in implementation and obstacles to the effective management of the project, including difficulty involving doctors in private practice. Nonetheless, patients (and their caregivers) in the SIPA group reported perceiving a higher quality of services and a greater sense of security than did those in the control group. The SIPA group also significantly reduced its use of hospital resources, and there was a tendency to less institutionalization among these patients. The cost analysis indicated that the costs of care were slightly higher for patients in the SIPA group and that the increased use of community services was not financially compensated for by a reduction in the use of hospital services, at least during the time of the experimentation. However, the authors suggest that it may become more cost-effective when the cost of long-term care is factored in over a longer period.

(NA1007) The Effects and Expense of an Early Health Promotion/Rehabilitation Intervention in an Elderly Home Care Population

Recipient: McMaster University, Hamilton

Contribution: $223,201

This randomized controlled trial examined whether using occupational and physical therapists in the home setting prevented functional decline in elderly patients and improved their autonomy, reduced caregiver burden, and reduced the use of health and social services. Traditionally, older adults who require hospitalization are at risk of a long-term deterioration of health status, which can continue after discharge, as clients may become dependent on home care services. In this project, eligible patients (aged 60 and over) who were discharged from acute care hospitals and referred to the Community Access Centre of Halton for homemaking and/or nursing were randomized to receive either the usual home care services or early, individualized health promotion/rehabilitation intervention by occupational and physical therapists in addition to home care. A total of 201 patients was enrolled. The evaluation of the findings of this project is continuing, but preliminary analyses show that the rehabilitation services have improved functional abilities in clients' activities of daily living compared with those of the control group.

(AB301-17) An Evaluation of Lakeland Regional Health Authority Integrated Community-Based Palliative Care Program

This study piloted and evaluated an integrated palliative care delivery model in a rural area of east-central Alberta. The goal of the project was to improve access to and the quality of palliative care services. The project team consisted of a palliative care consultant physician, a project manager, and a palliative care coordinator, who also served as a nurse consultant. Consultation among health professionals and the palliative care team increased; patients, family, and health providers reported that the quality of care improved; and the project achieved a shift from acute care to community care. The percentage of deaths in the pilot area that were in-home increased dramatically, from about 8 per cent pre-program to almost 30 per cent post-program.

(BC122) The Cluster Care Pilot Program

Recipient: South Fraser Health Region

Contribution: $84,000

This seven-month project looked at a team-based, flex-time approach (called cluster care) to seniors' home support services as an alternative to conventional one-to-one case assignments and fixed-period visits. At question was whether shorter, more frequent visits would result in better care, more efficient services, and increased client independence. After investigating related experiments in Waterloo and Kamloops, researchers selected two pilot sites and managed two teams of home support workers. Detailed comparisons of the traditional and cluster care models showed that the latter was suitable for most clients and most appropriate for those who live in high-density residential buildings and receive considerable home support hours. Care levels increased overall, particularly at the more complex levels; however, this may be a result of the fact that the same group of clients, the majority over age 80, was compared for 1998 and 1999 and that their health needs may have increased over that time. Better care and the team approach meant more hours and higher costs. Surveys revealed a high level of client, caregiver, and care provider satisfaction with the program.

(BC123) Frail Seniors Service Delivery Model Evaluation

Recipient: North Shore Health Region

Contribution: $139,875

This six-month project compared integrated home care services for frail seniors with non-integrated services. It also evaluated cost-effectiveness and relative health outcomes of integrated home care. Clients in the treatment group received continuing attention from a care coordinator, generous occupational and physiotherapy rehabilitation services, access to an adult day program, advice from mental health and geriatric outreach teams, recreation therapy, regular attention at interdisciplinary team conferences, and the services of a salaried home support worker. The program was found to be very cost-effective. In the six-month period, the total cost of services for the treatment group was $7,367 per client, compared with $11,279 per client for the comparison group. No significant differences existed in health outcomes between the two groups.

(BC124) Enhanced Case Management Project

Recipient: Upper Island/Central Coast Community Health Services Society

Contribution: $126,623

This initiative sought to boost the knowledge and confidence of service providers and family caregivers who support non-institutionalized persons with dementia. The project developed and delivered a series of education and on-site sessions to home support workers, case managers, and home support supervisors. After training, case managers increased the time spent with family caregivers. All members of the support team benefited from an experimental, dedicated case management position at a local hospital to screen, manage, and discharge patients with dementia. Researchers found that more home support workers than expected were interested in the program. Participants said their knowledge, confidence, and team pride "immeasurably increased" as a result of this project.

(BC201) British Columbia Pharmacare Health Transition Project (PharmaNet)

Recipient: British Columbia Ministry of Health and Ministry Responsible for Seniors

Contribution: $3,165,600 – eight substudies

(BC201-01) Sleep and Anxiety Management Project

This project provided family physicians with materials to help them manage sleep and anxiety disorders in older patients in the hope that such material would reduce the prescribing of benzodiazepines, a class of tranquillizers and sleeping pills. The project also examined whether the use of a telephone support line would result in changes in drug prescribing practices. Prescribing of these drugs during the six months prior to the project was compared with prescribing six months after the initiation of project interventions. On the whole, this study found that its hypothesis was not supported.

(BC201-07) The Patient Outreach Project: Community Pharmacy-Based Assessment of Patient Therapy

This pilot project used the PharmaNet system in British Columbia to alert pharmacists to patients who may not be taking their prescribed drugs correctly. The project designers flagged patients taking a minimum of five or more concurrent medications. Once alerted, the pharmacist chose a range of intervention options to educate the patient about the medication and its use, including training, reinforcement, and physician contact. The project examined the feasibility and acceptability of the "alerting" system and the feasibility of the outreach program. Key findings indicate that the PharmaNet Alerting System is effective and feasible in a community pharmacy environment and that it is not disruptive to regular work practices. Future analyses will examine the cost-effectiveness of the program.

(NT401) Improving the Effectiveness and Efficiency of Programs for Aged, Disabled, and Chronically Ill Individuals

Recipient: Department of Health and Social Services, Government of the Northwest Territories

Contribution: $79,000

This project developed and implemented a new Continuing Care Assessment Package (CCAP) to assess clients requiring continuing care in the Northwest Territories. The use of the standardized tool helped direct clients to community-based services that provide a continuum of care as a cost-effective alternative to institutionalization. Data collected through the CCAP also facilitated better planning for service delivery, housing, and other resource needs. The report of this pilot project points out barriers such as resistance to change, but the principal problem was staff turnover. In small jurisdictions, the loss of expertise when a person leaves has a serious effect on program implementation. The authors suggest a written manual and continuing training as solutions to these concerns. They also point out the importance of supportive management in gaining acceptance of a new tool. The CCAP proved to be an effective way of making more objective, standardized assessments, thus making access to continuing care fairer and more effective.

(ON221) Randomized Trial Evaluating Expanded-Role of Pharmacists in Seniors Covered by a Provincial Drug Plan in Ontario – Seniors Medication Assessment Research Trial (SMART)

Recipient: McMaster University, Hamilton

Contribution: $677,860

The study evaluated a five-month program that linked family physicians with pharmacists trained to provide cognitive, clinical, patient-based care (known as "expanded role pharmacists" or ERPs) in an attempt to optimize drug therapy for seniors. The study used a "cluster randomized control trial design" that involved 889 senior patients, each using five or more medications, in 48 family practices in urban and rural Ontario. The SMART project twinned pharmacists with family physicians in the intervention group, provided access to medical records and patient interviews, facilitated recommendations on identified drug-related problems, and determined over the next five months which recommendations would be implemented. The report notes that the experiment was successful, effective, and reproducible: drug-related problems were identified in 88 per cent of the patients in the intervention group; physicians agreed to implement 84.2 per cent of the recommendations they received; and after five months, 56.5 per cent of those changes had been implemented successfully. The study found no significant differences between the intervention and control groups in terms of mean number of daily medications or medication units, proportions of appropriate or inappropriate drug use, the proportion of patients reporting a problem with

their medications, or quality of life. Both physicians and pharmacists said they would recommend the method of collaboration to colleagues.

(PE121) An Integrated Mental Health Response for Seniors

Recipient: Prince Edward Island Department of Health and Social Services

Contribution: $140,000

This two-year study developed and field-tested a model of service delivery to integrate home care and community mental health services for seniors experiencing dementia or depression, the most common mental disorders among seniors. The main objectives were earlier assessment, care planning, and appropriate intervention. Planning of the model was cautious in order to allow key home care and mental health workers a chance to become comfortable with objectives. Once launched, the project undertook to increase the confidence and competence of front-line staff with workshops (for home care workers) and intense training on seniors' health (for mental health personnel). Researchers developed a "screening tool flow chart" for identifying early signs of illness during home visits and a multidisciplinary diagnostic protocol for client and caregiver assessments. The project improved the accessibility of mental health expertise for home care staff; challenges included staff retention and gaining support from family physicians.

(QC101) Impact of the Single-Window Approach in CLSCs: Use of Services, Costs, and Experience of Workers

Recipient: CLSC René-Cassin

Contribution: $242,663

In late 1996, CLSCs in Montréal were instructed to implement a guichet unique (single-point access) approach to providing services to maintain aging clients in their home. This study evaluated that implementation and its impact on practitioners and their professional practice. The researchers obtained their data through focus groups, questionnaires, and individual interviews. They conclude that responding to the complex needs of an increasingly aged population requires an integrated approach. They note, however, that a number of problems have occurred in the introduction of case management in the CLSCs studied: workers have heavy caseloads; case managers risk burnout because of an increasing number and complexity of tasks; and case managers do not have the authority to give direction to practitioners in all the services that they must coordinate. They recommend training for case managers in their new tasks; training for the partners in the hoped-for "continuum of services" (e.g., doctors, hospitals, community organizations) to ensure a clear understanding of their roles; clear criteria for definition of the clientele; and caseload standards that do not overburden workers. Although the *guichet unique* approach aims in part to reduce hospitalization and institutionalization of the aging population and thus reduce public expenditures, this study did not address the issue of relative costs. Regarding the process of change itself, the researchers note that the contingency-management style facilitates the change process.

(QC123) Development and Implementation of a Cost System for Home Care and Home Services in Connection with the Demonstration Project for an Integrated Services Network in the Bois-Francs, with Coordination of Services through Case Management

Recipient: Université Laval

Contribution: $199,290

This project developed a system of cost analysis to evaluate the results of coordinating services to the frail elderly in the Bois-Francs region of Quebec. (See QC403 for an evaluation of this project as it relates to implementation and patient outcomes.) Costs were calculated for home health care and services to the elderly and to the public health and social services network. The economic analysis of costs assumed by the elderly themselves and by their families was not available. The results show that overall costs to the public system are comparable over time between the two regions that were tested, though there were differences in the services used. The researchers conclude that the coordinated services initiative is economically viable because it brings significant benefits to patients without requiring increased expenditure from the public system. Furthermore, they suggest that their model for imputing costs could be used to evaluate other integrated services projects for other client groups.

(QC403) Mechanism for Coordination of Geronto-Geriatric Services in Bois-Francs

Recipient: Université Laval

Contribution: $250,700

This project evaluated a model of coordinated care for the frail elderly that was developed in 1997 in the Bois-Francs region of Quebec. Services to the elderly were coordinated by using one point of entry, case management, and personalized service plans ranging from health promotion to palliative care. A system of electronic clinical files was designed to facilitate interdisciplinary communication. The evaluation showed that the program succeeded in reaching the frail elderly, and that the *intervenant-pivot* (key practitioner) fulfilled the intended role of case manager. The computerized sharing of information was less successfully implemented because not everyone in the network was adequately equipped. The evaluation of patient outcomes showed a tendency for patients to stay longer in their homes in the Bois-Francs region than in the control region; family caregivers also reported a reduced burden for the first two years of the evaluation. No effect could be shown on the use of the emergency department, on hospitalization, or on medication usage. The companion project (QC-123) looks at the relative costs of the coordinated services and a control region; it concludes that costs were no higher for what appear to be generally improved outcomes for patients and their families.

(QC405) Outcomes: Screening and Intervention

Recipient: St. Mary's Hospital Centre

Contribution: $301,302

This study examines how hospital emergency departments might play an integral role in a continuum of care for seniors and prevent some of the adverse outcomes following the emergency visit, which is typically viewed as a short period of transition. A screening tool was developed to identify seniors aged 65 and over who were most likely to experience functional decline immediately after their emergency department visit. It was used at four Montréal hospitals and involved a panel of geriatricians and a team of academic consultants providing technical input and statistical and economic analysis. Of the high-risk patients identified, an average of two new or uncompensated problems were detected in categories such as physical problems, activities of daily living, behavioural problems, and social problems. Patients received follow-up one month and four months afterward. The process was found to be quick and easy to administer in the emergency department setting. The study found that the intervention significantly reduced the rate of functional decline, and researchers emphasize the pivotal role of the emergency department in the interface between the hospital and community services.

(QC428) Evaluation of Geriatric Psychiatry Outpatient Consultation for Elderly Depressed Patients: Perspectives of the Patient and Family, Referring Physician, and Consultant

Recipient: St. Mary's Hospital Centre

Contribution: $35,013

This study, carried out in the geriatric clinic of a Montréal hospital, provides information concerning what happens when a primary care physician refers a patient for a consultation with a geriatric psychiatrist. The current emphasis in Quebec on community-based health care (*le virage ambulatoire*) calls for hospital resources to play a consulting role; however, the researchers' literature search found no effective model of this interaction for geriatric patients. The geriatric consultation process included the views of the patient and family, the referring physician, and the consulting psychiatrist. Although most patients and primary care physicians were satisfied, there was only moderate agreement among primary care physicians and consultants as to the type of consultation requested, the reason for consultation, and the responsibility for further treatment. The report highlights some of the problems encountered in the consultation process and suggests simple ways to improve communication and thus improve patient care.

(QC429) Impact of an Emergency Room Discharge Coordinator on the Successful Discharge of Elderly Patients

Recipient: Sir Mortimer B. Davis Jewish General Hospital

Contribution: $453,637

This project created a nurse discharge coordinator position to oversee the discharge of elderly patients from the emergency department of the Jewish General Hospital in Montréal. Researchers wanted to determine the impact on returns to the emergency department and hospitalization in the short term,

as well as patient satisfaction and compliance with treatment plans. Discharge planning included forging links between the CLSC network, family physicians, the emergency department, and the hospital system. There is some indication that doctors may have been willing to discharge elderly patients more quickly if they knew that the nurse would follow-up within 24 hours. This factor and the reduced use of emergency department services would presumably result in savings to the hospital; however, no analysis of cost-effectiveness could be done because of a lack of adequate measures for some of the variables. However, the hospital administrators have expressed confidence in the study's results by establishing the position of nurse discharge coordinator, dedicated to the emergency department, to work with the population identified by the project's experience as being at particular risk.

(SK101) An Exploratory Study of the Impact of Home Care on Elderly Clients Over Time

Recipient: Health Services Utilization and Research Commission

Contribution: $80,000

Using provincial statistics, this study explores the question of whether home care and social housing do in fact contribute to longer life and independence for senior citizens. Researchers collected eight years of provincial data on 26,490 Saskatchewan seniors regarding their hospital use, medication, medical attention, and patterns of care. They compared the health care costs of service recipients with those of non-recipients. After adjusting for health status and use of other services, they found the total health service costs for home care recipients were approximately triple the costs of non-recipients, whereas the costs for social housing residents were at the same level as non-residents. These findings suggest that seniors' housing is more effective than preventive home care in keeping seniors alive and out of nursing homes and that it results in lower overall health service costs. However, the authors caution that their work faced significant limitations and suggest that additional studies should be undertaken to confirm and extend the findings.

(SK124) Hospital and Home Care for the Elderly Client in Saskatoon

Recipient: Saskatoon District Health

Contribution: $242,888

This study followed the admissions of elderly patients aged 75 years and older to three Saskatoon hospitals over a nine-month period to undertake a "process and outcomes evaluation." Researchers analyzed admissions, the need for acute care, the timeliness of discharge, the use of home care, and physicians' perceptions of admission and discharge factors. For outcomes, the researchers analyzed the status of participants, including functional and disability measures, after the hospital episode; the caregiver burden; and the costs of all services. Data were collected on 967 patients, from a pool of 1,502 potential participants. This project conducted a census-like collection of data that systematically defines this elderly population and its characteristics, needs, care trajectories, and the appropriateness of care received by this population. The study is particularly revealing about the proportion of hospital days (11.8 per cent) in which this population remained in acute care beds when an alternative level of care (ALC) would have been appropriate. The home care findings were also revealing: 29 per cent of the sample received some home care after discharge, and 54 per cent of those people had received some home care before admission.

(SK326) Enhanced Rural Rehabilitation

Recipient: Assiniboine Valley Health District

Contribution: $177,513

This project hoped to improve rehabilitation services in the Assiniboine Health District by using three full-time physiotherapy assistants (PA) to work along with two full-time physiotherapists. Three PAs were hired at less cost than full-fledged physiotherapists to carry out a variety of tasks, including clerical work, patient education, and exercise therapies. An internal evaluation concluded that both the number of patients receiving treatment and the frequency of treatments increased while the length of time that patients spent in hospital decreased. Also, there were fewer back, shoulder, and neck injuries to health care workers, and the number of patient falls decreased. However, the study found that patients waited longer for physiotherapy services, possibly as a result of increased physician referrals based on their confidence that the system could accommodate them.

(SK424) Evaluation of a System-wide Admission and Discharge Department

Recipient: Regina Health District

Contribution: $208,000

This study undertook to evaluate a System-Wide Admission and Discharge Department (SWADD) that had been formed in September 1997 to integrate and improve the procedures of the Regina Health District (RHD). Even though SWADD was still evolving and was not fully implemented at the time of evaluation, the researchers found improvements in the areas of service quality, access, and integration and noted the specific measures that were successful. They report that, although the guiding philosophy behind SWADD seems to have support, barriers remain to its full implementation. Moreover, the areas of health outcomes and cost-effectiveness did not show significant changes. The researchers point to certain factors that must be in place for SWADD to achieve its full potential, including leadership to establish a favourable organizational culture; a clear definition of goals, structures, components, and processes; improved communication and collaboration among service providers; realistic workloads for case managers; sufficient resources in the community; and public education about the appropriate use of various types of health care, an issue that is related to the importance of public perception in the acceptance of changes in health service delivery. The evaluation can assist the Regina Health District in making refinements in SWADD and guide other organizations wishing to implement a similar program.