Balance of Care Research Group
University of Toronto

The Champlain Balance of Care Project: Final Report

Submitted to the Regional Geriatric Program of Eastern Ontario, the Champlain Community Care Access Centre, the Champlain Local Health Integration Network, the Regional Geriatric Advisory Committee and the Senior's Impact Council of the United Way/Centraide, Ottawa.

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With Addendum

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Forward to Revised Final Report

A draft version of this report was submitted to the Champlain Balance of Care Steering Committee on August 4th, 2009. In response to queries and comments from members of the Steering Committee, we have produced this revised final report. It contains a new section (5.0 Addendum to Final Report) including:

- Sub-section *5.1 Further Analysis of Divert Rate* in which we re-calculate the overall "divert rate" for Champlain by substituting care packages derived from projects in other regions of Ontario; these packages tend to be leaner, with fewer services and consequently lower costs. When using these substitute care packages the overall divert rate rises from just over 14% to just under 30%.

Acknowledgements

The authors wish to acknowledge the invaluable contributions of the Regional Geriatric Program (RGP) of Eastern Ontario, which in partnership with the Champlain Community Care Access Centre (CCAC), the Champlain Local Health Integration Network (LHIN), the Regional Geriatric Advisory Committee and the Seniors' Impact Council of United Way/Centraide, Ottawa, commissioned and resourced this project.

We are particularly grateful to the Champlain CCAC which provided access to RAI-HC data for individuals on its long-term care (LTC) wait list and for its excellent technical support for the data analysis.

Special thanks to: Cal Martell, Clinical Director, Ottawa Hospital & Director, Regional Geriatric Program; Sheila Bauer, Executive Director, Champlain CCAC; Jamie Stevens, Manager Quality, Champlain CCAC; and Jamey Burr, United Way/Centraide, Ottawa.

We also wish to thank the 35 individuals, representing more than 20 different health and social care organizations in Champlain, who participated on the project's Steering Committee and Expert Panel. Their insights, energy and commitment made this project possible, and ensure the relevance and value of the findings.

Executive Summary

1.0 Background

The Champlain Balance of Care Study was commissioned in March 2009 by the Regional Geriatric Program (RGP) of Eastern Ontario, in partnership with the Champlain Community Care Access Centre (CCAC), the Champlain Local Health Integration Network (LHIN), the Regional Geriatric Advisory Committee and the Seniors' Impact Council of United Way /Centraide Ottawa.

The project aimed to inform Champlain's Supportive Living (SL) initiative. A key goal of this initiative is to maintain older persons "at risk" of loss of independence safely and cost-effectively in the community.

The Balance of Care (BoC) is a planning tool which seeks to set evidence-based benchmarks for the most appropriate mix of community-based and institutional resources at the local level needed to support an aging population. While conventional projections of care needs often assume that a growing population of older persons will require a proportionately greater number of residential long-term care (LTC) beds, the BoC emphasizes that the need for such beds will be determined as well by supply-side factors such as the availability of safe, cost-effective home and community care (H&CC). Other things being equal, where H&CC is more accessible, greater numbers of older persons will be able to age successfully in the community. The key BoC question therefore, is the extent to which existing and potential community-based resources can provide safe, appropriate, cost-effective alternatives to residential LTC, or for that matter, ALC beds in hospitals.

2.0 Champlain BoC Project: Data and Methods

To ensure comparability, the Champlain BoC Project adapted the method used in 8 previous Ontario BoC projects:

- A Steering Committee was convened, comprised of senior leaders of organizations providing a range of health and social services to older persons in Champlain (including hospitals, social services, community supports, the Champlain CCAC, housing, mental health and addictions, primary care) and the LHIN.
- Key multi-measure indicators of need from RAI-HC assessments were used to stratify 3,724 individuals on the Champlain CCAC LTC Wait List (as April 2009) into 36 relatively homogenous sub-groups. These indicators were: cognitive performance including short term memory, cognitive skills for decision-making, expressive communication and eating self-performance; level of difficulty with activities of daily living (ADLs) including eating, personal hygiene, locomotion, and toilet use; level of difficulty with instrumental activities of daily living (IADLs) including meal preparation, housekeeping, phone use, and medication management; and presence of an informal/family caregiver in the home.
- Each of the 36 sub-groups was assigned a name, and the number of wait-listed individuals in each sub-group was calculated.
- "Vignettes" (detailed profiles based on the RAI-HC data) were developed for typical individuals in sub-groups with sufficient numbers to warrant analysis. In Champlain, 11 of 36 groups had over 2.5% of their populations wait-listed; these 11 sub-groups accounted for 87% (3,226) of the 3,724 individuals on the LTC wait list.
- An Expert Panel was convened which included experienced front-line case managers from across the health and social care continuum (including social services, hospitals, community support services, CCAC, seniors' homes, community mental health, and primary care). The

Expert Panel met in Ottawa for three full working days (April 27th to April 29th, 2009). It reviewed each of the 11 Champlain vignettes and constructed H&CC care packages needed to support typical individuals in each vignette in the community.

- Costs were estimated for each H&CC package. "Divert" rates were estimated by comparing the costs for each of the H&CC packages over a 13-week period to the costs of a residential LTC bed for that same period. To ensure "apples-to-apples" comparisons, only direct LHIN costs were included; user fees and co-payments were excluded. Where the direct LHIN cost for an H&CC package for a sub-group was less than or equal to the direct LHIN cost of a residential LTC bed, we concluded that individuals in this sub-group could potentially be safely, cost-effectively "diverted" to home and community care, assuming access to needed services. By summing up the total number of individuals in divertible sub-groups, and dividing by the total number of individuals in all 11 sub-groups in the analysis, we calculated overall divert rates.

3.0 Findings

As noted, the Champlain CCAC LTC wait list included 3,724 individuals as of April 2009. All individuals on the wait list had been administered a RAI-HC assessment by a CCAC case manager and deemed eligible for a residential LTC placement.

Compared to other regions in which BoC projects had been conducted, wait listed individuals in Champlain typically experienced more cognitive challenges and difficulties with instrumental activities of daily living; they were also less likely to have a caregiver living with them.

- About three in ten (29%) were cognitively intact.
- Close to half (42%) experienced little or no difficulty ("none") with ADL tasks such as eating, personal hygiene, toilet use and locomotion in the home.
- In contrast, three quarters (77%) reported "great" difficulty with IADL tasks such as meal preparation, housekeeping, and telephone use and medications management, requiring others to perform these tasks for them.
- While 37% of wait-listed individuals had caregivers living with them, a majority (63%) did not.

There was considerable variation by sub-region. Compared to Champlain as a whole:

- Wait listed individuals in North Lanark/North Grenville and Renfrew County tended to be at lower levels of need.
- Wait listed individuals in Central East, Central West and Centre were more likely to fall into higher needs sub-groups.

There was considerable variation by location waiting:

- Ten percent of those on the Champlain LTC wait list were waiting in hospitals. Of these, almost a third (61%) had "high needs" (sub-groups #29-36) while just under 1 in 10 (9%) had "low needs" (sub-groups #1-8).
- About a fifth (22%) were waiting in residential LTC, often for transfer to a facility of choice. Of these, more than two thirds (68%) were "high needs."
- A third (34%) were waiting in the community. Of these, a quarter (25%) had "low needs" while a third (34%) had "high needs."
- Almost a third (32%) were waiting in commercial retirement homes. While somewhat more likely than those waiting in the community to experience high needs (43%), about a fifth (18%) had low needs.

The Expert Panel constructed H&CC care packages for each of the 11 sub-groups containing 2.5% or more of the total number of wait listed individuals. These 11 vignettes included 3,226 of the 3,724 individuals (87%) on the wait list. Vignettes were written to simulate the notes case managers would use when making actual care decisions. For example, the vignette for Davis, at a relatively low level of need, states:

> *"Davis is cognitively intact and functionally independent in all ADLs with the exception of bathing (limited assistance is required). Davis has no difficulty using the phone, some difficulty with managing medications and transportation, and great difficulty with meal preparation and housekeeping. Davis does not have a live-in caregiver. Davis has a caregiver outside of the home (an adult child) who provides advice/emotional support and assistance with IADLs".*

The care package constructed by the Expert Panel for Davis included a mix of services:

- Care coordination
- Transportation
- Home maintenance
- Nutrition and socialization
- Personal care and support
- Professional services
- Emergency response system

Detailed cost estimates were calculated for delivering each of the 11 H&CC packages on a service-by-service basis in the family residence for a 13 week period; they were then compared to the costs of residential LTC. Costs for caregiver supports were included where applicable, even though they increased the overall costs of care packages.

Individuals in sub-groups were considered to be "diverts" if the direct cost to the LHIN of their H&CC package for a 13 week period was equal to, or less than, the direct cost to the LHIN of a residential LTC bed for the same period.

The "overall divert rate" was calculated by dividing the total number of individuals in "divert" sub-groups by the total number of individuals in the 11 sub-groups for which H&CC packages were constructed (N = 3,226).

- The overall divert rate for Champlain, estimated on the basis of service-by-service delivery in the family residence was just over 14%; supportive housing divert rates ranged up to 33%.

Divert rates were also calculated by sub-region and by location of assessment.

- Divert rates estimated on the basis of service-by-service delivery in the family residence ranged from 12% in Central West Champlain to 25% in North Lanark/North Grenville.

4.0 Conclusions

The findings of the Champlain Balance of Care Project suggest that there is considerable potential to support older persons "at risk" of loss of independence, safely and cost-effectively in the community.

Using conservative estimates, and including care for caregivers in H&CC packages and costs, we calculated the overall divert rate, based on service-by-service delivery in the family residence, at just over 14%; however, when considering supportive housing options, the divert rate ranged up to 33%.

At over 3,700 individuals, the wait list in Champlain was considerably longer than those observed in other parts of the province. Why? Although the RAI-HC data are insufficient to reveal the dynamics of wait list decisions, Champlain Steering Committee and Expert Panel participants speculated that this was in part due to another notable phenomenon in Champlain, that is, the relatively high proportions of individuals waiting in commercial retirement residences; a third of wait listed individuals in Champlain were waiting in retirement homes.

Divert rates were based on the LHIN cost of a residential LTC bed of $85.43/day. If rates were calculated instead on the basis of the daily cost of a hospital bed, or a complex continuing care bed, they would be considerably higher. It was noted, in this connection, that some individuals occupy ALC beds in Champlain for extended periods of up to a year; if compared to the cost of an ALC bed, rather than a residential LTC bed, all H&CC packages would be cost-effective.

To achieve full potential, greater H&CC capacity is required. While discussion highlighted many outstanding H&CC programs and services offered by many excellent organizations across Champlain, it was also observed that their capacity was already stretched and would have to be ramped up if greater numbers of older persons, including those at high levels of need, were to be supported at home.

IADLs such as meal preparation, housekeeping, telephone use and medication management, so called "lower level" needs, appeared to be key drivers of LTC wait lists in Champlain as they have been in other parts of the province. While not health care per se, an inability to perform such everyday tasks can lead to a loss of independence.

Care coordination and management were also key issues, particularly as H&CC packages got "busier" at higher levels of need. Expert Panel members emphasized that it was often difficult for older persons with uncomplicated needs to coordinate and manage the services they required; when multiple services and multiple providers were needed, individuals and caregivers often faced insurmountable challenges. Even when a range of services was present at the local level (and this was not always the case), the challenges of coordinating and managing services pushed toward residential LTC as the default option.

Expert Panel members also emphasized that some care settings, particularly supportive housing, offer considerable advantages for coordinating and managing care. They believed that the combination of housing and support services builds a strong foundation for integrating care around the individual "from the ground up," and achieving cost-efficiencies since flexibility is increased, care needs are monitored and managed on an ongoing basis, team approaches are facilitated, and services can be substituted in ways which meet individual needs. We found that SH models in Champlain support a wide range of needs, including older persons, but also younger adults with disabilities whose care is complex and costly. We also found that two SH models in Champlain generated costs which were comparable to, or lower than, the costs of H&CC packages, even though they tended to serve populations with relatively complex and hard-to-serve needs.

Champlain Balance of Care Project Final Report

1.0 Background

1.1 Goals and Objectives

The Champlain Balance of Care (BoC) Project was commissioned in March 2009 by the Regional Geriatric Program (RGP) of Eastern Ontario, in partnership with the Champlain Community Care Access Centre (CCAC), the Champlain Local Health Integration Network (LHIN), the Regional Geriatric Advisory Committee and the Seniors' Impact Council of United Way/Centraide, Ottawa.

The project aimed to inform Champlain's Supportive Living (SL) initiative. A key goal of this initiative is to maintain older persons "at risk" of loss of independence safely and cost-effectively in the community.

The Champlain SL initiative responds to two provincial policy initiatives. The first, announced in 2007, is Ontario's Aging at Home (A@H) Strategy which promises to "transform community health care services so that seniors can live healthy, independent lives in their own homes." In addition to professional home care services such as nursing, rehabilitation therapy and social work, the A@H Strategy encompasses community supports such as "meals, transportation, shopping, snow shoveling, friendly home calling, adult day programs, homemaking services and caregiver supports" (see http://www.health.gov.on.ca/english/media/news_releases/archives/nr_07/aug/nr_20070828.html).

This initiative also responds to the more recent provincial ER/ALC (Emergency Room/Alternative Level of Care) Strategy. Announced in 2009, this Strategy seeks to reduce wait times in hospital ERs by minimizing the number of in-patient hospital beds occupied by individuals "in need of an alternate level of care (ALC), such as a long-term care bed or a rehabilitation care bed" (see http://www.health.gov.on.ca/english/media/news_releases/archives/nr_09/feb/bg_06_20090219.pdf). Higher numbers of ALC beds mean that fewer in-patient beds are available for individuals presenting in the ER, lengthening ER wait times, as well as wait times for the "big five" priority areas of the provincial Wait Times Strategy: cancer surgery, cardiac procedures, cataract surgery, hip and knee replacements, as well diagnostic imaging (e.g., MRI and CT scans). While the province estimated in February 2009 that "close to 19 percent of patients who are currently in a hospital bed in Ontario" can be classified as ALC, hospitals in Champlain have reported ALC rates in excess of 20%.

1.2 Balance of Care Approach

In conceptualizing and conducting the Champlain Project, we adapted the "Balance of Care" (BoC) model pioneered in the U.K. by Dr. David Challis and his group at the Personal Social Services Research Unit (PSSRU), University of Manchester.

The Balance of Care (BoC) is a planning tool which seeks to set evidence-based benchmarks for the most appropriate mix of community-based and institutional resources at the local level needed to support an aging population.

While conventional projections of care needs often assume that a growing population of older persons will require a proportionately greater number of residential LTC beds, the BoC emphasizes that the need for such beds will be determined as well by supply-side factors such as the availability of safe, cost-effective home and community care (H&CC). Other things being equal, where H&CC are more accessible, greater numbers of older persons will be able to age successfully in the community.

+The key BoC question therefore, is the extent to which existing and potential community-based resources can provide safe, appropriate, cost-effective alternatives to residential LTC, or for that matter, ALC beds in hospitals.

We note that the February 2009 backgrounder for the provincial ER/ALC Strategy identifies a mix of residential LTC and community-based initiatives to assist discharge of individuals from ALC beds. According to the backgrounder, in 2008/09 these initiatives include increasing the number of residential LTC beds (with an additional 1,750 new beds being added in selected communities across the province); and enhancing home and community care (including $38.5 million for increased home care, personal support and homemaking services and enhanced integration between hospitals and Community Care Access Centres; $94 million as part of the Aging at Home Strategy; and $22 million to LHINs to invest in local solutions to ALC problems).

This again emphasizes the key question addressed by the BoC: what is the optimal mix of residential LTC and community-based resources at the local level to support a growing population of older persons while moderating persistent system-level problems?

BoC projects in the U.K. have sought to guide resource planning and allocation by asking what proportion of individuals in residential LTC (care homes) could have been safely and cost-effectively supported in home and community had they been given appropriate community-based supports. This follows a period in the U.K. during which residential care was emphasized over community-based care options. In Ontario, the provincial Aging at Home Strategy effectively reverses the policy of a previous government which increased residential LTC capacity by 20,000 beds while capping CCAC budgets and restricting the growth of community service agency (CSA) budgets at or below the rate of inflation.

Currently there are no systematic data in Ontario describing the characteristics of residents of LTC facilities (although such data are being phased in). There are, however, systematic assessment data, through Community Care Access Centres (CCACs), on individuals waiting for residential LTC in the province; all on LTC wait lists have had a full assessment using the Resident Assessment Instrument – Home Care (RAI-HC), and judged by a professional case manager, on the basis of that assessment, to be eligible for LTC. Thus Ontario BoC projects to date have used RAI-HC data to ask what proportion of those waiting for residential LTC could potentially be "diverted" safely and cost-effectively to home and community. In addition, BoC projects in some parts of the province (e.g., North Simcoe Muskoka) have also asked what proportion of those occupying hospital ALC beds could be diverted to home and community if appropriate H&CC were available?

A particular strength of the BoC is that it combines the best available evidence with the real life knowledge and insight of experienced decision-makers and front-line case managers who understand needs at the local level, as well as local capacity to meet needs. As detailed below, BoC projects convene panels of local experts from organizations across the care continuum to review the assessed needs of individuals on LTC wait lists and to consider what services they would need to remain as independently as possible in the community; they then compare the costs of these services to the costs of LTC. The BoC is, in effect, an "in vivo" simulation of how care decisions are made at the local level given existing resources, and how they could be made given different resource mixes.

1.3 Key Findings from Previous Balance of Care Projects in Ontario

Prior to Champlain, BoC projects had been conducted in 8 other regions of Ontario:

- Waterloo-Wellington
- Toronto Central
- North West
- Central
- North East
- Central West
- South West
- North Simcoe Muskoka

These projects documented considerable variation on both demand (needs) and supply sides (local system capacity). However, some common patterns emerged:

- Expert panels concluded that significant proportions (between 20% and 50%) of individuals on LTC wait lists could potentially be "diverted" safely and cost-effectively to home and community.
- Expert panels insisted that in contrast to acute care, where the individual is treated on an episodic basis apart from their social context, in home and community the unit of care is the individual and informal caregiver.
- Instrumental activities of daily living (IADLs) including transportation, nutrition, ability to use the telephone and medications management, are key wait list drivers. Although not health care per se, an inability to perform such activities can result in serious physical and mental health problems, leading to the utilization of costly and sometimes inappropriate health care services including hospital ERs and hospital in-patient beds.
- In order to achieve the potential "divert rates," additional H&CC capacity would be required in all regions. While existing H&CC services currently support large numbers of individuals and their caregivers, including those at very high levels of need, there is insufficient capacity to increase numbers substantially. Indeed, inadequate H&CC capacity is often cited as a key reason why many individuals are directed toward residential LTC, or hospitals, when they might otherwise be supported at home.
- H&CC capacity tends to be particularly problematic in rural and remote areas. Individuals living outside of cities and towns may have little access to needed H&CC due to distance and lack of transportation, as well as the fact that there are fewer providers. Combined with demographic shifts which result in fewer family caregivers and attenuated social networks, the "tipping point" for referral to residential LTC appears substantially lower in rural and remote areas than in urban and sub-urban areas.
- The ability to coordinate available services is crucial. In Ontario, there have been few mechanisms to construct and manage integrated H&CC packages, particularly for individuals with complex needs (including cognitive deficits) who do not have caregivers living with them. While until recently, CCAC case managers have only been able to refer to needed community supports like transportation and meals-on-wheels, they have had little capacity to direct those services, guarantee access, or monitor outcomes. Similarly, case managers in community support agencies have had authority only over services provided by their agencies. The job of hospital discharge planners often ends at the hospital's door. Lacking mechanisms to ensure appropriate coordinated care, even when services are present, LTC can become the default option.
- Because there is no standard assessment, eligibility requirements, intake procedures, or core basket of services for supportive housing or adult day programs in Ontario, it is difficult to estimate with precision the extent to which these may be cost-effective alternatives for older

persons at different levels of assessed need. Nevertheless, data on supportive housing from selected regions suggest that this option offers considerable potential to serve high needs individuals and achieve cost efficiencies.

Additional details on the BoC approach and the results of BoC projects across Ontario can be found on the website of the Canadian Research Network for Care in the Community (CRNCC) at www.crncc.ca .

See also a recently published article on BoC project results in Toronto Central at http://www.longwoods.com/home.php?cat=253

2.0 Champlain BoC Project: Data and Methods

To ensure comparability, the Champlain BoC Project adapted the approach taken in 8 previous Ontario BoC projects.

Stage 1: Steering Committee

In the project's first stage, a cross-sectoral Steering Committee was convened. It included senior decision-makers and leaders from the Champlain Regional Geriatric Advisory Committee, representing hospitals, social services, community supports, the Champlain CCAC, housing, mental health and addictions, primary care, and the LHIN.

Steering Committee members were:

- Anne Aikens, County of Renfrew Social Services Committee
- Valerie Bishop de Young, VHA Health & Home Support
- Sheila Bauer, Champlain Community Care Access Centre
- Marlynne Ferguson, City of Ottawa
- Christine Gagne-Rodger, RGAP/LHIN
- Brigitte Gagnon, Réseau des services de santé en français de l'Est de l'Ontario/French Language Health Services Network of Eastern Ontario
- Mélanie Grenon, Réseau des services de santé en français de l'Est de l'Ontario /French Language Health Services Network of Eastern Ontario
- Cal Martell, Regional Geriatric Program
- Carol Murphy, Ottawa Hospital, Civic Campus
- Johanne Pomerleau, Montfort Hospital
- Oris Retallack, Council on Aging Ottawa
- Cathy Shea Montfort Hospital
- Jeremy Stevenson, Champlain LHIN/RLISS
- Kathy Wright, Alzheimer Ottawa

The Steering Committee provided advice and guidance, nominated individuals for the Expert Panel (see below), reviewed and validated the project findings, and assisted with knowledge transfer.

The Champlain BoC Steering Committee met twice via live video-conference. In the first meeting on April 23, 2009, the Committee was presented with an overview of the BoC approach, key findings from previous BoC studies and preliminary results from the Champlain CCAC LTC wait list data analysis. In the second meeting on June 29, 2009, the Committee was presented with findings from the Expert Panel, including care packages, cost estimates, and divert rates. At this second meeting, the Steering Committee confirmed that the project findings accurately reflect conditions "on the ground" in Champlain.

Stage 2: Stratification

In the second stage, key multi-measure indicators of need from RAI-HC assessments were used to stratify 3,724 individuals on the Champlain CCAC LTC wait list (as of April 2009) into 36 relatively homogenous sub-groups. These measures were:

- Cognitive performance including short term memory, cognitive skills for decision-making, expressive communication and eating self-performance (coded into 2 categories: intact, not intact).

- Level of difficulty with ADLs (activities of daily living) including eating, personal hygiene, locomotion, and toilet use (coded into 3 categories: no difficulty, some difficulty, great difficulty).
- Level of difficulty with IADLs (instrumental activities of daily living) including meal preparation, housekeeping, phone use, and medication management (coded into 3 categories: no difficulty, some difficulty, great difficulty).
- Presence of an informal/family caregiver in the home (coded into 2 categories: present, not present).

In addition to constructing the 36 sub-groups for Champlain region as a whole, we also constructed them for five sub-regions (using CCAC definitions): Central East, Central West, Centre, Eastern Counties, North Lanark/North Grenville, Renfrew County.

Stage 3: Analysis

In the third stage, each of the 36 population sub-groups was assigned a fictitious surname, and the number of wait-listed individuals in each sub-group was calculated. For example, the first, relatively low needs sub-group, containing individuals who were cognitively intact, experienced no difficulty performing ADL or IADL tasks, and had a caregiver living with them, was named "Appleton." Similarly, the 36th sub-group, named "J. Johns," contained individuals who were not cognitively intact, could not perform ADL and IADL tasks independently, and did not have a caregiver living with them. In Champlain the Appleton sub-group contained 6 individuals, or 0.2% of those on the LTC wait list, while J. Johns contained 514 individuals, or 13.8%. (For details, see Appendix 1).

Stage 4. Vignettes

In the fourth stage, "vignettes" (detailed profiles based on the RAI-HC data) were developed for typical individuals in sub-groups populated with sufficient numbers of individuals to warrant analysis; this minimum was set at 2.5% or more of the wait list population (44 individuals). In other Ontario projects, between 11 and 15 sub-groups have met this minimum threshold, accounting for 90% or more of wait-listed individuals. In Champlain, 11 of 36 sub-groups were populated with more that 2.5% of those wait-listed; these 11 sub-groups accounted for 87% (3,226) of the 3,724 individuals on the LTC wait list.

Stage 5. Expert Panel

In the project's fifth stage, an Expert Panel was convened. It included experienced and knowledgeable front-line case managers from organizations across the health and social care continuum in Champlain (including aboriginal health, social services, hospitals, community support services, CCAC, seniors' homes, community mental health, and primary care).

Champlain Expert Panel members were:

- Madeleine Auger, Champlain Community Care Access Centre
- Gerry Blathwayt, Carleton Lodge
- Jacynthe Carrière, Centre de Services Guigues
- Joanna Chisnell, Marianhill
- Diane Coulterman, Champlain Community Care Access Centre
- Karen Currie, Peter D. Clark Long-Term Care Home
- Paule Gauthier, Geriatric Mental Health Community team of Tri-County Mental Health Services
- Nadene Keon, Unitarian House of Ottawa
- Nicole Lecomte, Alzheimer Ottawa
- Lyne Marcil, Bruyere Continuing Care

- Louise Martin, The Good Companions Seniors Centre
- Elaine McNaugthon, Personal Choice Independant Living
- Lise Merpaw, Champlain Community Care Access Centre
- Cathy Oulton, Garry J. Armstrong
- Tammy Pulfer, Geriatric & Community Intervention Program
- Micheline Regis, VHA Health & Home Support
- Richard Ruest, VHA Health & Home Support
- Yves Seguin, Groupe Action
- Jeremy Stevenson, Champlain LHIN/RLISS
- Patricia Taylor, Champlain Community Care Access Centre
- Nancy Unwin, Geriatric Assessment Unit, The Ottawa Hospital
- Judy Vokey-Mutch, Ottawa Hospital, General Campus

The Expert Panel met in Ottawa for three consecutive working days (April 27th to April 29th). It reviewed each of the 11 Champlain vignettes and constructed H&CC care packages needed to support typical individuals in each vignette safely and appropriately in the community. Panelists were asked to consider only the needs of individuals (and caregivers), not costs (which would be estimated later). While there was lengthy discussion and debate about the mix and intensity of services required for individuals in each vignette, consensus was achieved in every case.

Stage 6: Costing and Divert Rate

In the project's sixth stage we estimated costs for each of the H&CC packages constructed by the Expert Panel and subsequently estimated an overall "divert" rate by comparing costs for each of H&CC package for a 13 week period to the costs of a residential LTC bed for the same period.

To ensure "apples-to-apples" comparisons, only direct LHIN costs were included in our estimates; user fees and co-payments were excluded. For example, while the average per diem cost of a LTC bed in Ontario is just over $130, our comparisons included only the average of $85.43 per day paid by the LHIN. Similarly, we excluded user fees for community supports such as transportation and meals-on-wheels since these vary by agency and by income. CCACs do not charge user fees or co-payments.

In previous BoC projects we have conducted sensitivity analysis to determine the impact on divert rates of including user fees and co-payments for both residential LTC and H&CC. With some variation, the impact has been to increase overall divert rates, since the approximately $50 per diem co-payment in LTC usually outweighs co-payments for H&CC, particularly for individuals at lower levels of need.

To estimate costs in Champlain we used:

- Community Support Service (CSS) costs in Champlain. Average unit costs for each CSS service were provided by the LHIN. As noted, user fees and co-payments were excluded.
- CCAC service costs provided by the Champlain CCAC.
- Residential LTC costs calculated on the basis of an average LHIN cost of $85.43 per day or $7,774.13 for a 13 week period. Resident co-payments of approximately $50 per day were excluded.

To estimate divert rates in Champlain we compared the direct LHIN cost of each H&CC package for a 13 week period against the direct LHIN cost of a residential LTC bed for the same period.

Where the direct LHIN cost for an H&CC package for a sub-group was less than or equal to the direct LHIN cost of a residential LTC bed, we concluded that individuals in this sub-group could potentially be safely, cost-effectively "diverted" to home and community care, assuming access to needed services.

By summing up the total number of individuals in divertible sub-groups, and dividing by the total number of individuals in all 11 sub-groups in the analysis, we calculated overall divert rates.

3.0 Findings

3.1 Characteristics of LTC Wait Listed Individuals

As noted, the Champlain CCAC LTC wait list included 3,724 individuals (as of April, 2009). All individuals on the wait list had been administered a RAI-HC assessment by a CCAC case manager and deemed eligible for a residential LTC placement.

As in other parts of Ontario, we observed considerable variation in the characteristics and needs of individuals on the wait list. Percentages below are for all wait listed individuals.

Overall,

- Less than a third (29%) were cognitively intact; they experienced few problems with short-term memory, cognitive skills for decision-making, expressive communication or eating self-performance.
- Four in ten (42%) experienced little or no difficulty ("none") with ADL tasks such as eating, personal hygiene, toilet use and locomotion in the home. Only about a quarter (26%) experienced "great" difficulty requiring others to perform these tasks for them.
- In contrast, three quarters (77%) reported "great" difficulty with IADL tasks such as meal preparation, housekeeping, and telephone use and medications management, requiring others to perform these tasks for them. Just under a quarter (22%) experienced "some" difficulty requiring some assistance from others. Only 1% could manage these tasks independently.
- While 37% of wait-listed individuals had caregivers living with them, a majority (63%) did not.

Cognition	Percentage
Intact	29%
Not Intact	71%
Total	**3,724**

Difficulty with ADLs	Percentage
None	42%
Some	32%
Great	26%
Total	**3,724**

Difficulty with IADLs	Percentage
None	1%
Some	22%
Great	77%
Total	**3,724**

Live-in Caregiver?	Percentage
Yes	37%
No	63%
Total	**3,724**

These patterns are generally consistent with those observed in other regions of Ontario. It is worth considering some key comparisons.

- The Champlain wait list appears to be disproportionately long. At over 3,700 individuals, it is 40% longer than the 2,600 wait listed individuals in the Central BoC project, the next most populous list observed to date. Steering Committee and Expert Panel confirmed, but had no specific explanation for this anomaly. However, some individuals speculated that it could be related to a high concentration of commercial retirement homes in Champlain, used mainly by older persons with good pensions and relatively low levels of need; when these individuals require care beyond what is available, or can no longer afford to pay, they may be directed toward publicly funded LTC. (See below for numbers of individuals waiting for LTC in commercial retirement homes).
- Fewer individuals were assessed as cognitively "intact" in Champlain (29%) than in other regions including:
    - North Simcoe Muskoka where 43% were intact
    - Toronto Central, 48% intact
    - Central, 38% intact
    - Central West, 33% intact.
- About a quarter (26%) of wait listed individuals in Champlain were assessed as having high levels of difficulty with ADLs. This compares to:
    - North Simcoe Muskoka, where 21% also experienced high levels of difficulty with ADLs
    - Toronto Central, 29%
    - Central, 30%
    - Central West, 40%
- Wait listed individuals in Champlain were more likely than those in other regions to be assessed as having high levels of difficulty with IADLs. In Champlain 77% could not perform IADLs by themselves. This compares to:

  - North Simcoe Muskoka, where 66% could not perform IADLs independently
  - Toronto Central, where 65% were dependent on others
  - Central, 74%
  - Central West, 73%
- Relatively few (37%) wait listed individuals in Champlain reported having a live-in caregiver. This compares to:
  - North Simcoe Muskoka, where 45% had live-in caregivers
  - Toronto Central, 35%
  - Central, 55%
  - Central West, 56%

Compared to other regions, therefore, wait listed individuals in Champlain were more likely to experience cognitive challenges and difficulties with instrumental activities of daily living; they were less likely to have a caregiver living with them.

The relatively low proportion of individuals in Champlain with live-in caregivers is noteworthy. It was suggested that in Champlain, fewer live-in caregivers may in part reflect an outflow of younger individuals from rural areas, as well as a growing number of older individuals wishing to retire in cottage country. Expert Panels across the province have emphasized the crucial role of informal caregivers in supporting older persons in home and community. They have also noted that such caregivers are particularly effective in addressing IADL needs (rather than personal care). Thus, a low prevalence of such caregivers could provide some partial explanation of the fact that IADL needs constitute a particularly important wait list driver in Champlain.

3.2 Distribution by Sub-region

As noted, four multiple item measures of need were combined to define 36 relatively homogeneous needs sub-groups. These sub-groups and the number of wait listed individuals in each for Champlain as a whole are given in Appendix 1.

In summary:

- 16% of wait listed individuals in Champlain fell into relatively low needs sub-groups (#s 1 to 8 – Appleton to Hamilton)
- Almost half (47%) fell into relatively high needs groups (#s 29-36 – C. Cameron to J. Johns)

As shown below, there was considerable variation by sub-region within Champlain. Compared to Champlain as a whole:

- Wait listed individuals in North Lanark/North Grenville and Renfrew County tended to be at lower levels of need.
- Wait listed individuals in Central East, Central West and Centre were more likely to fall into higher needs sub-groups.

Champlain Region	N of Clients	% of Wait List	Low Needs*	High Needs**
Central East	626	17%	15%	51%
Central West	1,174	32%	15%	52%
Centre	612	16%	15%	49%
Eastern Counties	425	11%	20%	43%
N Lanark/ N Grenville	145	4%	28%	39%
Renfrew County	563	15%	18%	34%
Not Known	179	5%	11%	53%
Total	**3,724**	**100%**	**16%**	**47%**

*Low Needs = sub-groups #1-8
**High Needs = sub-groups #29-36

3.3 Distribution by Location Waiting

There was considerable variation by location waiting:

- Ten percent of those on the Champlain LTC wait list were waiting in hospitals. Of these, almost a third (61%) could be categorized as "high needs" (sub-groups #29-36) while just under 1 in 10 (9%) were "low needs" (sub-groups #1-8).
- About a fifth (22%) were waiting in residential LTC, often for transfer to a facility of choice. Not surprisingly, more than two thirds (68%) fell into "high needs" categories.
- A third (34%) were waiting in the community. Of these, a quarter (25%) were assessed as "low needs" while a third (34%) had "high needs."
- Of particular interest, almost a third (32%) of those on the Champlain LTC wait list were waiting in commercial retirement homes. While somewhat more likely than those waiting in the community to experience high needs (43%), about a fifth (18%) had low needs.

Location Waiting	N of Clients	% of Wait List	Low Needs*	High Needs**
Hospital	386	10%	9%	61%
LTC	822	22%	5%	68%
Community	1284	35%	25%	34%
Retirement Home	1,173	32%	18%	43%
Not Known	59	2%	8%	44%
Total	**3,724**	**100%**	**16%**	**47%**

*Low Needs = sub-groups #1-8
**High Needs = sub-groups #29-36

3.4 Vignettes and Care Packages

As detailed above, RAI-HC data were used to create 11 "vignettes," one for each of the 11 sub-groups containing 2.5% or more of the total number of wait listed individuals. These 11 vignettes included 3,226 of the 3,724 individuals (87%) on the wait list. Vignettes were written to simulate the notes case managers would use when making actual care decisions. For example, the vignette for Davis, at a relatively low level of need, states:

> *"Davis is cognitively intact and functionally independent in all ADLs with the exception of bathing (limited assistance is required). Davis has no difficulty using the phone, some difficulty with managing medications and transportation, and great difficulty with meal preparation and housekeeping. Davis does not have a live-in caregiver. Davis has a caregiver outside of the home (an adult child) who provides advice/emotional support and assistance with IADLs".*

Vignettes were presented to Expert Panel members who were then asked to construct appropriate H&CC packages considering only safety and appropriateness, not costs. Additional details from the RAI-HC were provided to Expert Panel members on request. Typical requests concerned health problems, behavior, wandering, and the ability of caregivers to maintain support. The H&CC package constructed for Davis is given below.

Champlain H&CC Package for Davis (13 weeks)	
Service	**Frequency**
Care Coordination Initial Assessment and Referrals Ongoing Coordination Coordination of Individual Special Needs and Preferences	2 hrs total 1 hr/week 1 hr/week
Transportation Grocery Shopping Service Other Essential Services	2/week 1/week 1/month
Home Maintenance	1/week
Programs and Services Friendly Visiting	1/week
Meals on wheels	5/week
Congregate Dining	2/week
Senior's Centre	2/week
Personal Care and Support Home help (laundry, housekeeping)	2hrs/week
Personal Support Worker (bath)	1/week
Professional Services Nurse	2 visits (total)
Foot Care	2 visits (total
Occupational Therapist	2 visits (total)
Emergency Response System	

Similarly, the vignette for Vega, at a higher level of need, states:

> *"Vega is not cognitively intact but is functionally independent in all ADLs with the exception of bathing (limited assistance is required). Vega has no difficulty using the phone, and some difficulty with meal preparation, managing medications, transportation and housekeeping. Vega does not have a live-in caregiver. The caregiver is an adult child who lives outside of the home who provides advice/emotional support and assistance with IADLs."*

The care package for Vega follows:

Champlain H&CC Package for Vega (13 weeks)	
Service	**Frequency**
Care Coordination Initial Assessment and Referrals Ongoing Coordination Coordination of Individual Special Needs and Preferences	2 hrs total 1 hr/week 1 hr/week
Transportation Other Essential Services	2/week 1/month
Home Maintenance	1/week
Programs and Services Friendly Visiting	1/week
Meals on wheels	5/week
Alzheimer's Day Program	2 days/week
Telephone Assurance	Daily
Caregiver Support and Counseling	2 hrs/month
Personal Care and Support Home help (laundry, housekeeping)	2 hrs/week
Personal Support Worker (bath)	1/week
Professional Services Nurse	2 visits (total)
Foot Care	2 visits (total
Occupational Therapist	1 visit (total)
Emergency Response System	

The vignette for I. Innis, near the top of the needs stratification, states:

> *"I. Innis is not cognitively intact. I. Innis requires assistance with all ADLs (extensive assistance required when eating and is totally dependent with locomotion in the home, toileting, personal hygiene and bathing). I. Innis also experiences great difficulty with all IADLs (housekeeping, meal preparation, managing medications, phone use and transportation). I. Innis has a live-in caregiver who is a spouse. This caregiver provides advice/emotional support and assistance with IADLs. "*

The H&CC package constructed for I. Innis follows.

Champlain H&CC Package for I. Innis (13 weeks)	
Service	**Frequency**
Care Coordination Initial Assessment and Referrals Ongoing Coordination Coordination of Individual Special Needs and Preferences	4 hrs total 1 hr/week 1 hr/week
Transportation Grocery Shopping Service	2/week 1/week
Home Maintenance	1/week
Programs and Services In-Home Respite or LTC Short Stay	10 days (total)
Caregiver Support and Counseling	4 hrs/month
Personal Care and Support Integrated Worker (Personal Support and Home Help)	12 hrs/day
Professional Services Nurse	2 visits (total)
Foot Care	2 visits (total
Occupational Therapist	2 visits (total)
Psycho-Geriatric Worker	7 visits (total)
Emergency Response System	

3.5 Cost Estimates

Using the methods described earlier, we produced detailed cost estimates for each of the 11 H&CC packages constructed by the Expert Panel and compared them to the costs of residential LTC. Three examples are given below, corresponding to the vignettes presented above: Copper, Vega, and I. Innis.

Recall that each of these estimates is for a 13 week period, including only the direct cost to the LHIN; user fees and co-payments are excluded.

Note also that costs for caregiver supports are included where applicable, even though they increase the costs of care packages.

Champlain Costs for Davis (13 weeks)				
Service	**LHIN Code**	**Cost/Unit of Service for LHIN**	**Units of Service for 13 weeks**	**Total LHIN Cost**
Care Coordination	91	$81.44	28	$2,280.32
Personal Support Care	CCAC	$28.62	13	$372.06
Transportation	04A	$44.72	42.25	$1,889.42
Meals on Wheels	02A	$13.05	65	$848.25
Congregate Dining	03A	$5.89	26	$153.14
Home Help	72 5 82 31	$19.90	26	$517.40
Home Maintenance	09P	$35.22	13	$457.86
Senior's Centre	09J	$9.05	26	$235.30
Friendly Visiting	06A	$14.01	13	$182.13
Nurse	CCAC	$58.88	2	$117.76
OT	CCAC	$135.47	2	$270.94
Foot Care	CCAC	$58.88	2	$117.76
Emergency Response System	72 5 82 55	$274.12		$274.12
Total H&CC				**$7,716.46**
Total LTC (July 2008)				**$7,774.13**

Champlain Costs for Vega (13 weeks)				
Service	**LHIN Code**	**Cost/Unit of Service for LHIN**	**Units of Service for 13 weeks**	**Total LHIN Cost**
Care Coordination	91	$81.44	28	$2,280.32
Personal Support Care	CCAC	$28.62	13	$372.06
Transportation	04A	$44.72	29.25	$1,308.06
Meals on Wheels	02A	$13.05	65	$848.25
Home Help	72 5 82 31	$19.90	26	$517.40
Home Maintenance	09P	$35.22	13	$457.86
Day Program (Alzheimer's)	01A	$116.87	26	$3,038.62
Friendly Visiting	06A	$14.01	13	$182.13
Nurse	CCAC	$58.88	2	$117.76
OT	CCAC	$135.47	1	$135.47
Foot Care	CCAC	$58.88	2	$117.76
Caregiver Support and Counselling	08A	$23.14	6.5	$150.41
Emergency Response System	72 5 82 55	$274.12	1	$274.12
Total H&CC				**$9,800.22**
Total LTC (July 2008)				**$7,774.13**

Champlain Costs for I. Innis (13 weeks)				
Service	**LHIN Code**	**Cost/Unit of Service for LHIN**	**Units of Service for 13 weeks**	**Total LHIN Cost**
Care Coordination	91	$81.44	30	$2,443.20
Integrated Worker	CCAC	$28.62	1092	$31,253.04
Transportation	04A	$44.72	16.25	$726.70
Home Maintenance	09P	$35.22	13	$457.86
Day Program (Alzheimer's)	01A	$116.87	39	$4,557.93
Nurse	CCAC	$58.88	2	$117.76
PT	CCAC	$121.71	2	$243.42
OT	CCAC	$135.47	2	$270.94
Foot Care	CCAC	$58.88	2	$117.76
Psycho-Geriatric Worker	72 5 50 96 76	$115.64	7	$809.48
Caregiver Support and Counselling	72 5 82 10	$23.14	6.5	$150.41
Total H&CC				**$41,148.50**
Total LTC (July 2008)				**$7,774.13**

3.6 Summary of Costs and Divert Rate

Cost estimates for all 11 H&CC care packages constructed by the Champlain Expert Panel are summarized below.

Recall that individuals in sub-groups are considered to be “diverts” if the direct cost to the LHIN of their H&CC package for a 13 week period is equal to, or less than, the direct cost to the LHIN of a residential LTC bed for the same period.

The “overall divert rate” is calculated by dividing the total number of individuals in “divert” sub-groups by the total number of individuals in the 11 sub-groups for which H&CC packages were constructed (N = 3,226).

Champlain Costs and Divert Rate Summarized				
Sub-Group	**LHIN Cost of Long-Term Care (13 weeks)**	**LHIN Cost of Service by Service H&CC Packages (13 weeks)**	**Divert?**	**Frequency (Adjusted Percent)**
Davis	**$7,774.13**	**$7,716.46**	**Yes**	**300 (9.3%)**
Fanshaw	**$7,774.13**	**$7,716.46**	**Yes**	**162 (5.0%)**
Lambert	$7,774.13	$12,698.40	No	120 (3.7%)
Upperton	$7,774.13	$9,999.76	No	94 (2.9%)
Vega	$7,774.13	$9,800.22	No	177 (5.5%)
Wong	$7,774.13	$13,327.71	No	219 (6.8%)
Xavier	$7,774.13	$15,949.87	No	402 (12.5%)
C. Cameron	$7,774.13	$21,886.38	No	379 (11.8%)
D. Daniels	$7,774.13	$64,0577.53	No	521 (16.2%)
I. Innis	$7,774.13	$41,148.50	No	338 (10.5%)
J. Johns	$7,774.13	$84,168.86	No	514 (15.9%)
Overall Divert Rate	**14.3%**			**3,226 (100%)**

As indicated in the table, the "overall divert rate" calculated for Champlain is just over 14%, lower than rates observed in other regions of Ontario.

This reflects factors specific to Champlain:

- Assessed needs are relatively high in Champlain. As indicated earlier, close to three quarters (71%) experience cognitive deficits; more than three quarters (77%) are unable to perform key IADLs independently; and only a minority (37%) have live-in caregivers.
- The H&CC packages constructed by the Champlain Expert Panel are relatively "rich;" they include a full range of services even for individuals at relatively low levels of need.

It should be emphasized that this "overall divert rate" considers only the option of providing care on a service-by-service basis in the family residences. As we have seen in other Ontario studies, and as we see in Champlain below, rates tend to be higher for care options such as supportive housing, due to greater scope to pool resources, use available resources more flexibly, and reduce travel time. Thus, this overall divert rate of 14% can be considered a minimum or baseline estimate.

We also calculated divert rates for each of Champlain's 6 sub-regions (emphasizing that these considered only care provided in the family residence on a service-by-service basis). In some sub-regions these divert rates ranged up to 25%.

Champlain Divert Rates by Sub-Region		
Sub-Region	**Divert Rate**	**Total N**
Central East	14%	523
Central West	12%	1,029
Centre	14%	539
Eastern Counties	20%	373
North Lanark/North Grenville	25%	119
Renfrew County	14%	486
Not Known	11%	157
Total	**14%**	**3,226**

Finally, we calculated corresponding divert rates by location waiting. These rates reflect the fact that individuals assessed in different locations have different levels of need. For example, those assessed in residential LTC (waiting for placement in a LTC residence of choice) had higher levels of need than those assessed in the community. Note again, however, that these rates are calculated only on the basis of service-by-service care delivery in the family residence; as suggested below, other delivery models, particularly supportive housing, may offer potential for improving such rates.

Champlain Divert Rates by Location Waiting		
Location	**Divert Rate**	**Total N**
Hospital	8%	322
LTC	4%	724
Community	20%	1,051
Retirement Home	18%	1,082
Not Known	9%	47
Total	**14%**	**3,226**

3.7 Supportive Housing

While constructing H&CC care packages required for older persons living in their family residences, Champlain Expert Panel members emphasized that there are potentially more cost-effective options for delivering care. One option, given particular emphasis, was supportive housing.

Definitions and models of SH vary. The Ontario Ministry of Health and Long-Term Care defines SH in terms of the 24-hour availability of personal care services. Most definitions in the literature emphasize combinations of housing with coordinated packages of services needed to maintain the health and well-being of older persons. While there have been few published evaluations, supportive housing is seen by many to have the potential to promote well-being and independence for individuals by providing opportunities for socialization and friendship, ensuring a secure living environment, and providing regular contact with staff and other residents aware of changes in a resident's status (see http://www.crncc.ca/knowledge/factsheets/download/InFocus-SupportiveHousingOct4intemplate.pdf).

We conducted in-depth follow-up interviews with 4 housing providers in Champlain referred to us by Steering Committee members. As detailed below, while all served older persons, these providers varied considerably in terms of the range of needs served and models of care delivery.

Supportive Housing Providers

Provider 1. This provider operates what can be described as a single staffed group home model. It supports 6 individuals over the age of 16 who have a permanent physical disability requiring 24/7 coverage. Clients tend to have high need; many cannot perform any ADL activities on their own. However, those in the highest needs groups in the BoC stratification (e.g., I. Innis and J. Johns) would likely not be admitted. SH Provider 1 offers a range of supports including meal preparation, homemaking, home maintenance, personal care, 24/7 emergency response, care coordination, and caregiver support and counseling. Although most clients would be eligible for CCAC professional services, the provider noted that few actually receive these services.

Provider 2. This provider offers services to individuals in a designated SH building using on-site support staff. Most clients are younger adults with physical disabilities who require help with ADLs but who can live alone without supervision; only a minority is over age 55. Clients who are not cognitively intact and who have unsafe behaviours such as wandering are not admitted. Due to their high, complex needs, it was noted that few clients leave this setting to enter LTC; those who do leave usually require complex continuing care. Services offered by this provider include: ADL and IADL supports, homemaking, home maintenance, meal preparation and case management. Professional services are provided by the CCAC. Transportation is provided by an outside agency.

Provider 3A. Provider 3 operates two models of supportive housing. In the first model (A) clients live in supportive housing apartments attached to a LTC facility. Each client has an individualized care plan. This model is geared toward older persons and adults with disabilities. Clients must require 24 hour coverage and at least two of the following services: laundry, food, housekeeping, bathing, help with getting in and out of bed, groceries or transportation. Transportation services are coordinated but not provided by Provider 3. Professional services such as nursing are provided by the CCAC and efforts are made to ensure that these services are "clustered" around clients in the building (ie., a PSW may serve all clients on a flexible basis. SH clients can participate in the social recreational programs at the adjacent LTC facility (including congregate dining), thus eliminating the need for additional SH programs.

Provider 3 B. The second model (B) operated by Provider 3 was initially characterized as community-based supportive housing; however, on investigation, it proved to more closely resemble a supportive living or enhanced home care model. In this model the SH provider partners with paramedics to provide supportive housing services to individuals in their family residences. Paramedics conduct assessments, and they provide education and assistance to personal support workers with two person lifts. In order to be eligible, clients must be on the LTC wait list for one of two local LTC facilities and they must live within a specified geographic area. Each client has a call system in their home to communicate directly with SH staff. Like model A, each client has an individualized care plan and they can access a mix of services including ADL and IADL supports, housekeeping in specific areas (bathroom, living room, bedroom and kitchen only), and home maintenance. Clients in model B receive professional services from the CCAC and many clients make use of the social recreation programs at the local LTC facility. Provider 3 noted that like model A, model B supports clients with high care needs (such as J. John's). When they do transition to LTC, it is usually because they have become medically unstable, not because they have unmet ADL or IADL needs.

Provider 4. This provider operates what is, in effect, a not-for-profit retirement home. Funded through a combination of invested endowment funds, fundraising, and client fees, it offers a mix of services within negotiated service/payment agreements. The majority of clients live fairly independently in apartments with access to 24 hour emergency care. They pay privately for services such as housekeeping and congregate dining and they receive PSW and professional services from the CCAC if needed; they may also participate in recreational programs. Staff provide care coordination, assessment, community referrals and counseling. Clients with higher ADL and IADL needs reside in a more congregate setting where nursing staff are present 24/7 and ADL assistance is provided by staff PSWs. Services for these higher needs clients include: meal preparation, housekeeping, home maintenance, medication management, physiotherapy and nursing as necessary. However, clients in BoC sub-groups characterized by more significant physical and cognitive impairments (e.g., individuals in the C. Cameron sub-group) would not be admitted.

Supportive Housing Costs

To ensure "apples-to-apples" comparisons, each SH provider was presented with the assessed needs and characteristics of typical individuals in each of the 11 sub-groups in the BoC stratification and with the corresponding 11 H&CC packages created by the Champlain Expert Panel; they were then asked to detail how the needs of typical individuals in each sub-group would be met in SH.

H&CC to SH comparisons involve moving from a service-by-service approach to a more functional approach, since individual services or programs (e.g., congregate dining) may serve multiple functions in SH (e.g., nutrition, social connection, medications checks, informal assessment); transportation costs for clients and caregivers may be minimized; and resources may be used more flexibly.

We also asked the SH providers which needs would be addressed "in house" by staff, and which would have to be met through contracts or coordination with other providers (e.g., transportation through a community service agency or nursing through the CCAC). Finally, using cost data from each provider we calculated comparable cost estimates for each SH model for each of the 11 sub-groups (e.g., the SH costs for Davis compared to H&CC package costs for Davis). Note that both direct costs to the SH Provider (e.g., PSW hours) as well as indirect costs (e.g., those of professional services funded by the CCAC or other support services provided by other community service agencies) were included in each package costs so that total LHIN costs can be captured.

We note that the four SH providers went out of their way to help. Each dedicated considerable time and effort to this complicated task. However, reflecting the fact that they serve different populations, using different approaches, with funding from multiple sources, the SH cost estimates vary considerably.

Note that, on investigation, two models were excluded from our costing analysis:

- Provider 3B, because it involved the provision of an extensive range of services, including paramedic services, in the family residence, rather than in a supportive housing building.
- Provider 4, because services were provided according to individual service contracts, making direct comparisons difficult.

The chart below lists the estimated costs for each Champlain BoC care package for each of SH models 1 to 3A. Note that the costs for Provider 2 are relatively high; this reflects the fact that it mainly supports adults with physical disabilities, many of whom have needs so complex that they are not appropriate for LTC. Note also that range of costs for Provider 2 reflects differences in the needs of populations served at this provider's two SH sites.

Sub-Group	Provider 1	Provider 2	Provider 3 A
Davis	$4,272.45	$9,585.01 - $14,863.01	$7,548.95
Fanshaw	$4,272.45	$9,585.01 - $14,863.01	$7,548.95
Lambert	$4,349.21	$9.538.35 – $14,816.35	$8,884.71
Upperton	$4,064.16	$9,312.13 – $14,590.13	$8,360.54
Vega	$6,476.70	$8,868.18 – $14,148.18	$8,613.77
Wong	$7,102.78	Not Appropriate	$10,244.65
Xavier	$8,141.35	Not Appropriate	$8,613.77
C. Cameron	$9,203.45	Not Appropriate	$10,478.05
D. Daniels	Not Appropriate	Not Appropriate	$8,857.19
I. Innis	Not Appropriate	Not Appropriate	$9,684.38
J. Johns	Not Appropriate	Not Appropriate	$9,128.13
Overall Divert Rate	**33%**	**0%**	**14%**

The results show that:

- The overall divert rate for SH Provider 1 (the staffed group home model) is 33%, more than twice as high as the rate estimated for care in the individual's family residence.
- The overall divert rate for SH Provider 2 (a designated SH building) is nil; however, this model serves mostly young adults with physical disabilities requiring complex care, with consequently high costs.
- The overall divert rate for SH Provider 3A (the apartment style model attached to LTC) is 14%, about equal to the overall divert rate based on the H&CC packages.

The in-depth follow-up interviews with Champlain SH providers generated additional insights.

It was observed that:

- SH generally requires less dedicated staff time for care coordination. Workers are familiar with their buildings and clients, work in close proximity, communicate with one another on an ongoing basis, and schedule care on a flexible basis.
- In contrast to a home visit of a set length (e.g., an hour or nursing care) SH allows for care to be "ratcheted up" or "ratcheted down" as needed. When clients only need a few minutes of care, or when they need more than a standard unit, workers can flex schedules to accommodate.
- Transportation time is minimized for clients and for workers. Meals and social activities are often organized on-site, so that individuals don't have to leave their buildings to access them, and workers can concentrate their efforts at a single location.
- Congregate activities in SH can serve multiple purposes. For example, in addition to nutrition and social connection, congregate meals offer an opportunity to observe clients and assess their health and functional status in a normal setting, and conduct medications checks.
- In SH, the role of the informal caregiver may change. While some caregivers may reduce or withdraw support, others will be more able and willing to provide instrumental and emotional supports to loved ones, knowing that they do not have to worry about their basic needs.
- SH served different populations. While often thought of as primarily for older persons, In Champlain, SH also serves a growing population of younger adults with disabilities as they age.

These observations are consistent with findings from a BoC project conducted in the North East region of Ontario in 2008. This project examine the extent to which SH could reduce the need for residential LTC (see http://www.nelhin.on.ca/WorkArea/showcontent.aspx?id=3434).

The NE project observed that:

- H&CC care packages assume that care will be provided on a service-by-service basis, involving multiple providers particularly at higher levels of need. In SH a range of services and supports may be provided by the same provider at the same location enhancing continuity, reducing coordination challenges, and increasing accountability since one organization has responsibility for care and costs.
- In the family residence, services have to be transported to the individual (e.g., meals-on-wheels) or the individual has to be transported to the site of care (e.g., congregate dining) incurring often substantial travel costs, particularly in rural and remote areas. Indeed, in some areas of the NE, a lack of transportation means that home care is not a viable option. SH can reduce travel for the individual and for providers.
- In the family residence, services are generally provided in standard units (e.g., an hour nursing visit). In SH flexibility may be enhanced since individuals can be provided with less than, or more than, a standard unit of service when appropriate, and needs can be met in different ways (e.g., medication checks at congregate dining).
- In the family residence, older persons may become isolated and experience a decline in social connectedness, requiring either more frequent home visits, or transportation to activities or events outside the home (e.g., in an Elderly Persons Centre). In SH, the need for social connectedness may be met through denser social networks and a range of events offered on site (e.g., bingo, diners club, exercise class, crafts).
- In the family residence, the first line of care, even for older persons with multiple, complex needs, is the family caregiver, often generating a considerable burden of care, and requiring

additional formal services (e.g., caregiver respite, counseling) to avoid burnout or crisis. In SH, formal caregivers (e.g., PSWs) offer first line care, with family members and friends providing additional supports and social connections.

- In their own residence, older persons may have few options when a crisis occurs particularly outside of normal business hours; a too frequent recourse if the use of emergency services even for non-medical problems. In SH, individuals have access to a call system, and 24/7 staff, reducing emergency calls.
- In family residences, OTs may focus on assessing risks (e.g., loose carpets) and recommending home adaptations (e.g., grab bars in the bathroom). In SH, particularly when units are constructed to meet accessibility standards, OTs may spend more time with rehabilitation.
- In SH, fewer PSW hours may be required. In the family residence, PSW visits are a minimum of one hour, both for contractual reasons, and because workers are generally unwilling to do shorter visits. In SH, PSW visits can be more frequent and for shorter periods of time due to the fact that staff is on site 24/7 and travel is no longer a factor.

3.8 Further Observations

During the course of the Champlain BoC project, Steering Committee and Expert Panel members made many additional observations about the potential for supporting at risk older persons in their homes and communities.

3.8.1 People are the Top Line

As in other regions of Ontario, the Champlain BoC project revealed a deeply held belief that vulnerable people's lives can and should be improved. While there were different approaches to addressing need, there was strong consensus that many individuals now slated for residential LTC may be safely and cost-effectively supported in the community. We observed a willingness to talk, to learn from each other, and to work together toward a common purpose, recognizing that what Steering Committee and Expert Panel participants felt was needed, could be challenging to achieve in a real world characterized by multiple organizations, funding arrangements, eligibility requirements, and service constraints. In effect, by establishing a forum for "taking off institutional hats" and engaging in cross-sectoral thinking and action, the BoC anticipates a more coordinated, integrated system where care organizations and providers work together.

3.8.2 Unit of Care

Consistent with BoC projects in other parts of Ontario, Champlain participants stressed that, in contrast to the acute care model, where individual patients, or body parts (e.g., hips and knees, eyes, heart) are treated on an episodic basis apart from their social context, in home and community the unit of care includes family members, neighbors and friends. In addition to providing direct instrumental and emotional support, informal caregivers may also access and coordinate formal services, particularly for individuals experiencing limitations due to cognitive decline, dementia, poverty, isolation, lack of education, or culture and language. The fact that relatively few individuals on the Champlain LTC wait list report live-in caregivers thus has major implications for care planning, delivery and costs.

Although there was considerable debate about what formal supports informal caregivers should receive, there was full agreement that the needs of both the individual and the caregiver must be assessed together, that supports for caregivers should be planned as integral elements of all H&CC care packages, and that outcomes evaluation take into account the benefits to both. While increasing the total costs

of these packages, it was felt that failing to include them would send the wrong message. Informal caregiver needs and supports were seen to be inseparable from the needs of older persons.

3.8.3 "Lower Level" Needs Are Key

While it is often assumed that the LTC placements are "triggered" by cognitive decline or by difficulties performing "heavy care" ADLs, "lighter care" IADLs such as transportation, nutrition and housekeeping emerged in Champlain, as in other regions of Ontario, as a key wait list driver. While, for example, transportation is not considered medically necessary, an inability on the part of older persons to get out of their homes can jeopardize health and independence as they become increasingly isolated and fail to perform essential activities such as shopping and banking. Likewise, a failure to manage medications, particularly for older persons with multiple health and cognitive problems, can quickly convert into medical emergencies, hospital admissions, and residential LTC placements.

In addition to being consistent, as noted, with BoC projects in other parts of Ontario, this finding is consistent with a growing body of evidence nationally and internationally which suggests that in integrated care models where the most appropriate services can be selected from across the health and social care continuum, there is a consistent tendency toward "downward substitution," that is, the use of "lighter care" IADL supports instead of heavier personal care or health care.

3.8.4 Service Capacity and Accessibility

Champlain BoC participants stressed that to achieve potential divert rates, needed H&CC services must be accessible at the local level.

Services have to be present, which is not always the case particularly outside of urban areas where there are relatively few providers, and where distance and transportation pose formidable challenges.

People have to be connected to services. It was emphasized that older persons with multiple needs (including cognitive deficits) requiring multiple services and providers are among the least likely to be able to find and coordinate them. As a result, older persons often presented to the formal system when they and their caregivers were in crisis, and LTC or hospitalization were the only options.

Ontario's current patchwork quilt of providers, legislation, funding arrangements, eligibility requirements, and assessments is seen as a major barrier, not only to accessing services, but to providers working together to address complicated needs. Here, much emphasis was placed on the role of a care coordinator who could educate older persons and their caregivers around care choices, link them to community-based resources, and take responsibility both for clinical and financial aspects of a coordinated package of care. Care coordinators could be individuals with a wide breadth of knowledge and experience, or members of multi-disciplinary teams. A distinction was made between the concept of care coordination, seen to center on the needs of the individual, in comparison to service management, seen to centre more around rationing available resources.

3.8.5 Urban-Rural Differences

Expert Panel members emphasized urban-rural differences.

On the demand side, rural populations are aging faster than those in cities due to an outflow of younger persons following education and jobs to cities, and an inflow of retired persons moving to take advantage of country living. Older persons in rural areas are also less likely to have informal caregivers thus increasing the need for formal services. Consequently, the needs threshold for admission to

residential LTC in rural areas is lower; LTC is often the default option even for those with relatively low needs.

On the supply side, services are often more difficult to access in rural areas due to low population density, the challenges of recruiting workers to rural areas, long distances and lack of transportation. In rural areas, transportation (for individuals and providers) presents particular challenges both in terms of availability and costs

3.8.6 Innovation, Flexibility and Accountability

Expert Panel members noted, at many points, that even when needed H&CC services are available at the local level, a jumble of different eligibility criteria, funding requirements, service limits, and so on, make it difficult to innovate or collaborate. Rather than being able to fit care to the needs of the older person, older person must often fit the terms and conditions of available programs and services. This poses difficulties when trying to put together care packages which span multiple services and providers. It also promotes "gaming" where providers go beyond their mandate or "fudge" costs, where clients are "mislabeled" to comply with regulations, and where the incentive is to pass on high needs, high cost clients to the next provider.

Expert Panel members also emphasized the need for flexibility in care provision. Because local supply and demand side factors vary so markedly both within and across regions, and because services can often be substituted to address the same function (e.g., nutrition through meals-on-wheels, congregate dining or home support), there must be flexibility. Instead of attempting to "micro-manage" individual services "from the top-down," or set quality standards service by service when it is often not clear what services are needed or accessible, it might be simpler and more cost-effective to allow case managers or multi-disciplinary teams to build services packages "from the ground up." By making these managers responsible both for finances and for client outcomes, innovation, flexibility and accountability could be encouraged.

3.8.7 User Fees/Co-payments

User fees and co-payments were seen to generate more costs than benefits.

It was a noted that user fees usually cover only a small portion of actual costs and that the benefits are offset by the added costs of assessing financial need and collecting fees.

Use fees also create barriers to appropriate, cost-effective care. While hospital, doctors and CCACs do not charge fees, community supports often do, albeit on a sliding scale geared to income. This can steer individuals away from needed and relatively inexpensive "lower level" services, to more costly and sometimes unnecessary health care and hospital admission. Further, while possibly deterring inappropriate service use, individuals on low, fixed incomes may delay or avoid accessing needed services because they cannot afford them, leading to crisis situations where the only options are residential LTC or a hospital bed. Even those who can afford to pay, may nevertheless put off getting services because they are seen as unnecessary "frills" (not really health care), and user fees may pose particular challenges in rural areas and communities characterized by lower incomes. The result is that economic choices may trump need, resulting in a range of perverse outcomes for individuals, caregivers, and the system.

It was noted, in this connection, that the Ottawa Hospital has begun to subsidize preferred LTC accommodation for certain LTC-eligible patients waiting in hospital beds; as a result the number of ALC

beds dropped from 153 to 113 as of June 2009. This is because preferred accommodation, while more readily available, has higher co-payments, so that individuals will attempt to wait until standard accommodation becomes available, extending both hospital stays and LTC wait lists.

Low incomes and lack of affordable housing may also drive care decisions. Retired older persons on fixed incomes are among the least likely to be able to afford somewhere to live; and couples with low income may delay admission of one partner to LTC because the remaining partner can't afford to live alone.

3.8.8 Health Human Resources (HHR)

Home and community care is labour intensive; it requires an adequate and predictable supply of appropriately trained health human resources. It was noted, however, that HHR supply is particularly problematic in the community where wages tend to be lower than in hospitals and facilities, where employment may be casual, and where employees may not have access to employment benefits. As a result, it is difficult to keep good workers who often leave for better paying jobs in hospitals and residential LTC. Rural areas are even more likely to experiences shortfalls.

To address ongoing HHR shortfalls, Expert Panel members recommended:

- Enhanced wages and benefits for workers in the community.
- Expanded training programs for multi-role care workers who can provide a range of services (including bathing, housekeeping, meal prep and laundry).

4.0 Conclusions

Consistent with the findings of BoC projects in other regions of Ontario, the findings of the Champlain project suggest that there is considerable potential to support older persons "at risk" of loss of independence, safely and cost-effectively in the community.

Using conservative estimates, and including care for caregivers in H&CC packages and costs, we calculated the overall divert rate for Champlain at just over 14%; this rate assumes that care is provided on service-by service base in the individual's family residence. However, when considering supportive housing alternatives, this rate ranged as high as 33%.

We note here that divert rates in Champlain appear to be impacted by a number of factors: needs tend to be higher in Champlain; only a minority have live-in caregivers, and the H&CC packages constructed by the Champlain Expert Panel, and used as the basis for our estimates, are relatively "rich" or service intensive. In fact, there was considerable discussion by Expert Panel members about the extent to which these packages may overestimate actual services requirements; some members perceived that they included more services than many older persons would actually want, accept or need. If anything, therefore, the Champlain findings may underestimate the potential for supporting older persons in the community.

Of course, even given the minimum estimate of 14%, this means that substantial numbers of the over 3,700 wait listed individuals waiting for LTC in Champlain could be safely and cost-effectively supported in their family residences; numbers rise substantially if the supportive housing divert rate of 33% is considered.

Why is the wait list in Champlain proportionately longer than those observed in other parts of the province. Why? Although the RAI-HC data are insufficient to reveal the dynamics of wait list decisions, Champlain Steering Committee and Expert Panel participants speculated that this was in part due to another notable phenomenon in Champlain, that is, the relatively high proportions of individuals waiting in commercial retirement residences. While providing care for older persons at lower levels of need who can afford to pay market prices, such residences may also lead to pent-up demand for publicly funded LTC, as individuals exceed upper care limits, or run out of money.

The Champlain data also suggest that H&CC could go some distance toward addressing persistent ALC problems. Reflecting the fact that the needs of individuals assessed in hospitals tended to be higher than those of individuals assessed in the community, we calculated a divert rate of 8% for the former based on service-by-service care in the family residence. This means that even by using relatively conservative assumptions, and delivering care on a service-by-service basis in the family residence, just under one in ten of those assessed in hospitals could potentially be discharged to home and community. If supportive housing options were considered, this potential would rise. Moreover, we calculated the overall divert rate based on the LHIN cost of a residential LTC bed. If the divert rate were calculated instead on the basis of the cost of a hospital bed, Champlain's H&CC packages would look like a bargain.

In fact, the findings suggest that relatively inexpensive support services may play an important role in avoiding or delaying the use of more costly health care. IADLs such as meal preparation, housekeeping, telephone use and medication management, so called "lower level" needs, appeared as key drivers of LTC wait lists in Champlain as they have in other parts of the province. While not health care per se, an inability to perform such everyday tasks can lead to health problems and a loss of independence. For

example, case managers emphasized that a failure on the part of older persons to manage medications properly can result in behavioral problems, nutritional deficits, falls, social isolation, depression, and unnecessary or avoidable use of hospitals and residential care.

However, to achieve the full potential of H&CC, Expert Panel and Steering Committee members emphasized that greater capacity was required. While discussion highlighted many outstanding H&CC programs and services offered by many excellent organizations across Champlain, it was also observed that their capacity was already stretched and would have to be ramped up if greater numbers of older persons, including those at increasingly higher levels of need, were to be supported at home. Moreover, capacity is particularly problematic in rural areas, where relatively few providers, and long distances, make needed home and community care less accessible, under such conditions, residential LTC may become the default option.

In terms of what services are needed and where, this varies considerably in Champlain. We heard of outstanding, fully integrated care models in rural areas, while access to services even within some parts of the city of Ottawa can be problematic. We also heard that services may be combined or substituted in different ways; in fact, the ability to access and coordinate existing services in innovative and flexible ways is just as important.

In this connection, care coordination and management were identified as crucial issues, particularly as H&CC packages get "busier" at higher levels of need. Expert Panel members emphasized that it was often difficult for older persons with uncomplicated needs to coordinate and manage the services they required; when multiple services and multiple providers were needed, individuals and caregivers often faced insurmountable challenges. However, in Ontario there have been few mechanisms for coordinating and managing across the range of services included in the H&CC packages. Removing existing financial and regulatory barriers to collaboration between organizations across the continuum of care, and to risk taking, would be a good start.

Expert Panel members also emphasized that some care settings, particularly supportive housing, offered greater potential for coordinating and managing care in innovative ways. They believed that combinations of housing and support services build a strong foundation for integrating care around the needs of the individual "from the ground up" and achieving cost-efficiencies since flexibility is increased, care needs are monitored and managed on an ongoing basis, team approaches are facilitated, and services can be substituted or combined in innovative ways.

We did find that SH models in Champlain already support a diversity of individuals, including older persons, but extending to younger adults with disabilities who are themselves aging. In fact, two of the supportive housing models we examined appeared very similar to attendant care, which is almost invariably more costly than supportive housing because of the complex needs it serves. Nevertheless, two SH models (models 1 and 3A) in Champlain generated cost estimates which were comparable to, or lower than, the costs of H&CC packages in the family residence, even though they also served populations with relatively complex and hard-to-serve needs.

Further, it was noted by some, that while policy-makers tend to accept the need to fund health care, they are less comfortable with the notion of funding supports for IADLs, even through unmet IADL needs may lead to loss of independence and institutionalization. They are even less comfortable with the idea that governments should be in the business of providing housing. Yet, a failure to make housing accessible in the community means that some number of individuals will be housed in hospitals and LTC

facilities at greater cost. Moreover, while commercial retirement residences may offer appropriate care for older persons at lower levels of need who can afford to pay, the question comes as to where these individuals will be housed once their care needs increase beyond the maximum offered in retirement residences, or when they run out of money. Particularly in Champlain, retirement residences appear to play an important and growing role in the care continuum for older persons; yet, because retirement homes are commercial enterprises with data on clients and costs deemed to be proprietary, there is little publicly-available evidence which permits systematic evaluation of costs or outcomes.

In conclusion, the findings of the Champlain project, consistent with the findings of BoC projects in other regions of Ontario, emphasize that there is considerable potential for targeted, managed, integrated home and community care to support older persons and their caregivers in the community, while moderating demand on residential LTC beds and hospitals. Certainly, we observed a strong sense among Steering Committee and Expert Panel participants that not only was the potential there, but that the provincial Aging at Home Strategy, and the LHINs, now offered opportunity to achieve that potential.

5.0 Addendum to Final Report

5.1 Further Analysis of Divert Rates

In our draft report, dated August 4, 2009, we observed that the overall divert rate in Champlain was low compared to divert rates in other regions of Ontario. We suggested that two main factors were at play:

- There were relatively high numbers of individuals with high needs in Champlain
- H&CC care packages recommended by the Champlain Expert Panel were relatively "rich"

The table below addresses the first of these factors. It gives percentages of individuals categorized as having "low" and "high" needs in Champlain in comparison to Toronto Central, Central and Central West; it also gives overall divert rates for these regions, based on service-by-service care provision in the family residence. Supportive housing estimates were not available in all regions.

The data show that the distribution of needs in Champlain is relatively high, although a similar distribution is observed in Central West. Nevertheless, the overall divert rate in Central West is considerably higher suggesting that needs alone do not account for observed differences.

Region	N of Clients	Low Needs*	High Needs**	Overall Divert Rate
Champlain	**3,724**	**16%**	**47%**	**14%**
Central West	725	17	47	30%
Central	2,631	24	44	21- 25%
Toronto Central	1,681	30	38	37%
*Low Needs = sub-groups #1-8 **High Needs = sub-groups #29-36				

To investigate further how the content and costs of care packages might impact on such rates, we conducted a form of sensitivity analysis in which we substituted care packages based on those constructed by Expert Panels in other regions, for those constructed in Champlain.

This was not a straightforward process. Because the distribution of wait-listed individuals in Champlain did not exactly match the distribution of wait-listed individuals in other regions, different sub-groups, vignettes and care packages came into play. For example, although vignettes and care packages were constructed for the Copper sub-group in other regions, in Champlain, Copper included too few individuals to meet our minimum numbers threshold. As it turned out, the distribution of vignettes in Toronto Central appeared to be most comparable to Champlain; However, two sub-groups for which vignettes and care packages were constructed in Champlain (Lambert and D. Daniels), were not considered in Toronto Central. For these two sub-groups we substituted care packages derived from Central and Central West.

As an example of how care packages varied, below we present details of the packages constructed for the Davis sub-group in Champlain and Toronto Central. Even a quick read confirms that the Champlain package is "richer;" it includes a greater range and intensity of services.

Champlain H&CC Package for Davis (13 weeks)	
Service	**Frequency**
Care Coordination Initial Assessment and Referrals Ongoing Coordination/Coordination of Special Needs and Preferences	2 hrs total 1 hr/week 1 hr/week
Transportation Grocery Shopping Service Other Essential Services	2/week 1/week 1/month
Home Maintenance	1/week
Programs and Services Friendly Visiting	1/week
Meals on wheels	5/week
Congregate Dining	2/week
Senior's Centre	2/week
Personal Care and Support Home help (laundry, housekeeping)	2hrs/week
Personal Support Worker (bath)	1/week
Professional Services Nurse	2 visits (total)
Foot Care	2 visits (total
Occupational Therapist	2 visits (total)
Emergency Response System	

Toronto Central H&CC Package for Davis (13 weeks)	
Service	**Frequency**
Personal Support Services	1 hr 2x/ week
Occupational Therapist (CCAC)	2 visits (total)
Transportation	8/ month
Meals on wheels	3 /week
Caregiver support referral	N/A
Home Help/Homemaking	2 hrs every other week
Security Checks/Reassurance	7 days/week
Adult Day Service (Frail Elderly)	I day/week
Home maintenance	1/month
Emergency Response System	

While the reasons for such differences are not entirely clear, it seems likely that they reflect local variations in service availability and access, experiences with what works and what doesn't, and normative values.

What is clear is that differences in care packages do have a considerable impact on costs and divert rates. The table below compares the costs of the service-by-service care packages constructed in Champlain with the costs of the substitute care packages; it also compares divert rates. Bolded are sub-groups for which the costs of the community care packages were less than or equal to the costs of residential LTC.

Champlain vs. Substitute Care Packages: Costs and Divert Rates

Sub-Group*	LHIN Cost of Residential Long-Term Care (13 weeks)	LHIN Cost of Champlain H&CC Care Packages (13 weeks)	LHIN Cost of Substitute H&CC Care Packages (13 weeks) *	Number of Individuals (Adjusted Percent)
Davis	$7,774.13	**$7,716.46**	**$5,181.95**	300 (9.3%)
Fanshaw	$7,774.13	**$7,716.46**	**$5,511.77**	162 (5.0%)
Lambert**	$7,774.13	$12,698.40	$17,043.59**	120 (3.7%)
Upperton	$7,774.13	$9,999.76	**$5,416.00**	94 (2.9%)
Vega	$7,774.13	$9,800.22	**$6,857.66**	177 (5.5%)
Wong	$7,774.13	$13,327.71	**$6,529.88**	219 (6.8%)
Xavier	$7,774.13	$15,949.87	$14,411.84	402 (12.5%)
C. Cameron	$7,774.13	$21,886.38	$14,285.68	379 (11.8%)
D. Daniels***	$7,774.13	$64,0577.53	$62,229.11***	521 (16.2%)
I. Innis	$7,774.13	$41,148.50	$23,027.71	338 (10.5%)
J. Johns	$7,774.13	$84,168.86	Not Available	514 (15.9%)
Overall Divert Rate		**14.3%**	**29.5%**	**3,226 (100%)**

*** Substitute care packages derived from Toronto Central**
**** Substitute care package derived from Central West**
***** Substitute care package derived from Central**

These results indicate that by substituting care packages derived from other regions for those constructed in Champlain, the overall Champlain divert rate, based on service-by-service care delivery in the family residence, more than doubles to just under 30%. While we were not able to consult supportive housing providers to consider how supportive housing divert rates would be affected, we believe it is safe to assume that they would also rise proportionately.

We caution, however, that while such analysis may help us to understand sources of variation in divert rates, the results should not be interpreted to suggest that the H&CC packages constructed in other regions are directly transferable to Champlain. We believe that judgments about appropriateness are best left to local experts who have first-hand experience and knowledge of both needs and services at the local level. In other words, combinations of services which work "on the ground" in other regions, may not necessarily work in Champlain and vice versa.

Appendix 1: Distribution of LTC Wait-Listed Individuals in Champlain (April 2009)*

Sub-group	Cognition	ADL Difficulty	IADL Difficulty	Live in Caregiver	Frequency and Percent
#1 Appleton	Intact	No	No	Yes	6 (0.2%)
#2 Bruni	Intact	No	No	No	17 (0.5%)
#3 Copper	Intact	No	Some	Yes	61 (1.6%)
#4 Davis	Intact	No	Some	No	300 (8.1%)
#5 Eggerton	Intact	No	Great	Yes	61 (1.6%)
#6 Fanshaw	Intact	No	Great	No	162 (4.4%)
#7 Grimsby	Intact	Some	None	Yes	0
#8 Hamilton	Intact	Some	None	No	0
#9 Islington	Intact	Some	Some	Yes	26 (0.7%)
#10 Jones	Intact	Some	Some	No	54 (1.5%)
#11 Kringle	Intact	Some	Great	Yes	52 (1.4%)
#12 Lambert	Intact	Some	Great	No	120 (3.2%)
#13 Moore	Intact	Great	None	Yes	0
#14 Nickerson	Intact	Great	None	No	0
#15 Opus	Intact	Great	Some	Yes	11 (0.3%)
#16 Pringle	Intact	Great	Some	No	18 (0.5%)
#17 Quinn	Intact	Great	Great	Yes	55 (1.5%)
#18 Rogers	Intact	Great	Great	No	89 (2.4%)
#19 Smith	Not Intact	None	None	Yes	2 (0.1%)
#20 Thompson	Not Intact	None	None	No	9 (0.2%)
#21 Upperton	Not Intact	None	Some	Yes	94 (2.5%)
#22 Vega	Not Intact	None	Some	No	177 (4.8%)

#23 Wong	Not Intact	None	Great	Yes	219 (5.9%)
#24 Xavier	Not Intact	None	Great	No	402 (10.8%)
#25 Yeung	Not Intact	Some	None	Yes	0
#26 Zeleny	Not Intact	Some	None	No	0
#27 A. Armour	Not Intact	Some	Some	Yes	3 (0.1%)
#28 B. Biloski	Not Intact	Some	Some	No	26 (0.7%)
#29 C. Cameron	Not Intact	Some	Great	Yes	379 (10.2%)
#30 D. Daniels	Not Intact	Some	Great	No	521 (14.0%)
#31 E. Edwards	Not Intact	Great	None	Yes	0
#32 F. Fish	Not Intact	Great	None	No	2 (0.1%)
#33 G. Gallo	Not Intact	Great	Some	Yes	3 (0.1%)
#34 H. Hogan	Not Intact	Great	Some	No	3 (0.1%)
#35 I. Innis	Not Intact	Great	Great	Yes	338 (9.1%)
#36 J. Johns	Not Intact	Great	Great	No	514 (3.8%)

*Based on total sample of 3,724 excluding cases that could not be classified due to missing data.
Vignettes were written for highlighted sub-groups.