Increasing Value for Money in the Canadian Healthcare System: New Findings and the Case for Integrated Care for Seniors

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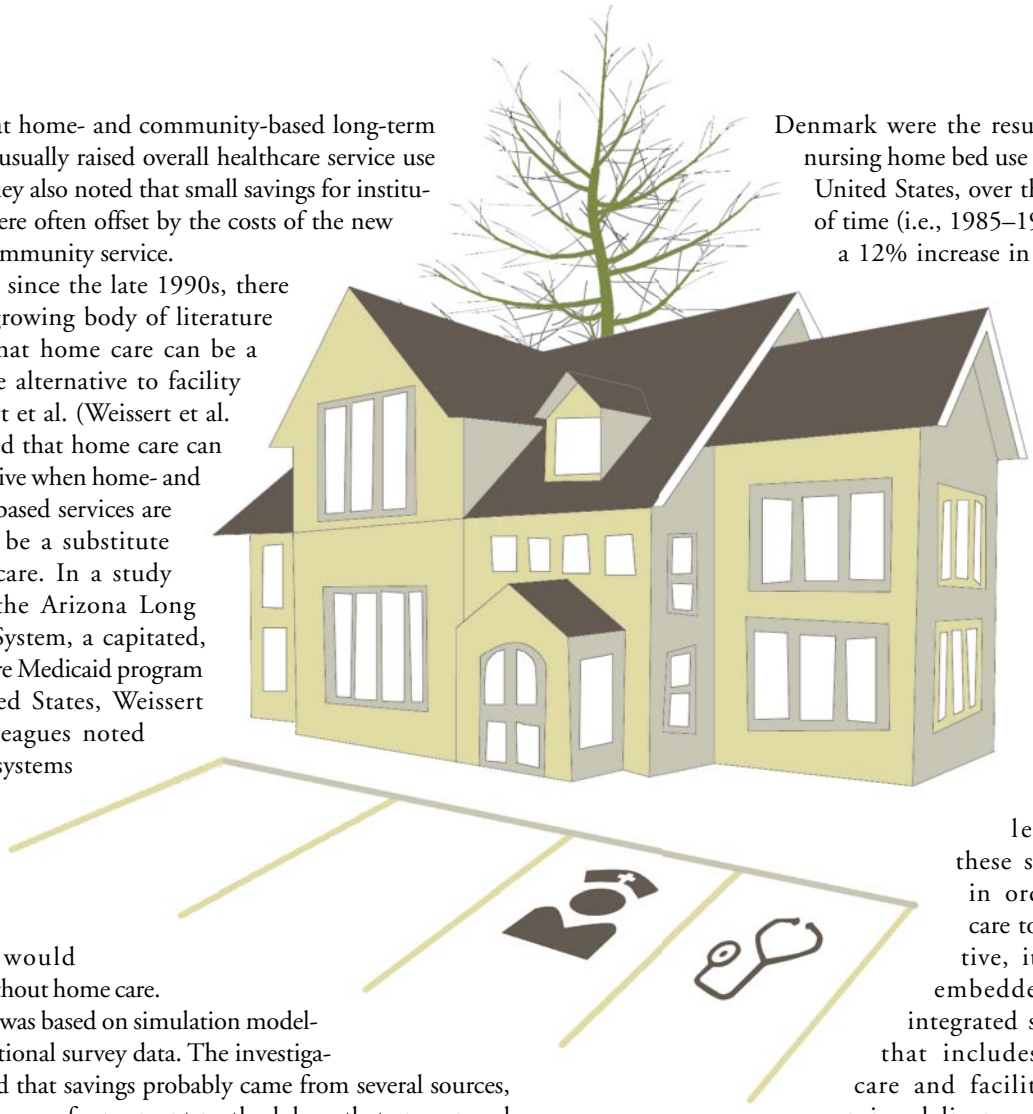
Given the recent economic climate and increasing costs in the Canadian healthcare system, we must ensure that we are getting the best value for money possible. This article presents new findings and a broad weight of evidence to make the case that it is possible to obtain better value for money in our healthcare system by adopting models of integrated care delivery for seniors and others with ongoing care needs. Integrated models could be structured in a variety of ways but would, at a minimum, typically include system-level case management; a single administrative structure; a single funding envelope; and a range of services appropriate to the care of seniors such as home care, home support, supportive housing/assisted living, long-term care facilities and specialty geriatric units in hospitals.

Review of the International Literature

A series of studies in the United States in the 1980s had a profound effect on perceptions, and policies, about the cost-effectiveness of home care as a substitute for long-term facility care in the United States and in Canada. In fact, a 1996 call for proposals on policy research on aging in the United States issued by the Robert Wood Johnson Foundation noted that it was taken as a given that home care could not be a cost-effective substitute for facility care, based on research existing at that time (Robert Wood Johnson Foundation 1996).

Given the organization of American care services for seniors in the 1980s, it was considered that the appropriate way to study whether or not home care was a cost-effective alternative to facility care was to introduce case management (often with an enhanced home care program) into a community and then randomly assign eligible clients to existing community services or to enhanced services. Researchers then determined whether or not the enhanced services led to greater quality of life and client satisfaction, decreased morbidity and mortality, increased functional status and reduced admissions to long-term care facilities and hospitals. However, the shortcomings of these studies were that, while they purported to study the cost-effectiveness of home care, they actually studied the impact of introducing case management as a coordination function. Generally, they did not directly compare, for people with similar care needs, the costs of home care and facility care. Another shortcoming of these studies was that many of the people in the studies were at a relatively low level of care need and were thus not comparable to people who would need facility care. This further contributed to the investigators' negative findings about the cost-effectiveness of home care.

The main arguments against the cost-effectiveness of home care were documented in a seminal article by Weissert in 1985. He expanded on this analysis in a study that looked at over 700 citations (Weissert et al. 1988) with regard to the relative costs of community- and home-based services versus long-term care facility services. Weissert et al. concluded that their analysis



indicated that home- and community-based long-term care services usually raised overall healthcare service use and costs. They also noted that small savings for institutional care were often offset by the costs of the new home and community service.

However, since the late 1990s, there has been a growing body of literature indicating that home care can be a cost-effective alternative to facility care. Weissert et al. (Weissert et al. 1997) showed that home care can be cost-effective when home- and community-based services are designed to be a substitute for facility care. In a study examining the Arizona Long Term Care System, a capitated, long-term care Medicaid program in the United States, Weissert and his colleagues noted that overall systems costs were less when home care was included than they would have been without home care. This analysis was based on simulation modelling using national survey data. The investigators suggested that savings probably came from several sources, including the use of a payment methodology that encouraged program contractors to place clients in home- and community-based services rather than risk losing money by using more facility days than their monthly capitated rate allowed.

Stuart and Weinrich (2001) conducted a broad systems-level analysis of the costs of integrated care services in Denmark by comparing cost trends for the care of seniors in Denmark and the United States. Denmark has for many years had an integrated system of care delivery for seniors and persons with disabilities that puts a priority on home care and includes a home support component. The authors found that, over the 12-year period after this integrated system was put into place, Danish long-term care expenditures levelled off, whereas expenditures in the United States continued to increase over the same time period. More specifically, they found that for the period 1985–1997, per capita expenditures on integrated care services for individuals 65 years of age or older increased by 8% in Denmark and 67% in the United States. For individuals 80 years of age or older, costs actually decreased by 12% in Denmark, whereas they increased by 68% in the United States. It appears that the savings in Denmark were the result of reducing nursing home bed use by 30%. In the United States, over the same period of time (i.e., 1985–1997), there was a 12% increase in nursing home bed use.

These and other findings from the international literature are important because they indicate that home care can be cost-effective. However, what can also be learned from these studies is that in order for home care to be cost-effective, it needs to be embedded within an integrated system of care that includes both home care and facility care. Such service delivery systems would typically have a single administrative structure and a single funding envelope. Integrated systems with these characteristics allow for cost-effective trade-offs between home care and facility care such that people can be cared for, at a similar or higher quality of care, in the lowest-cost type of care. This can significantly increase overall effectiveness and value for money for services for seniors, and for the overall healthcare system, as is noted below.

Findings from Canada

There has also been an emerging literature on the cost-effectiveness of home care in Canada. Hollander (2001a) showed that even modest preventive home care services can be cost-effective. He studied a natural experiment that occurred in British Columbia in the period 1994–1995 in which some health regions cut people from care who were at the lowest level of care need and were only receiving housecleaning services (one component of home support services), and some regions did not make such cuts. He found that, on average, the people who were

cut from care cost the overall healthcare system some $3,500 more, per person, in the third year after the cuts than the people who were not cut from care. Total costs over the three-year period after the cuts were $28,240 and $20,543, respectively, for those who were cut from care compared with those who were not cut. The additional costs for people who were cut from care were primarily for increased hospital care and long-term facility care. Thus, the findings from this study seem to indicate that even basic home support services such as housecleaning can have a significant impact on the cost-effectiveness of the healthcare system. The study findings also underline the importance of non-professional home support services in long-term home care. A recent Canadian study by Markle-Reid et al. (2008) also found evidence to indicate that modest amounts of home support services may result in reductions in the use of hospital services and long-term care facility bed days.

With regard to home care as a substitute for facility care, Hollander and Chappell (2007) found that over time, and for all levels of care needs, home care was on average significantly less costly in terms of costs to government than care in a long-term care facility. In a related study, Chappell et al. (2004) noted that similar cost differences are seen even if one adopts a broader societal perspective that incorporates an analysis of out-of-pocket expenses and the care time of informal caregivers. Finally, in a study of home care in Saskatchewan, it was also found that home care was less costly than long-term facility care (Hollander Analytical Services Ltd. 2006).

It should be noted that the savings from substituting home care services for facility services are not only theoretical. Actual savings were achieved in British Columbia by holding down future construction of long-term care facilities and making investments in home care (Hollander 2001b; Hollander and Chappel 2007). Utilization of home and community care services in fiscal year 1984–1985 was 92 person-years per 1,000 population 65 years of age and older and 71.7 person-years, or beds, for facility care for a total of 163.7. The overall utilization rate was also 163.7 for the 1994–1995 fiscal year, but the utilization rate for facility services (long-term care and chronic, or extended, care services) was reduced to 50.7 and the utilization rate for home care increased to 113. Thus, over a 10-year period, due to a proactive policy of substituting home care services for facility services, the utilization of some 21 person-years per 1,000 population 65 years or older was shifted from facility care to home care, for individuals with ongoing care needs, as shown in Figure 1.

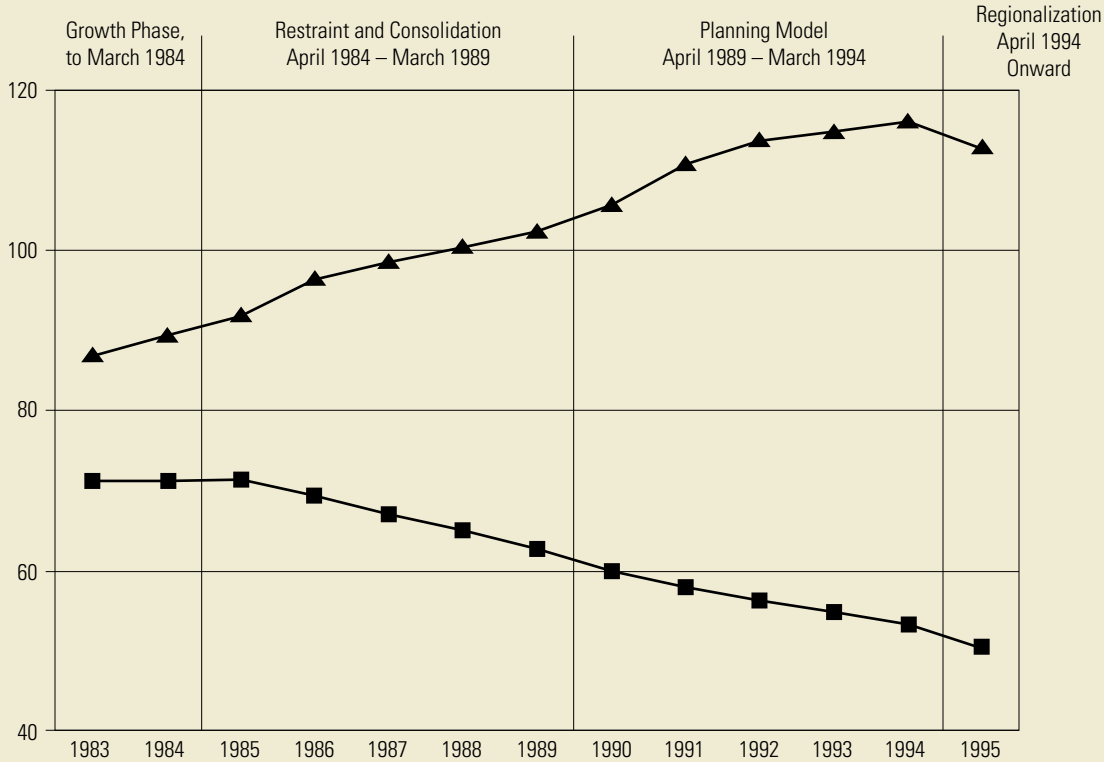
Figure 1 also presents data on major phases in the provision of care services. There was a growth phase from when the program started in 1978 to 1983; a severe restraint period from 1984 to 1988; the adoption of planned, proactive substitution of home care for facility care; and the advent of regionalization. These proactive substitutions of home care for facility care resulted in a net savings, for the overall healthcare system, of an estimated $150 million in fiscal year 1994–1995 alone, compared with what the costs would have been if utilization had remained at the same level as it was in fiscal 1984–1985.

What role has home support played in regard to the cost-effectiveness of long-term, or chronic, home care? It turns out that home support is central to this form of home care and the cost-effective substitutions it can engender. Hollander and Chappell (2007) provide evidence on the relative costs of home support and professional home care (e.g., nurses, physiotherapists) in long-term home care. They found that for people with higher-level care needs in British Columbia in the 1990s, approximately 90% of the expenditures for home care were for home support services and 10% were for professional services. Thus, the beneficial effects from the substitution of home care for facility care are, in large part, due to home support services.

Other Canadian studies, related to dementia (Hux et al. 1998; Ostbye and Crosse 1994), have also shown that home care is less costly than facility care. In a study similar to those conducted by Hollander and his colleagues, Hébert (2003) found that for costs to government, home care was less costly than facility care. Hébert noted, however, that when the time of informal caregivers is costed at replacement wages, home care is more costly. This study and some other international studies (e.g., Chiu and Shyu 2001; Chiu et al. 2001) have much higher costs for family caregivers than does the work of Hollander and his colleagues. The difference may be due to how data are collected. In the studies conducted by Hollander and his colleagues, detailed data are collected in diaries over a two-week period rather than as part of a one-time questionnaire. In addition, only care time that is directly related to the care needs of the client is included (e.g., the time spent in normal familial relations such as making a meal for the person receiving care would not be included, but the time for making a meal for a special diet required by that person, or feeding her or him, would be included in the record of caregiver time).

Thus, there is now a growing body of literature internationally and in Canada that indicates that home care can be a cost-effective substitute for long-term facility care and acute care within an integrated system of care. This has significant policy implications for the delivery of care services in Canada. The findings imply that it may be time to expand current policy to have a focus on long-term home care and home support services within a broader integrated system of care. While it may not be common knowledge, Canadians are in fact international leaders in formulating models of integrated care for seniors and others with ongoing care needs. These include broader models with applicability to provinces and larger health regions or health networks (Hollander and Pallan 1995; Hollander and Prince 2007). They

Figure 1. Major phases in the utilization of home care and long-term facility care in British Columbia[†]



	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
Home Care Utilization*	87.2	89.5	92	96.5	98.7	100.7	102.4	105.8	110.8	113.8	114.8	116.2	113
Facility Care Utilization[+]	71.5	71.6	71.7	69.7	67.2	65.1	63	60.4	58.2	56.5	55.2	53.5	50.7

[†] Utilization rate per 1,000 population 65 years of age or older

[*] Includes home- and community-based services.

[+] Includes long-term care and chronic/extended care facilities.

Source: Adapted from Hollander (2001b).

also include models that are developed at the local level but can be expanded to larger geographical areas, and have links with primary healthcare (Béland et al. 2006a, 2006b; Hébert et al. 2003a, 2003b; Hébert et al. 2005; Hollander et al. 2007).

The Veterans Affairs Canada Continuing Care Research Project

A recently completed project on health services for Veterans Affairs Canada (VAC), called the Continuing Care Research Project, adds further weight to the argument that home care can be a cost-effective alternative to facility care and that there continue to be opportunities to make care for seniors more cost-effective. This project was a collaboration of VAC and the Ontario Seniors' Secretariat.

The project indicated that VAC has, unlike most other jurisdictions in Canada, continued a clear focus on the maintenance and preventive functions of home care. (In this article, we use the term *other jurisdictions* to refer to Canada as a whole [e.g., First Nations and Inuit Health], provincial healthcare systems, regional health authorities and regional health networks.) While further study is required, it is possible that this continued funding of preventive home care may be providing savings to provincial healthcare systems by reducing the rate of deterioration in the health of veterans, thereby reducing the use and costs of hospital services and long-term care facilities.

The main focus of the Continuing Care Research Project was to look at home care as a substitute for long-term facility care. Two interrelated studies were conducted for this project. Study one was conducted in three sites (Halifax, Ottawa and Victoria) for a special group of veterans who had previously only been eligible for long-term facility care and who were given the option of remaining in their homes with the assistance of

Table 1. Unit costs per hour for paid care providers of community clients over a two-week period

Provider	Unit Cost per Hour*
Physician	$150.00
Registered nurse	$66.50
Licensed/registered practical nurse	$34.80
General nurse	$37.20
Physiotherapist	$44.56
Occupational therapist	$37.58
Other medical professional	$100.02
Care aide/care worker	$27.00
Homemaker/home maintenance	$27.00
Complementary healthcare provider	$100.00
Other providers	$30.00

*The same hourly unit costs were used in both study one and study two.
Table 2 presents the comparative costs of home care and facility care using these unit costs.

the VAC home care program called the Veterans Independence Program (VIP) (Pedlar and Walker 2004). Study two was a larger study of the overall VIP and was conducted in Toronto. It looked at veterans receiving home care, supportive housing services and facility care.

The results for studies one and two were similar. It was found that satisfaction levels were highest for home care clients, followed by clients in supportive housing and clients in facility care. However, satisfaction levels were very high in all three types of services. Given similar outcomes, one can conduct a comparative cost analysis to determine relative cost-effectiveness (essentially a cost-minimization study that is a specific type of cost-effectiveness analysis in which the outcomes are the same but the costs vary across the groups of interest). A more detailed description of findings and the methods used to conduct studies one and two can be found in the synthesis report for the project (Miller et al. 2008).

The supportive housing sample differed from the other two samples. There were relatively few veterans who could be identified as living in supportive housing, perhaps due to the comprehensive nature of the VIP. Thus, the sample was small; consequently, widows of veterans were added to the sample. Furthermore, supportive housing in Ontario has a low-income component. It was found that some veterans, while having some care needs, were in this type of housing for financial reasons. Thus, as the supportive housing portion of the study was more exploratory in nature, the results are not reported here but will be documented in future articles based on this project.

Table 1 presents the unit costs data (hourly market rates for services for different types of providers) used to calculate the formal, or paid, costs of care for veterans living in the community. With regard to unit costs for facility care, the rate paid by VAC for facility care was used. Data were also obtained on actual facility budgets. It was found that the average cost per bed based on facility budgets and the rate paid by VAC were very similar; thus, VAC rates can serve as a proxy for the governmental costs of care in the facilities in the study. (For some veterans, provincial healthcare systems pay for facility care.) The facility user fee is included in the out-of-pocket expenses portion of client related costs in Table 2.

In order to ensure that costs are related to people with similar care needs (i.e., to do apples-to-apples comparisons), the Functional Autonomy Measurement System (SMAF) assessment and classification instrument (Hébert et al. 1988, 2001) was used. Respondents were stratified into SMAF groups by the research team. Table 2 presents information on the SMAF groupings, the overall sample size and the comparative costs for home care and facility care services. It should be noted that not all study participants completed each of the diaries noted in Table 2. These diaries were the primary source of information about time and costs. Thus, a shortcoming of the study was that, due to issues of informed consent and willingness to complete diaries, the data in each of the cells in Table 2 is based on the data available.

The findings from this study also indicate that home support services play a key role in the provision of long-term home care services for veterans, overall, and for facility equivalent clients [clients at level 4 or higher (Table 3)]. It is important to note that veterans in the study had real medical needs and that their needs fell under the "medically necessary" provision of the Canada Health Act. What is not always understood is that for veterans, and seniors more generally, where one is trying to maintain independence for as long as possible, the appropriate response to "medically necessary" care needs is often supportive services (e.g., shopping, making a meal, feeding or bathing the client, etc.). Thus, home support services should be an integral part of home care programs. This is clearly recognized by VAC as they provide both professional home care services *and* home support services in their VIP.

Discussion and Conclusions

It is interesting to note that the findings from the Continuing Care Research Project – that home care has the potential, through

Table 2. Comparative costs of home care and facility care

		Care Levels*	Total Costs to Government	Out-of-Pocket Expenses and Caregiver Time at Replacement Wages	Total Societal Costs
Study 1[+,Y]	**Home Care Clients**	Levels 1 and 2	4,837	14,411	19,248
		Level 3	5,905	20,194	26,099
		Level 4	12,783	31,083	43,866
		Level 5	14,875	50,297	65,172
		Level 6 or higher	14,581	42,263	56,844
	Facility Care Clients	Level 4	63,008	24,239	87,247
		Level 5	67,675	23,617	91,292
		Level 6	64,594	24,463	89,057
		Level 7	64,811	23,975	88,786
		Level 8	65,296	19,053	84,349
		Level 9	64,203	19,120	83,232
Study 2[+,Y]	**Home Care Clients**	Level 1	7,090	11,594	18,684
		Level 2	7,033	14,175	21,208
		Level 3	7,129	18,135	25,264
		Level 4	11,414	22,111	33,525
		Level 5	16,759	74,139	90,898
		Level 6 or higher	12,904	65,560	78,464
	Facility Care Clients	Level 3	83,148	14,246	97,394
		Level 4	87,578	18,288	105,866
		Level 5	85,555	19,332	104,887
		Level 6	82,573	22,779	105,352
		Level 7	83,754	30,953	114,707
		Level 8	83,371	32,830	116,201
		Level 9	83,410	30,402	113,812

[+] The overall sample size for clients and caregivers was as follows:
Study 1 Clients: 355 Study 1 Caregivers: 300
Study 2 Clients: 569 Study 2 Caregivers: 371

Table 2. Continued

[Y] The number of people completing diaries was as follows:

Study 1 Community:	Caregiver Time and Assistance: 96	Study 1 Facility:	Caregiver Time and Assistance: 112
	Out-of-Pocket Expenses: 100		Out-of-Pocket Expenses: 100
	Professional Services: 96		
Study 2 Community:	Caregiver Time and Assistance: 155	Study 2 Facility:	Caregiver Time and Assistance: 179
	Out-of-Pocket Expenses: 175		Out-of-Pocket Expenses: 166
	Professional Services: 291		

* The SMAF scores for each level of care were as follows (SMAF scores range from 0 to 87):

Level 1: 0 – 5.0
Level 2: 5.5 – 10.0
Level 3: 10.5 – 18.0
Level 4: 18.5 – 28.0
Level 5: 28.5 – 38.0
Level 6: 38.5 – 48.0
Level 7: 48.5 – 58.0
Level 8: 58.5 – 68.0
Level 9: 68.5 – 87.0

appropriate substitutions, to be a cost-effective alternative to facility care – are similar to the findings from studies conducted across three provinces in Western Canada (Chappell et al. 2004; Hollander Analytical Services Ltd. 2006). The finding that home care is a lower-cost alternative to facility care does not automatically imply, however, that investments in home care will be cost-effective. Investments in home and community care can only increase overall cost-effectiveness if these investments are made in the context of a broader, integrated system of care in which substitutions of home care for facility care, and hospital care, can be made. Examples of where this has been done successfully are Denmark and British Columbia where, from the late 1980s to the mid-1990s, considerable efficiencies were obtained by a proactive policy of focusing on home-based services.

"The evidence is clear that proactive and comprehensive systems of care for older people can result in better health outcomes for the same, or lower, cost."

It should also be noted that the findings in this article are not limited to substituting home care for long-term facility care. As noted above, the work of Hollander (2001a) and Markle-Reid et al. (2008) indicate that even moderate amounts of home care can reduce the use of hospital services. The risk in focusing primarily on short-term and specialty home care is that the definition of *home care* will shift in the minds of policy makers and the public to equating it with short-term home care (as noted by Cohen et al. [2006], this may already be happening). This could lead to a further encroachment on home care services, and particularly home support services, for seniors. This could, in turn, lead to a negative cost spiral in which home support funding is reduced and hospital funding is increased, leading to greater demands on acute care services because people can no longer cope at home due to a lack of adequate home support services. This increased demand may then be used to justify further increases to hospital budgets, possibly resulting in further decreases to home support, leading to further rounds of increased demands on hospitals – repeating the cycle over and over and increasing the overall cost of the Canadian healthcare system.

A key finding from the Continuing Care Research Project, which is comparable to findings in other studies, is the critical role that home support services and unpaid caregivers play in allowing people to remain in the community and maximize their independence for as long as possible. This study also builds on the base of evidence from earlier studies that supports the benefits of long-term home care and home support services. For the past several years, the policy focus has been on the provision of short-term, professional, acute care replacement and specialty home care, where home care is seen as a separate service and not as part of a broader, integrated service-delivery system. With the findings from this and similar studies, there is now a reasonably substantial weight of evidence to indicate that long-term home care, home support services and integrated systems of care delivery are deserving of a renewed policy focus in Canada.

There has in fact been an ongoing call over the past several years for federal policy to focus on broader, integrated systems

Table 3. The role of home support in care delivery

	Service	Percent of Respondents Who Received the Services* (%)	
		All Clients	Facility Equivalent Clients (Level 4+)
Main Services Used by Community Clients in Study 1	Housekeeping	87	79
	Home Adaptations	61	70
	Grounds Maintenance	53	45
	Personal Care	35	59
Main Services Used by Community Clients in Study 2	Housekeeping	98	94
	Home Adaptations	63	86
	Grounds Maintenance	69	65
	Personal Care	15	46

* A respondent could receive multiple services. The table presents, for each service, the percentage of clients in the overall sample who received that service.

of care rather than on separate services (e.g., home care) or partial services that further segment care delivery (e.g., short-term hospital replacement home care [Chappell et al. 2004; Hollander 2001b; Hollander and Chappell 2002; Hollander et al. 2007]). Long-term home care and home support services, and long-term care facilities, are critical elements of an appropriate response to the healthcare needs of Canadian seniors. While the findings are exploratory, it also appears from the Continuing Care Research Project that supportive housing/assisted living may be an important new addition to the range of care services for seniors. It now appears that there is a tremendous potential for making care services for seniors, and the overall healthcare system, more efficient and effective if one shifts the policy focus to broader, integrated systems of care delivery in which one can make actual substitutions of lower-cost care for higher-cost care (in a planned and proactive manner), while providing an equivalent or even higher quality of care. As can be seen in Table 2, there is, at least in terms of the cost to government, a considerable potential for greater efficiencies through substituting enhanced home-based services for long-term facility care services in regard to the services provided by VAC. Such substitutions may also, at least to some degree, be available in other jurisdictions across Canada.

In summary, integrated systems of care have the following benefits:

- They are good clinically because they allow for well-coordinated, seamless care for clients across a wide range of services from Meals on Wheels to specialized geriatric assessment and treatment centres in hospitals.
- They are good from a policy perspective because policies can be made at the broader systems level, across all care services in the system, to the benefit of the client.
- They are good economically because such systems allow for trade-offs between, for example, less costly home care services and more expensive long-term facility care or acute care services. Such efficiencies can increase value for money within the care system for seniors, and within the broader healthcare system.
- They are good because, if done well, it is possible to simultaneously reduce costs (or increase efficiencies) *and* provide better care to clients.

Perhaps the findings from the Continuing Care Research Project study and the other studies noted above can best be summarized by the following statement by Markle-Reid et al.: "The evidence is clear that proactive and comprehensive systems of care for older people can result in better health outcomes for the same, or lower, cost" (2008: 220).

In order to shift the current policy focus in Canada, policy makers will first have to determine if they accept the notion that a system of integrated care for seniors and others with ongoing care needs should in fact be recognized as one of the cornerstones of the Canadian healthcare system, along with hospital care, primary care (including chronic disease management), population and public health and drugs. There is currently an opportunity to move to a new way of thinking about how services for seniors and others with ongoing care needs could be structured and delivered. Many of the components for integrated care systems are already in place across Canada; thus, integration could be achieved at a fairly modest cost by restructuring existing services. Therefore, what is required is a shift in the policy focus, and concrete steps to bring integrated care systems into reality. Integrated systems of care were in place or in development across Canada in the early 1990s (they were often referred to as continuing care, or home/community and facility long-term care). These systems were the third-largest component of the Canadian healthcare system in terms of public expenditures

(after hospitals and physician services). According to a recent report from the Canadian Institute for Health Information (2008), this still seems to be the case as public expenditures for continuing care (i.e., facility care and home care), in 2007, were estimated to be some 15.4 billion, while public expenditures for drugs were estimated at $10.8 billion.[1] Given the size and scope of services to seniors in Canada, considerations regarding how such services can best be structured and organized are clearly worthy of a renewed policy focus by senior decision-makers across Canada. HQ

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[1] The report notes that public expenditures for residential care facilities were some $12 billion (75% of the total expenditure of $16 billion, p.10). Public spending on home care for fiscal 2003/04 was $3.4 billion (p.48). It is likely that this number would be higher for 2007. Thus, there was an estimated public expenditure on facility and home care services, in 2007, of some $15.4 billion. Canadian expenditures for drugs, overall, were $26.9 billion in 2007. Of this 84%, or $22.6 billion, was for prescription drugs. Of the $22.6 billion spent on prescription drugs 48% or $10.8 billion was paid for by the public sector. Non-prescription drugs are typically paid for privately and thus would not contribute, in any significant way, to public expenditures (p.4).

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