Home care in Ontario: Allocation of limited resources and the needs of light-care clients

by

Norma M. Jutan

A thesis
presented to the University of Waterloo
in fulfillment of the
thesis requirement for the degree of
Master of Science
in
Health Studies and Gerontology

Waterloo, Ontario, Canada, 2006

Author's Declaration

I hereby declare that I am the sole author of this thesis. This is a true copy of the thesis, including any required final revisions, as accepted by my examiners.

I understand that my thesis may be made electronically available to the public.

Abstract

There is the desire amongst elderly Canadians to remain living at home, maintaining their independence. As the population ages, the health care system is faced with the challenge of allocating limited resources. Home care in Ontario is provided through Community Care Access Centres (CCAC) or Community Support Agencies (CSA). This study made comparisons among CSA clients (using the interRAI-Community Health Assessment, n=796), a sub-population of CCAC clients with lighter-care needs (n=8163) and all other CCAC clients (n=31,078), both using the Minimum Data Set-Home Care (MDS HC). The majority of clients in all groups were female, widowed, and spoke English as their primary language. CCAC clients had more health conditions than did CSA clients. Light-care CCAC clients received less hours of formal support than other CCAC clients and were less likely to have informal support caregivers who reported caregiver burden. Between 1998 and 2005, Ontario provided services to an increasingly impaired home care population, although overall impairment among home care client remained low. For the purposes of benchmarking, MDS HC data from Ontario was compared with MDS HC data from 11 European countries and was found to fall within the range of the other countries in terms of average impairment level of home care clients. Logistic regression was used to predict the likelihood of receiving CCAC services. Not being self-reliant, having decline in activities of daily living, having experienced falls, self-reporting one's health to be poor and reporting less loneliness were all correlates for CCAC service use. Implications and direction for future research were discussed.

Acknowledgements

I would like to thank my advisor, Dr. John P. Hirdes for the numerous opportunities with which he provided me during the course of my Master's degree. Working as part of the *ideas for Health* research team (supported by the Primary Health Care Transition Fund) and presenting my research at conferences provided me with valuable experiences, contacts and improved my statistical skills immensely.

My committee members, Dr. Trevor Smith and Dr. Martin Cooke also have my most sincere appreciation for their input.

Many professors and members of staff in the Department of Health Studies and Gerontology have contributed to my success. I thank them for making my experience at the University of Waterloo such a positive one.

Finally, a thank you to my family who set me on the path to success and to my friends and colleagues who took this journey with me.

Table of Contents

List of Tables

List of Figures

1.0 INTRODUCTION

1.1 Home Care Clients with Lighter Care Needs

Home care is an important aspect of the Canadian health care system. Romanow (2002) refers to home care as the "next essential service" and states that it is among the fastest growing parts of the Canadian health care system. In the past, most health care was provided in a hospital setting by a Doctor or Nurse. Elderly people were institutionalized because it was thought that care could only be provided in a health care setting by health care professionals.

The demographic make-up of the Canadian population is changing; in the year 2000, people aged 65 and older made up 12.5% of the Canadian population; by 2041 there are expected to be nine million seniors in Canada making up 25% of the total population. Those aged 85 and older are the fastest growing segment of the elderly population and most are women (Health Canada, 2001).

With this large increase in the number of elderly people in the population, it has become necessary to re-evaluate our best care practices. A decrease in the number of hospital beds available, people being released from hospital "quicker and sicker", changes in technology that allow people to be cared for at home and a desire on the part of the elderly to remain at home, maintaining their independence for as long as possible (Coyte & McKeever, 2001; Levine, 2003) all speak to the importance of a home care system on which people can rely.

Romanow (2002) states that defining all services provided through the home care system as "medically necessary" under the Canada Health Act, would be too costly and that priority should be given to those people receiving home care services due to a mental health condition, those who have been recently released from hospital and those receiving palliative services. Elderly clients receiving homemaking and other light-care services through the home care system are not included in this list of priorities. Many elderly people desire to remain in their own homes and research has suggested this may be a cost-effective alternative to institutionalization (Hollander and Chappell, 2002).

However, many elderly living in their own homes do require some basic services such as assistance with bathing, transportation, or meal preparation. If these lighter care services are not defined as "medically necessary" under the Canada Health act, they will not be guaranteed to be funded. Therefore, many elderly people with lighter care needs who wish to remain living in their own homes may be financially responsible for these services and need to access them through various community support agencies rather than through the CCAC system. Community support agencies (CSA) often require payment for service and may be lacking in terms of availability in some regions and overall quality. Furthermore, an elderly person needing care may need to make numerous calls to various CSAs since each may provide only one of many services they require (e.g., meals, transportation, cleaning services). Having services easily accessible only to those who are able to pay is not the "Canadian way". It is important to remember that elderly people with lighter-care needs may have chronic health conditions, difficulties with mobility and mental health concerns including depression or loneliness and that they may require less services or different types of service than those with heavier care needs, but that they are not without need.

Romanow (2002) recognizes the important role of the family in caring for those in need. Perhaps elderly people who choose to remain living in their own homes and who require only light-care services should be cared for by their family and friends rather than the health care system. Perhaps they are the responsibility of the informal care network and the formal health care system should focus only on those with heavier care needs who are more medically complex. The concern however is that some do not have family members or friends able or willing to provide these services.

Little research has been done on the home care system, specifically the preventive function of home care and the ways in which it provides services to elderly clients with lighter care needs. Only recently has the importance of the home care system and the value of the informal support network in maintaining it, been recognized. Research is needed to better understand the needs and characteristics of elderly people in this "grey area". A better understanding of light-care clients will

provide information needed to make evidence based decisions as to the way in which these members of our society will be cared for, particularly as their numbers in Canada and elsewhere in the world, increase.

1.2 Home Care in Canada

Home care services vary across Canada but loosely defined home care is: "an array of services which enables clients, incapacitated in whole or in part, to live at home, often with the effect of preventing, delaying, or substituting for long-term care or acute care alternatives" (Health Canada, 1999).

Home care services in Canada are funded by a combination of Provincial/Territorial and Federal funds. The percentage of the Provincial/Territorial health care budget spent on home care varies across the country. For example, according to the Romanow report (2002), Ontario spent about 5% of its total health care budget on homecare in 2000/2001 compared with New Brunswick which spent close to 10%. Eligibility and co-payment schemes also vary by province (see Appendix B). Circumstances taken into consideration when deciding who will be provided with services and what types of services will be provided vary and some Provinces provide more extensive services than do others. Some Canada-wide consistency exists, for example, all Provinces/Territories provide a Case Manager who accesses a potential client for eligibility for services.

Romanow (2002) stated that Canadians may consider moving to Provinces in their later years in order to get the best services possible and that this disparity across the country means that the needs of all Canadian are not being met equally. A national homecare system is needed to ensure that there are services that are provided to all Canadians regardless of location within the country. Provinces/Territories would then be free to add to these basic homecare services to meet unique needs of their region.

Romanow (2002) states that "medically necessary" services should not be based on where the service is provided (hospitals), or by whom the service is provided (Doctors), but rather based on the needs of the client. The Canada Health Act proposes two categories of services: insured services and extended health services. Insured services encompass the five principles of the act: universality, accessibility, public administration, portability and comprehensiveness, while extended health care services, such as home care, do not (Health Canada, 1984). It can be argued that the Canada Health Act may be somewhat outdated and needs to take into account chronic health conditions. To that end, Romanow suggests that the Canada Health Care Act should be expanded to include medically necessary home care services. Due to cost, this does not include all home care services, but rather focuses on what Romanow considered to be most important: assisting those with mental health challenges, those who have been released from hospital and those in the end stages of life.

Home care was established by the Ontario Government in 1970. In 1996, 43 Community Care Access Centers (CCACs) were created to act as a single point of entry to services for those in need of home care, admission to long term care facilities or information on other community services available in Ontario. The CCACs have guidelines set by the Ministry of Health and are governed by a board of directors who report to the Ontario Ministry of Health and Long Term Care (Health Canada, 1999).

Home care has three main purposes: First, it acts in place of acute care. People are released from hospital sooner than in the past and often require treatment from health care professionals, (e.g., physiotherapy after surgery) for some time after they have returned home. Second, home care acts in place of long term care facilities, such as nursing homes or other institutionalized care. A person can continue to live at home and receive services over the long term. Third, home care serves a maintenance function for those who have health problems or functional impairments, but wish to remain living in their homes. This may involve receiving assistance with activities of daily living (ADL) such as bathing, instrumental activities of daily living (IADL) such as shopping, or with

homemaking such as laundry or vacuuming. The maintenance function of home care is to delay deterioration and avoid institutionalization for as long as is feasible (MacAdam, 2004).

Home Care in Ontario serves a wide variety of clients including adults and children living with disabilities and elderly people requiring care (the focus of this paper). Families who require assistance apply for services through a CCAC in Ontario. If the client is deemed eligible, a home care service provider will be contacted by the CCAC to provide in-home services. Those who provide professional services such as physiotherapy are regulated under the Health Professions Act (1991), whereas Homemakers/ Personal Support Workers are considered para-professionals and are not regulated under the act (OACCAC, OCSA, OHHCPA, 2000). Services provided by para-professionals are defined under the Long-Term Care Act 1994 (see Appendix A). These services are provided free of charge to those deemed eligible in Ontario.

1.3 Budget Cuts

The Harris Government budget cuts in the 1990s led to a reevaluation of the home care system and how best to utilize limited resources. Targeting services to those most in need became a priority. A number of bills and acts began to limit the scope of home care in Ontario. Bill 46, the Public Accountability Act (Government of Ontario, 2001) prevented CCACs from operating with a deficit; Ontario Regulation 386/99 (Ontario Ministry of Health and Long Term Care, 1994) limited the number of hours of homemaking and personal support that would be provided to clients; and in May of 2001 funding to CCACs was frozen at the 2000/2001 levels, leaving them $175 million short of meeting demands (Ontario Health Coalition, 2001). This series of events left the CCACs of Ontario with a much-reduced budget and the necessity for home care reform. Services were cut, eligibility criteria tightened and those elderly home care clients who were receiving only homemaking services and personal support were at risk of having their services terminated or their hours of service drastically reduced.

The questions that arise from these home care reforms are numerous. How should "need" be defined and how to we draw the line between those who need services and those who do not. How do those whose services are terminated, cope? Do some actually benefit from service refusal? How do we define light-care and who is responsible for caring for the light-care elderly? How do Ontario home care clients compare with other jurisdictions in terms of characteristics and need? The current literature along with both the Resident Assessment Instrument – Home Care (RAI HC) and the interRAI-Community Health Assessment (interRAI CHA) (see Appendix D and E) provide the opportunity to explore these questions and the impact their answers may have on our aging population.

2.0 LITERATURE REVIEW

There are a limited number of studies in the literature on the subject of light-care elderly receiving home care services and therefore few studies on the effects that terminating services may have. Home care is of the utmost importance to the quality of life of elderly Canadians. Home care services provide elderly people with support upon which they can depend allowing them to remain living in their own homes. The literature review to follow explores a number of relevant issues in light-care. These include the importance of the informal support network in caring for light-care elderly; how to define what a "light-care client" would be and how to best target limited resources; the characteristics of light-care clients who receive only homemaking services; differences that exist among countries in terms of the impairment levels of those provided with home care services; possible benefits of reducing services provided to light-care elderly; and some anecdotal reports on how those cut from services manage to cope.

2.1 The Informal Support Network

Home care services in Ontario, provided through a Community Care Access Centre (CCAC) are referred to as *formal care* services. A health care professional (or para-professional) visits the client's home and provides services as deemed necessary by the CCAC caseworker. It is estimated however, that 75% to 85% of care provided to the elderly is *informal care* (Health Canada, 1999). Informal care is unpaid care provided by family, friends, neighbors and others. Most informal care provided is of a non-medical nature such as assisting with activities of daily living and therefore the argument has been made that light-care clients could or should be cared for by family and friends, leaving the medical professionals free to care for those with more complicated medical needs (Anderson and Parent, 2000). Informal caregiving is still a gendered activity and adult daughters tend to provide the majority of care. With more women working full-time and families often being geographically separated, the availability of informal support may be jeopardized. Friends and

neighbours may be available but primary care is usually provided within the immediate family (Walker, Pratt & Eddy, 1995). Women who have been widowed may desire to remain in their own home but now lack a spouse to provide them with support. Those family and friends who do provide support may be unable to do so in the long-term due to suffering from burnout with a family and job of their own and the added responsibility of caring for an aging parent. The Romanow Commission (2002) heard many reports across Canada on the burden of providing informal support. There were concerns expressed about the specific burden that caregiving has on women and the suggestion that there should be incentives that encourage people to care for their elderly relatives at home. Also expressed was the view that Canadians should not be forced to provide informal care.

Therefore, while a value-based argument can be made for elderly people with lighter care needs being cared for by the informal support network (Anderson & Parent, 2000), practically speaking, this may be less possible than in past generations. Romanow (2002) recognized the valuable contribution of family and friends to the care of the elderly. He suggests that direct support be provided to family caregivers through Employment Insurance so that they have the time needed to provide care.

Reforms to home care services resulted in cuts to formal homemaking and personal support services. With elderly clients being cut from these services entirely or having their hours of care drastically reduced, the informal support network has had to step in to take over these duties to prevent injury and health deterioration of their elderly relatives or friends. This may be a good short term solution but with an increasing number of elderly people in our population and a decrease in the number of adult children available to provide the care, considerations need to be made for the long-term care of our light-care elderly.

2.2 Cost Sharing

Government funding of all home care services would require major financial resources (Romanow, 2002) but a possible compromise was suggested whereby a cost sharing system would allow more light-care clients to continue receiving services, despite budget cuts, if all home care recipients contributed something towards these services. Recognizing the value of homemaking to their elderly clients, the Chief Executive Officers/Executive Directors of the CCACs of Ontario along with the Ontario Association of Community Care Access Centres (OACCAC) developed a document in May 2001 for the Province of Ontario to suggest a cost sharing policy that would allow homemaking services to continue to be offered despite budget limitations (OACCAC, 2001). At this time, Ontario was one of three provinces that required no payment from clients for maintenance services such as homemaking, if they met eligibility criteria.

Regulation 386/99 under the Long-Term Care Act (1999) requires a person to meet one or more of three criteria in order to be eligible for homemaking services. These include: as well as requiring homemaking services, the client also requires personal support services (e.g., bathing assistance); or, the client is currently receiving personal support and homemaking from an informal caregiver and this caregiver requires assistance in order to be able to continue with providing care required by the client; or, the client requires full-time care due to a cognitive impairment or having acquired a brain injury and the client's informal caregiver requires assistance with homemaking in order to have the time to provide full-time supervision for the client.

With budget limitations, a cost-sharing policy whereby clients paid some money towards homemaking services might have allowed homemaking to remain a part of CCAC services available to light-care clients as well and others. McAllister & Hollander (1993) found that 67% of their sample of 70-79 year old community-dwellers in British Columbia felt that they should pay something towards homemaking services as a proportion of their income. Others (21%) felt a flat

rate for homemaking services would be better and only 6% stated that they should not have to pay anything for homemaking services.

It was suggested that perhaps the cost-sharing policy should be applied to both homemaking and personal support services (see Appendix A) because of the practice among support workers of providing both services in one visit. For example, a homemaking task such as putting on a load of laundry may be done when the purpose of the visit was personal support such as assisting with bathing (OACCAC, 2001).

The Canada Health Act prevents charging clients extra for insured services such as physician care, but does not prevent payment for extended health care services such as home care. Nursing, rehabilitation services and case management are provided free of charge in all provinces but some provinces require a co-payment for personal care and/or homemaking (see Appendix C). Ontario chose not to require a co-payment for homemaking/personal support services. There was concern that a co-payment system would exclude those who could not afford to pay for services. As a result, CCACs were forced to focus their funds on heavier care clients.

2.3 Targeting Services:

2.3.1 Vertical and Horizontal Target Efficiency

Targeting is the process of setting eligibility criteria that screen clients based on financial and medical need, in order to limit expenditures where there are limited funds/resources available (Weissert, 2003). In some provinces, financial need is not considered when allocating services (see Appendix B). Activities of daily living impairment, informal caregiver availability, cognitive impairment and medical diagnoses are some of the other variables that may be considered to determine eligibility (Weissert, 2003).

Bebbington and Davies (1993) discuss targeting of home care services in terms of Horizontal Target Efficiency (HTE) and Vertical Target Efficiency (VTE). HTE can be understood as: of all

those defined as being in need, what proportion are receiving services. VTE can be understood as: of all those receiving services, what proportion is in need (see Figure 1).

Figure 1 Target Efficiency

	Getting Services	**Not Getting Services**
In Need	Group 1	Group 2
Not in Need	Group 3	Group 4

Vertical Target Efficiency: Group 1 versus Group 3

	Getting Services
In Need	Group 1
Not in Need	Group 3

Horizontal Target Efficiency: Group 1 versus Group 2

	Getting Services	**Not Getting Service**
In Need	Group 1	Group 2

The 2 by 2 table produced (Figure 1) defines four groups based on need for services and receipt of services. These groups may be described as follows:

Group 1: Those currently receiving services that are defined as needing them based on jurisdiction eligibility. This would include those on the heavier levels of care need and depending on the criteria for judging need, may include some proportion of those with lighter care needs.

Group 2: Those who need services but who are not currently receiving them. This may be because they are unaware of the availability of such services (Grando *et al*., 2002; McAllister & Hollander, 1993) or because even though they meet the criteria, there is some factor that makes them decide not to seek out services. For example they may have enough support from their family and friends, or they may fear institutionalization if they report their difficulties to a health care professional, or they may be able to pay privately and decide to access just the community support services that they require. If a given individual is not receiving services, even though he/she fit the criteria, is it cost-effective to offer them services? According to the Health Services Utilization and Research Commission (2000), giving people services that they do not need or want can lead to learned helplessness and is associated with health deterioration.

Group 3: Those receiving services despite not needing them may be light-care clients. Budget cuts resulting in more stringent eligibility criteria may have resulted in them no longer being defined as needing services. The size and characteristics of this group are very much a function of how "need" has been defined and what variables have been considered to determine need.

Group 4: Those not receiving services and not in need. This is a match as long as the definition for needing services is not overly stringent excluding too many people from services who really do need them.

Vertical efficiency is important for the cost-effectiveness of home care, so that services are not provided to people who do not need them. Horizontal efficiency considers the extent to which services are provided to as many people as possible who fit a given need criteria (Bebbington & Davies, 1993).

If a given population has a high HTE and low VTE the system can be adjusted to balance. Having a high HTE means that of those in need, most are getting the services they require so little resources or money are needed to target those who are in need and not receiving services. A low VTE means that there are people who are getting services who do not need them. Services being given to those who do not need them can be withdrawn and given to those who do need them who are not receiving them (Bebbington & Davies, 1993), thus balancing the system. If the service is homemaking, for example, those receiving but not needing it would be light-care clients and when their services are terminated, resources become available for heavier care need clients.

Vertical and horizontal target efficiencies are a clear conceptual way to consider the targeting of home care services to those most in need in times of limited resource availability. Using this framework, light-care clients receiving services such as homemaking who are now judged as not in need, must be removed from services to maintain VTE and cost-effectiveness of home care. But the question remains as to how to define "need" and the long term affects of service withdrawal on light-care clients.

2.3.2 Defining need: a binary approach

Efficiency relies heavily on how we define "need". Regardless of where the cut-off is made between those in need and those not in need, mistakes will be made and people who need services will be missed while others who do not need services will receive them. Weissert and Miller (2000) explain that by shifting the cut-off line, one type of error is decreased but the other is increased.

Providing care to many people, but including some who do not really require care, results in falsely categorizing some as being in need. Being very selective about who receives services and possibly denying people services that truly need them risks falsely categorizing some as not being in need.

Even if the "correct line" is drawn, it may be best not to think of need as binary (i.e., in need or not in need). These two groups are heterogeneous and overlap likely exists. The characteristics of those who just barely fall into the "need" category may be very similar to those that fall just barely into the "not in need" category. Also, among those in the *need* group, the level of impairment varies and this has implications for the type and amount of services that should be provided to individual clients (Weissert *et al*., 2003). Chernew and colleagues (2001) suggest that home care clients be assessed in terms of risk of various adverse outcomes and the degree to which home care services have the potential to limit these risks. Consideration of other supports, such as the informal network may also play a part in defining need (Bebbington & Davies, 1993).

Defining need is a difficult task and it is even more difficult to determine if we have done so correctly. Comparing the Canadian definition of need or the way in which we care for our lighter care clients with the ways of other countries, at least provides us with a comparison group. However, there is no true way to determine if our methods are "right"; we can only determine if they fall within a range of practices followed by other countries. Bebbington and Davies (1993) suggest a number of possible definitions of need; however, establishing criteria for need based on one population may not hold consistently for another population, particularly when comparing client characteristics and home care services among countries (Carpenter *et al*., 2004).

2.3.3 Defining need: a continuous approach

The targeting system defines potential clients as either "in need" or "not in need". Weissert and colleagues (2003) suggests a continuous classification of home care clients based on risk of deterioration. This titrating system has more inclusive eligibility criteria than the binary targeting system, and focuses on risk in allocating resources. High-risk client receive more resources, whether

this be more time or more types of services, while low-risk clients receive less and only enough to maintain them and keep watch for deterioration. Potential for benefit can be considered when allocating resources and cost-effectiveness determined. Also, this system monitors clients often to reassess risk and reallocate resources as needed. The targeting system assesses people initially, but may not be as successful in monitoring them across time.

In Ontario, those receiving homemaking services /personal support would be on the low end of a continuum of home care client need and they would be cut from services. Their risk of deterioration, if services were removed, would be minimal compared with higher needs clients and the potential for home care services to improve their health outcomes in the long term may also be minimal. The process of defining need requires knowledge of the variability of clientele found within the home care system.

2.4 Characteristics of Home Care Clients:

2.4.1 Characteristics of Homemaking versus Nursing Clients

Forbes and colleagues (2003) were interested in the difference and similarities between home care clients who received nursing and those who receive homemaking assistance. For the purposes of this study, home care clients received either nursing or homemaking, although in reality some people receive both services. A better understanding of the characteristics of those receiving various home care services allows us to better understand the implication of cutting services and whom this may affect.

The Anderson Newman Model (Anderson and Newman, 1973**)** was used by Forbes and colleagues (2003) to categorize the factors associated with receiving the two types of home care services. Results are summarized in (Table 1).

Table 1 Variables Associated with Nursing or Homemaking Assistance

Variable		Nursing Services	Housework Assistance
Predisposing variables	Age	< 65 years of age	Aged 65 +
	Living Arrangement	Living with others	Living alone
	Gender	Male	Female
Enabling variables	Income	Higher income	Lower income
	Education level	No significant difference	
Needs variables	Need housework assistance	Less likely	More likely
	Restricted in ADL	Less likely	More likely
	Chronic Condition	Less likely	More likely
	Hospitalized in past 12 months	More likely	Less likely

The Anderson Newman Model (Anderson and Newman, 1973**)** used by Forbes *et al.*, 2003

Results revealed two distinct sets of client characteristics. In terms of predisposing variables, nursing clients on average were more likely to be male, to be less than 65 years of age and to live with others. Higher income among nursing clients may be explained in part by insurance claims (Anderson & Newman, 1973). These clients suffered some acute episode that required care in the short term. Assistance with housework was less likely to be needed since informal caregivers could manage for a short period of time (Forbes *et al*., 2003).

Those who received homemaking assistance were older on average, more likely to be female and more likely to live alone. This population required homemaking assistance because of advance age and a lack of the financial means to pay out of pocket for the service. They may be without everyday support because they live alone and have functional restrictions that make housework difficult for them to manage.

When cuts are made to the home care system, it is primarily homemaking clients who see their services cut. They are the light-care needs elderly who, with some support from family and friends, could potentially manage without formal homemaking services. However, targeting homemaking clients for cuts, according to this study, results in a loss of services to those who are very vulnerable in our society. By cutting these light-care elderly from home care services, we may increase the chances that they will be institutionalized or will return to the health care system having suffered a serious health crisis. However, providing maintenance care to all elderly people may not be a feasible solution and there needs to be some way to predict the likelihood that a given client will be institutionalize or suffer harm if they do not receive care so that services can be allocated to those most at risk.

2.4.2 Individual Characteristics

Chernew, Weissert and Hirth (2001), recognized that consideration of risk of adverse outcomes, in conjunction with individual characteristics, may provide a better understanding of the

potential effectiveness of home care services in the long term. Individual characteristics such as determination to succeed and attitudes towards health and independence may explain, to some degree, what defines a light-care client. Two elderly individuals, both living alone and both suffering from similar ailments may not seek out the same services. Why should this be the case?

Data from the National Population Health Survey (Martel *et al*., 2005) found that the likelihood of healthy aging was enhanced in elderly who found life meaningful, manageable and comprehensible. A positive attitude towards life enhances health. Wilson (1994) discusses the concept of self-care. Faced with difficulties, some may seek assistance while others find new ways to carry out tasks in order to remain independent. There is an element of choice and attitude that determines service utilization.

Three forms of self-care: new strategies, reallocation of time and avoidance of risk have been identified (Chernew *et al*., 2001). New strategies involve the recognition that the majority of elderly people will require some alteration in the ways in which they carry out activities of daily living if they are to remain independent at home and not require frequent assistance. Examples include finding routes to the grocery store that have flat pavement without raised curbs or buying a microwave that would allow for easier and safer cooking than using an oven (Wilson, 1994). Reallocation of time involves accepting that aging may result in everyday tasks taking more time. Cleaning, cooking and gardening can still be completed independently, but perhaps to a lesser extent and requiring more time (Wilson, 1994). Avoidance of risk is often a reason stated for having formal caregivers in a home, when in fact it is the client who does the main risk avoidance. For example, an elderly person who is no longer able to drive may choose to take the bus or a taxi service, reducing the risk of injury (Wilson, 1994).

Despite personality variables being an important consideration when trying to understand characteristics of light-care populations, difficulties may arise in assessing these characteristics. First is the inherent subjectivity of defining attitude and determination. Second is the concern that if questioned about attitude and determination, some may have a vested interest in denying these

attributes. Light-care clients with the determination to remain independent likely represent a sub-population most likely to succeed, in spite of service termination.

The data from the National Population Health Survey (Martel *et al*., 2005) represents a healthier elderly population than is represented by elderly home care clients. Attitude and determination may be important variables in terms of service utilization for healthy elderly, but does this apply to a more fragile population? Although information about individual characteristics may be of interest to researchers in better understanding client need and service use, clinical decisions about which services to provide should not be based on personality characteristics.

2.4.3 Light-Care Clients in Nursing Homes

Defining need and allocating resources is a difficult task. Even if need is correctly defined, light-care clients may mistakenly end up in institutions. Grando and colleagues (2002) explored some of the reasons why elderly people with light-care needs enter and remain in nursing homes in the USA. Spector and colleagues (1996) report that at least 15% of current residents of nursing homes could benefit from care provided in alternative settings. Many are receiving very little assistance and could likely manage with some support, to live in their own homes. Risk factors for nursing home entry include advanced age, impairment in activities of daily living, difficulties with mobility, disorientation/ cognitive impairment, or a lack of an available caregiver. However, having some of these risk factors does not mean that an elderly person must enter a nursing home. Advanced age in particular does not automatically require the loss of independence, lack of privacy and restrictive environment that often accompanies a nursing home placement (Grando *et al*., 2002).

Clients defined as having light-care needs and residing in nursing homes in midwest USA were asked about their reasons for choosing to enter a home and what factors contributed to their choice (Grando *et al*., 2002). Many residents expressed a perceived inability to care for themselves, others mentioned a recent fall or hospitalization that led to being discharged to the nursing home and

others expressed a lack of support at home on which they could rely. Residents were concerned that they would require housework assistance, home health services, or transportation assistance if they returned home and that these services may not be available to them. Also, they were concerned that they may become a burden on their families (Grando *et al*., 2002). This study demonstrates the importance of understanding the needs of light-care clients to avoid care being provided in an inappropriate setting.

Ikegami and colleagues (1997) investigated light-care residents of nursing homes in several countries including: Denmark, Iceland, Italy, Japan, Sweden and USA. It was found that if a broad definition of "light-care" was used (does not require physical assistance with any of the four late loss ADLs) more than half of nursing home residents in Iceland were light-care clients and close to a quarter in Sweden. Even when using a very strict definition of light-care was used (excluding those who need supervision in any of the four late loss ADLs, or any assistance with early loss ADLs, or need for medical or psychiatric supervision) about 10% of Japanese nursing homes residents were found to be light-care clients.

When comparing the proportion of light-care clients who reside in nursing homes, as well as the definition of light-care, the definition of "nursing home" also needs consideration. For example, in Iceland there are various levels of nursing homes and if the lower needs care facilities were eliminated from this data, the percentage of light-care clients found in nursing home would drop from over 50% to less than 20%.

Light-care clients may be just some of those residents of nursing homes around the world that have been inappropriately placed. It may be possible for light-care and even more complex clients to be cared for in their own homes if support systems are put in place such as formal home care services or informal family support (Ikegami *et al.*, 1997).

2.5 Between Country Comparisons of Home Care Client Characteristics:

The Aged in Home Care (AdHOC) Project (Carpenter *et al*., 2004) collected data on home care clients in 11 European counties using the *Minimum Data Set-Home Care* (see Appendix E) in 2001-2002. These countries included: Denmark, Finland, Iceland, Norway, Sweden, Czech Republic, Germany, France, Italy, the Netherlands and England. Using the same assessment tool across countries allowed for comparisons of the characteristics of home care clients and the services they receive.

Some countries have a lighter care population receiving home care services than do others, reflecting perhaps eligibility criteria, or the social norms within countries such as filial piety (Yoo & Sung, 1997). The RAI HC instrument provides the opportunity to compare home care clients across jurisdictions using the same assessment tool.

Clear differences in the distributions of variables such as mean age, marital status and percent of clients living alone, were evident among the countries studied. The percentage of the population aged 65 or older in the countries ranged from 15% in France to 22% in Sweden. The majority of the home care populations in all counties were women. The percent of home care clients who were married at the time of the study varied substantially from 10% in Finland to 43% in Italy (Carpenter *et al*. 2004). Marital status is of interest because it gives us an idea of the percentage of home care clients who potentially have a spouse available to provide care on a daily basis when formal care services are not available.

Similarly, the percentage of clients who live alone is an important variable to consider. If clients are able to live alone, it may reflect a lighter care population, or a model of home care that supports people at home, or a large percent of the home care population being without full-time family support or without a spouse. Percent living alone ranged from very few in Italy to almost all home care clients in Finland (Carpenter *et al*., 2004). Italy stands out as having a particularly high

needs clientele which may explain the small percent of clients living alone, or reflect a society that takes care of light-care clients at home.

Levels of impairment were measured using three scales imbedded in the RAI HC (see Appendix D). These are the Cognitive Performance Scale (CPS), ADL Hierarchy and IADL index. The CPS (Morris *et al*. 1994) was validated against the Mini Mental State Examination (Folstein, Folstein and McHugh, 1975) and is scored based on short-term memory, cognitive skills for daily decision making, expressive communication and eating self performance (Landi *et al*., 2000). The ADL Hierarchy (Morris *et al*., 1999) takes into account early, mid and late loss activities of daily living. The IADL Index considers instrumental activities of daily living including phone use, medication management and meal preparation[1].

France and Italy stand out as having a highly impaired clientele, with mild to moderate cognitive impairment and limited to extensive assistance required in activities of daily living. Denmark, Finland, Iceland, Norway, Sweden, Czech Republic and the Netherlands, all appear to have a relatively light-care population receiving home care services. England and Germany fall somewhere between in terms of level of care needs (Carpenter *et al*., 2004).

These differences indicate that what we call "home care" in Ontario, does not necessarily translate to the same set of services or characteristics of clients found receiving home care services in other countries. The RAI HC provides the opportunity to compare client characteristics across countries. It is not clear whether the characteristic of clients in each country drives the types/amount of services provided or whether the reverse situation is the case. Are for example, France and Italy's high needs home care population a result of the characteristics of those seeking services, the availability of informal support, eligibility criteria, a cultural phenomenon, or a result of a large policy change such as occurred in Ontario? The way we define and care for light-care clients varies among countries and cultures and the AdHOC (Carpenter *et al*., 2004) research demonstrates the value-based decisions associated with caring for the elderly members of a society.

[1] Scales are discussed in more detail in the methods section of this paper

2.6 Cost Effectiveness of Home Care Cuts

Romanow (2002) states that although home care is "the next essential service", attempting to publicly fund all forms of home care would be unrealistic. The cost effectiveness of a system in both the short and long term must be considered when making decisions as to which aspects of the home care system will be funded.

2.6.1 The Maintenance or Preventive Function of Home Care

Assuming Ontario has defined "need" correctly and cut services from those not in need and have not accepted any new clients who do not meet the need characteristics, what is the cost effectiveness of cutting or reducing services to light-care clients in the long term compared to the potential of home care to prevent more costly institutionalization?

Those on the light-care end of home care clients, or those elderly people living in the community who apply for home care services and who are deemed ineligible, likely utilize the maintenance/preventive function of home care as opposed to the substitution for acute care or long term care definitions set out by the Report on Home Care (Health Canada, 1999).

The maintenance or preventive function of home care is poorly understood (Ontario Health Coalition, 2001) and it is controversial because it is difficult to make an argument that a particular person, if they had not received home care services, would have been institutionalized or otherwise had their health deteriorate. In fact, Weissert and colleagues (2003) state that the majority of home care clients in the USA are at low risk for nursing home entry. Therefore, if the main purpose of the preventive function of home care is to prevent nursing home entry, its cost-effectiveness becomes even more difficult to defend. If those receiving home care services are, for the most part, at low risk for nursing home admittance, then home care services are not substituting for nursing home admission but rather are providing additional services and thus costing the system more. With the

exception of Hollander's research (e.g., Hollander & Tessaro, 2001), very little research in Canada has been done on the maintenance/preventive aspects of home care (Ontario Health Coalition, 2001).

Patterson and Chambers (1995) divided the preventive function of home care into three main areas: primary population wide initiatives such as promoting regular exercise and smoking cessation; secondary initiatives such as identifying individuals at risk through screenings; and tertiary such as focusing on limiting deterioration in health and ability to perform tasks needed to remain independent. The current research focuses on the tertiary functions. Evidence for cost-effectiveness of tertiary preventive home care in improving the functional status of the elderly is minimal, because those who receive tertiary preventive home care, on average tend to use more services and request more specialist opinions than those not on services and living in the community (Health Service Utilization and Research Commission, 2000).

2.6.2 The British Columbia Home Care System: An Example

British Columbia experienced similar cuts to their home care services as Ontario experienced several years later. In British Columbia, case managers assess clients initially, monitor services over time and assign clients to one of five levels of a classification system of care needs: Personal Care (PC), Intermediate Care 1 (IC1), Intermediate Care 2 (IC2), Intermediate Care 3 (IC3) or Extended Care. British Columbia had sufficient funding for increases in home care utilization until 1994/95, at which time the British Columbia Ministry for Health and Ministry for Seniors (later Ministry of Health) began looking for ways to deal with new fiscal restraints (Hollander and Tessaro, 2001).

In June 1994, people who fell into the lowest level of the classification system (Personal Care) were no longer admitted to services and money was shifted to higher needs clients. In the Fall of 1994, discharges occurred for those in the PC and IC1 levels of care (who only received housekeeping) and health units were advised not to admit these lighter care clients. Housekeeping was cut down to as little as four hours per month for higher needs clients. Most cuts occurred in

1995, but additional cuts were made in some regional health authorities in 1999 (Hollander and Tessaro, 2001).

Hollander and Tessaro (2001) found no significant differences in costs to the health care system between those whose services were cut and those whose services were not cut, in the first year after cuts were made. However, the clients whose services were cut cost the system significantly more, on average, two and three years after the cuts were made.

This was interpreted by the authors as demonstrating that the cuts were not cost-effective in the long term. However, three years after the cuts, it is possible that there was some other explanation for the increased costs to the health care system from those people who had been cut from services. Being cut from services was unlikely to be the only determinant of service utilization and health three years later. Having found that one year after cuts, there was no significant difference in cost to the system for those cut versus those not cut, suggests that perhaps it is more cost-effective to cut homemaking clients but to continue to monitor them over time, ready to reinstate services if necessary, rather than maintaining their services throughout.

The authors (Hollander and Tessaro, 2001) suggested that it may be people whose services were cut and who then experienced a health crisis and returned to the health care system, who accounted for this increased cost in year two and three. However, we cannot be sure that maintaining home care services that year would have prevented their health crisis. This suggests that the way in which decisions were made as to who should be cut from services may have been flawed. It was also suggested that higher costs in the "cut" group may be due to more deaths occurring in this group. Resource utilization increases close to death, but would maintenance-type home care services that year have prevented death? Some individuals cope relatively well, while others suffer a health crisis and must return to the system or be institutionalized, increasing cost, death rates and loss of independence. However since we cannot be sure that home care services would prevent a health crisis or death in this lighter care population it is difficult to make a cost-effective argument for maintaining their services. If the main purpose for providing home care to this population is to

guarantee the elderly client a visit on a regular basis to check on his/her health, then perhaps a trusted friend, neighbour or family member could provide that service at no cost to the health care system.

Hollander and Tessaro (2001) stated that mortality rates were, in their opinion, not a very useful measure to consider with a light-care population. However, they did find that mortality rates were higher for those cut from services than for those not cut. While this difference was attributed to the cuts, it is possible that the true explanation lies elsewhere. For example, perhaps the explanation is due to regional differences with some health regions making major cuts to PC clients while other health regions cutting very little. Also, data should be reported on mean scores for each health region on factors that might contribute to death (e.g., impairment, age, sex). Without this information one cannot be sure that being cut from services was in fact the only reason for the higher percentage of deaths occurring in the cut group.

In British Columbia, when faced with budget limitations, it was thought that those who were only receiving homemaking services a few hours per week could be cut and would manage to cope. About one third of people who were cut from services, managed without too much difficulty; some even improved, finding new independence. They coped with help from their informal care network or by paying out of pocket for homemaking services (Hollander and Tessaro, 2001). These are the subset of clients that one could argue, should have been cut from home care services because they were able to manage without the services, not suffering any major health crises and not ending up institutionalized. However, there is also a subgroup who did not cope well after having their services terminated. They experienced a health crisis and returned to the health care system in poor health, costing the system more. Over time, more people fell into the latter category (Hollander and Tessaro, 2001).

Another point to consider is how it was decided originally who would receive homemaking services. Cuts to home care services should be made based on a person's functional impairment and need for services, not on a decision made some time ago that this individual would be given homemaking services only. It is important to take into account that the decision to provide only

homemaking services may have been flawed, or that the person's health status may have changed over time.

Policy makers must consider possible negative as well as positive consequences of their actions. There is a need to find a way to differentiate between those who could manage without home care support and those who will deteriorate if services are cut and likely end up costing the system more. Investigating the characteristics of these clients will help researchers to better understand the subgroups that exist within home care clients. Questions arise as to the responsibility of the state to provide homemaking services if a case manager deems it necessary for maintaining independence. Perhaps this role should be taken on by family members (Anderson & Parent, 2000). If cuts represent a shift in philosophy such that those who can pay have to and the state only funds those who cannot afford it, we may be moving away from what we as Canadians value about our health care system; its accessibility regardless of financial means.

We cannot be sure about the consequences of a policy until it is implemented and then studied. Evidence-based decisions are important in allocating limited funding, especially as the population ages and there are more and more elderly persons requiring care. This study demonstrates that it may be short-sighted to cut home care services to some and not efficient to cut people and then have them return in a health crisis to the system and take up a bed in a hospital that could have been given to someone else. However, it may not be cost-effective to continue to provide services to all light-care clients in case they eventually suffer a health crisis. Also, it is important to make decisions about who should and should not receive services based on their current need and functioning and not based on the service with which they are currently being provided.

2.7 Benefits of Homemaking Cuts

A study by the Health Services Utilization and Research Commission (2000) suggest some possible advantages of cutting home care services, over and above the potential cost saving. Data from a large sample (26,490) of seniors, aged 75 and older, was collected in Saskatchewan to

determine if those who received preventive home care services (homemaking, personal care and meals) were more likely to remain independent (not in a nursing home) and have a decreased risk of mortality, compared with those seniors living in the community and not receiving these services.

Saskatchewan has levels of care defined in a way similar to those of British Columbia. There are five levels: Supervisory, Limited Personal Care, Intensive Personal/Nurse Care, Specialized Supervisory/Supportive/Restorative and Rehabilitation. Preventive home care was defined as level one and two clients (Supervisory and Limited Personal Care).

The authors controlled for variables that contribute to nursing home entry or mortality, such as age and sex and still found that those receiving preventive home care services were 50% more likely to lose their independence or die, compared with those not receiving this service. Also, the cost to the health care system for those receiving preventive home care, was approximately three times the cost for those elderly living in the community and not receiving these services (Health Services Utilization and Research Commission, 2000).

Seniors receiving preventive home care were found to be more likely to lose their independence or die than those not receiving services. This would be expected since those receiving service, in theory, have greater health needs. However, after adjusting for previous health conditions, those receiving services were still 20% more likely to die and 110% more likely to end up in a nursing home. Similarly, having adjusted for current and past service utilization, those receiving preventive home care were 70% and 50% more likely to die and 120% and 50% more likely to be put in a nursing home, respectively (Health Services Utilization and Research Commission, 2000).

Seniors were divided into five groups based on risk of death/nursing home admission. After adjusting for health status and receiving other services in the same three month period, those receiving preventive home care had an increase risk of death and loss of independence at all risk levels. At the highest risk level, those receiving care had a 20% increased chance of death and a 40% increase chance of nursing home admission. At the lowest level of risk, those receiving care had an 80% increased chance of death and two times the risk of nursing home admission (Health Services

Utilization and Research Commission, 2000). These results demonstrate a misuse of resources especially to those who are at the lowest risk of death/nursing home admission. Possibly it is this subgroup that should not be receiving services. Their health and ability to care for themselves is such that services appear to make the situation worse.

This paper finds that seniors receiving preventive home care were more likely to die or lose independence than those not receiving these services. The authors suggested that home care services allow frail elderly living in the community to remain living alone. This can contribute to isolation, loneliness, or depression which in turn can contribute to health deterioration resulting in institutionalization or increase risk of morbidity/mortality. Also, learned helplessness could occur in those receiving services. Those who accept services may start to forget that they could actually manage these tasks on their own (Health Services Utilization and Research Commission, 2000). This study is of interest to the current research because light-care clients tend to utilize the preventive /maintenance function of home care and according to this study, this may be detrimental.

Methodological issues are of some concern and therefore results should be interpreted with caution. The authors controlled for health status, health risk and receipt of other services when calculating the relative risk of institutionalization and death among those receiving preventive home care; however, they did not control for numerous other factors that might explain away the differences found. The data used lacked information on informal care support, quality of life indicators and specific activities of daily living impairments. This is of concern because activities of daily living are used to determine health status and eligibility for services whereas in this study, "lack of independence" referred to nursing home admission, not ADL impairment. Also, it is well recognized that an elderly person's informal support network is very important in determining their health outcomes and ability to maintain there independence in the community (Anderson and Parent, 2000). Also death and institutionalization may not be the best outcome measure to use, especially for those at the lowest level of risk.

Also, it was not clear how "preventive" home care services were defined. This study (Health Services Utilization and Research Commission, 2000). may have used a broad definition of preventive services. For example, bathing assistance may have been included which could prevent injury (example falls) and if removed might result in injury. However, if the definition of "preventive" services was limited to homemaking only, removal of this service would be much less likely to result in injury or institutionalization. Details were not provided on how clients were divided into groups based on risk of death or institutionalization. It was also unclear how "risk" was defined and why was death or institutionalization used to distinguish among the groups when all were relatively light-care and therefore presumably at a very low risk of these outcomes.
This study demonstrates the importance of defining terms carefully and making informed decisions about who should and should not receive services.

2.8 Qualitative Research: Coping After Cuts

When allocating limited resources, one can get lost in the statistics, the cost-effectiveness and the politics and forget that behind all of this are real people. Qualitative data allows us to explore common themes found in the responses of people affected by these budget cuts. In a study by Livadiotakis, Gutman & Hollander (2003) qualitative interviews were conducted face-to-face with seniors who had been discharged from the Simon Fraser Health Region's Community Care program. They had been receiving homemaking services and were accessed by their case mangers to be high functioning with the majority being classified as Primary Care clients (the lowest category of care needs in BC). All participants resided in either Burnaby or Maple Ridge (where the largest number of discharges took place) and had been discharged as of March 1999.

According to Livadiotakis, Gutman & Hollander (2003), when asked "overall, how are you coping since your home support service was eliminated and you were discharged from continuing care?", answers fell broadly into these categories (Table 2):

Table 2 Qualitative Themes

"betrayed and suffering in silence"	"picking up the tab"	"I can do it better"
Physical or financial hardship	Paying out of pocket for services	Improvement in independence
Difficulty completing homemaking tasks alone	Financial burden for self or family	Stated they could perform tasks better than the homemaking service
Paying out of pocket for homemaking services	Relied on informal network for support	Coping with little or no problem
Feelings of abandonment by Canadian health care system		

From Livadiotakis, Gutman & Hollander (2003)

The majority of former home care clients who had been cut from services and whose response was classified as " I can do it better", had been assessed by case mangers as able to complete homemaking tasks independently and about half self-rated their health to be good or excellent. (Livadiotakis, Gutman & Hollander, 2003). This subgroup of clients cut from home care services managed with little if any discomfort when services were no longer available to them.

The majority of respondents reported some negative impact as a result of having their services terminated (Livadiotakis, Gutman & Hollander, 2003). It is not clear however what the incentive was for these individuals to do so. It is possible that those being interviewed for this study were hoping to have their services reinstated. If this was the case, there may have been some exaggeration of the negative aspects of the cuts.

Also, reporting negative feelings associated with being cut from services or having to rely more on the informal network does not necessarily necessitate institutionalization. The negative feeling may fade in time and the informal networks may be able to cope, given that the clients were accessed to be high functioning. Qualitative research makes an important contribution to understanding the potential impact of cuts to the home support services of the elderly.

2.9 Questions to Consider

Due to the fiscal restraints and health care reform of the 1990s, the body of literature on the Acute Care and Long Term Care substitution functions of Home Care (in particular the cost-effectiveness) has been growing (Hollander & Tessaro, 2001); however, there has been very little research on the maintenance/preventive function of Home Care services or on the characteristics of light-care clients.

Light-care clients in Ontario are found both within the CCAC system and outside it accessing services through community support agencies. Understanding the differences between elderly clients who receive services through the CCAC home care system compared with those who access services through community support agencies, may assist with evidence based decisions on how best to provide services to the growing number of elderly people and therefore growing number of home care clients. Defining who is in need of services is a difficult task, but as the Canadian population ages, decisions about allocation of limited resources will become a priority.

The current research will explore the needs of light-care clients within the CCAC system using the Residential Assessment Instrument for Home Care (RAI HC) and those receiving services through community support agencies using the interRAI-Community Health Assessment (interRAI-CHA).

Comparisons between these two groups in terms of demographic variables, cognitive and functional impairments and mood may provide a clearer picture of the types of clients who do/do not receive funded CCAC services. Given that a client does receive CCAC services, what specific types of services do they receive? Furthermore, do they have a supportive network of family and friends to assist them? Comparisons across time on impairment levels of home care clients will reveal changes in policy and/or practice of the CCAC home care system in terms of the types of clients to which they provide service. The RAI HC provides the opportunity for international comparisons among home care clients for the purpose of benchmarking; is Ontario providing services free of charge to

much more impaired or much less impaired clients on average than are other countries? And finally, based on a number of domains, the current research will attempt to predict the likelihood of receiving CCAC home care services.

3.0 METHODS

The Resident Assessment Instrument for Home Care (RAI HC) and interRAI-Community Health Assessment (interRAI CHA) instruments are part of a suit of instruments designed by interRAI (www.interrai.org) to work together to form an "integrated health information system". A common language is used among instruments to allow care providers from various health care setting to communicate and improve continuity of care. Data collected using these assessment instruments provides useful information for the purposes of research and clinical practice. The interRAI team includes members from over 20 countries, allowing for international comparisons and benchmarking (www.interrai.org). Algorithms embedded within these instruments provide outcome measures on a number of domains to researchers for analysis and to clinicians for the purposes of care planning and client evaluation. Outcome measures designed by interRAI researchers are vigorously tested for validity and reliability.

The Methods of Assigning Priority Levels (MAPLe) algorithm will be used to define a sub-population of the CCAC home care population referred to as "light-care" clients. The MAPLe algorithm was selected as the best way to define light-care clients because it is based on the current levels of impairment rather than on types of services being received (e.g., homemaking). Types of services provided may have been based on past service allocation decisions which may or may not have been regularly reevaluated. Also, the MAPLe algorithm has been shown to be a good predictor of risk of adverse outcomes.

Those defined as being "light-care" CCAC home care clients will be compared with those receiving services through community support agencies. Research questions will explore: the demographics and characteristics of those receiving services through CCACs or CSAs, formal and informal service utilization, the affects of budget cuts to the CCAC system, provide international

comparisons of home care clients and attempt to predict the likelihood of receiving services through the CCAC system.

3.1 RAI HC Instrument

The RAI HC (Resident Assessment Instrument for Home Care) consists of the *MDS HC* assessment (Minimum Data Set for Home Care- see Appendix D) and CAPs (Clinical Assessment Protocols). The RAI HC is intended to be completed by a health professional (e.g., Social Worker or Nurse). Some direct questioning of the client is required, but the assessor also observes the client in their home and consults other medical documents as needed to complete the RAI HC items. The assessment is carried out in the client's home and can be completed in two stages, spanning no more than two weeks, if desired. Items can be answered in any order. Items include many domains of interest for home care clients including informal support, ADL/IADL impairment, cognitive deficits, service utilization and health, among others (Morris *et al*., 1997).

The development of the RAI HC began in 1993 with a group of international researchers. In 1999, the *RAI*-Health Informatics Project (*RAI*-HIP) was piloted using 5000 clients from 13 CCACs throughout Ontario with funding from Health Canada's Health Transition Fund. Previously, the interRAI team had created an assessment instrument (the MDS 2.0) for use in nursing homes which was mandated for use for all Chronic Care Hospital patients in Ontario as of July 1, 1996. Although there were many items on the MDS 2.0 that applied to a home care population, there were also new items that needed to be added that focused specifically on home care clients (e.g., informal support; safety of the home environment).

By Fall of 2001, the Ministry of Health and Long Term Care had mandated the RAI HC for use by all CCAC Case Managers to assess long term adult clients (expected to be on services for 60 days or longer) applying for home care services. This currently amounts to approximately 133,000 RAI HC assessments administered yearly in Ontario. Reliability trials in six countries (Australia,

Canada, Czech Republic, Japan and the USA) found the RAI HC to be as reliable as the MDS 2.0 (Morris *et. al.,* 1997).

There are 30 CAPS (client assessment protocols) embedded in the RAI HC instrument. CAPS are triggered if certain combination of items in the instrument are answered in such a way that a concern arises. For example, the Falls CAP is triggered based on items including: unsteady gait, falls in the past 90 days, change in mental functioning and treatment for dementia or Parkinson's disease. If a CAP is triggered, the assessor is made aware and may choose the best course of action required based on their knowledge of the client and clinical judgment. The CAPS are a type of summary measure that focuses the assessor on potentially important considerations when formulating a care plan (Morris *et al*., 2000).Outcome measures imbedded within the RAI HC provide clinical status indicators (interRAI, 2004) including scores measuring overall cognitive impairment, ADL and IADL impairment, depression, pain and frailty/deterioration

3.2 interRAI CHA Instrument

The interRAI-Community Health Assessment (interRAI CHA see Appendix E) assesses community-dwelling elderly who are not receiving long term (60 days or more) CCAC services. People aged 75 years or older were eligible to participate in the pilot, which took place in a number of community support agencies between 2004 and July 2006. This instrument is intended as a screener for people on the cusp of requiring CCAC support.

Those assessed using the interRAI CHA may include: people who are receiving services equivalent to CCAC home care services but have accessed them without the use of the CCAC system; people receiving support through a volunteer organization such as meals on wheels; or people receiving support through their local community (e.g., seniors' home complex).

Those assessed using the interRAI CHA may not be receiving home care services through a CCAC for a number of reasons including: having been misclassified as not needing the service, lack

of awareness of services available to them, family support, an ability to pay out of pocket for any services they may require, or a change in functional status such that CCAC home care was no longer deemed necessary.

Members of the *ideas for Health* research team at the University of Waterloo, trained individuals at 17 sites in Ontario, on how to correctly administer the interRAI CHA. The sites selected were those who replied to requests made for participation by the Ontario Association of Community Care Access Centres (OACCAC), Ontario Community Support Association (OCSA) and the Ontario Home Health Care Provider's Association (OHCA). Those trained varied in number and qualifications depending on the size and nature of the site. Those trained in the administration of the interRAI CHA, selected clients from their case load based on the required criteria (75 years or older and not in receipt of long term home-care services). Of those who fit the criteria, consent was obtained from those willing to participate. Sites were asked to complete 100 assessments each but varied in terms of the number they eventually produced.

Items on the interRAI CHA allow researchers to calculate a number of outcome measures and hierarchical scales including: Cognitive Performance Scale, Depression Rating Scale, IADL Involvement Scale, Pain Scale, CHESS and Self-Reliance Index.

3.3 Defining Light-care Clients

Light-care clients were defined using the MAPLe algorithm (see Appendix D). For the purposes of this paper, light-care clients were defined as those categorized as "low risk for adverse outcomes" using the MAPLe algorithm. MAPLe scores were calculated for all RAI HC clients aged 75 or older, to determine what percent of clients belonged to the "low risk for adverse outcomes" category. The low risk category is defined as: no ADL impairment (based on the ADL Hierarchy Scale) , a Cognitive Performance Scale score (based on memory, decision making, communication and eating performance) of 1 or less (Intact or Borderline Intact), no behavioural symptoms in the past 3 days (E3b=0 Verbally Abusive, E3c=0 Physically Abusive, E3d=0 Socially

Inappropriate/Disruptive, E3e=0 Resists Care) , no decline in decision making ability(B2b=0), no environmental hazards (bathroom/toilet room O1c=0, kitchen O1d=0, heating/cooling O1e=0, personal safety O1f=0, access to home O1g=0), no difficulty managing medications (H1db=0 or 1 and Q1=0), no ulcers (Pressure Ulcers N2a < 3, or Stasis Ulcer N2b < 3) and a self-reliant score on the Self-Reliance Index. Appendix D shows the MAPLe algorithm in pictorial form. The MAPLe algorithm has been shown to predict both admissions to a long term care facility and caregiver stress.

3.4 Outcome Measures Embedded in the RAI HC/interRAI CHA

The outcome measures embedded in the instruments cover a number of clinically relevant domains providing clinicians and care providers with information to assist them with individual care plans as well as with agency decisions, and providing researchers with valuable data on clients utilizing the CSAs and CCACs in Ontario.

3.4.1 Cognitive Performance Scale

The Cognitive Performance Scale (CPS) combines a number of RAI HC items to provide an indication of a client's cognitive status. It matches closely with the Mini Mental State Exam (Landi *et al*., 2000). The CPS score is based on short-term memory, cognitive skills for daily decision making, expressive communication and eating self performance (Morris *et al*., 1994). A score of 0 through 6 is assigned (see Table 3). Similarly the CPS can be calculated using the interRAI CHA items (see Table 4). There is no eating item available on the interRAI CHA, so CPS= 5 or 6 are based only on item C1 (cognitive skills for daily decision making).

Table 3 Cognitive Performance Scale items for RAI HC

CPS Score	Description	Specification	Equivalent Average MMSE
0	Intact	B2a=0,1,2,3 AND impairment=0	25
1	Borderline Intact	B2a=0,1,2,3 AND impairment=1	22
2	Mild Impairment	B2a=0,1,2,3 AND impairment=2,3 AND severe impairment=0	19
3	Moderate Impairment	B2a=0,1,2,3 AND impairment=2,3 AND severe impairment=1	15
4	Moderate/Severe Impairment	B2a=0,1,2,3 AND impairment=2,3 AND severe impairment=2	7
5	Severe Impairment	B2a=4 AND H2g=0,1,2,3,4,5	5
6	Very Severe Impairment	B2a=4 AND H2g=6,8	1

From: Canadian Collaborating Centre – interRAI, 2004.

Table 4 Cognitive Performance Scale items for interRAI CHA

CPS Score	Description	Specification
0	Intact	C1=0,1,2,3 AND impairment=0
1	Borderline intact	C1=0,1,2,3 AND impairment=1
2	Mild impairment	C1=0,1,2,3 AND impairment=2,3 AND severe impairment=0
3	Moderate impairment	C1=0,1,2,3 AND impairment=2,3 AND severe impairment=1
4	Moderate/severe impairment	C1=0,1,2,3 AND impairment=2,3 AND severe impairment=2
5	Severe impairment	C1=4
6	Very severe impairment	C1=5

3.4.2 Activities of Daily Living (ADL) Self-Performance Hierarchy Scale

The ability to perform ADLs are typically learnt in a certain order and lost in a certain order such that those learnt earlier are lost later. This scale takes into account late loss (e.g., eating) and early loss (e.g., hygiene) ADLs (Morris *et al*., 1999). A score of 0 through 6 is assigned (see Table 5) based on H2g Eating, H2c Locomotion in home, H2h Toilet use, H2i Personal hygiene. ADL impairment is very low in the CSA population and therefore the interRAI CHA does not contain enough information on ADLs to calculate this scale.

Table 5 Activities of Daily Living (ADL) Hierarchy items for RAI HC

Score	Description	Use of four ADL items
0	Independent	All four score 0
1	Supervision required	All four score 1 or less AND at least one scores 1
2	Limited Impairment	All four score 2 or less AND at least one scores 2
3	Extensive Assistance Required(I)	Eating AND locomotion both score less than 3 AND personal hygiene OR toilet use score 3 or greater
4	Extensive Assistance Required(II)	Eating OR locomotion score 3
5	Dependent	Eating OR locomotion score 4
6	Total Dependence	All four score 4

From: Canadian Collaborating Centre – interRAI, 2004.

3.4.3 IADL Involvement

Section H1a on the RAI HC lists seven self-performance measures of IADL. For this hierarchical scale, each item is scored as either performed independently (0), some help required (1), full help required (2), or done by others/did not occur (3). The 7 items scored 0-3 are summed to produce a score of 0 – 21. This scale was validated against the Lawson IADL scale and is described in Landi *et al*. (2000).

In the interRAI CHA, items G1a-G1h are included with the exception of G1f (made to match the RAI HC items) is coded as shown in Table 6.

Table 6 Instrumental ADLs (Involvement) items for interRAI CHA

Score	Description
0	Independent
1	Setup help only or Supervision or Limited assistance
2	Extensive assistance or Maximal Assistance
3	Total Dependence or Activity did not occur (recoded to: performed by other)

3.4.4 IADL Capacity

The IADL Capacity Scale is also known as the IADL Difficulty scale. It measures difficulty on three IADLs: meal preparation (G1a), ordinary housework (G1b) and phone use (G1e). A higher score indicates more difficulty. The IADL Capacity scale is calculated using the RAI HC as shown in Table 7.

Table 7 Instrumental ADLs (Capacity) items for interRAI CHA

IADL Difficulty Score	Description
0	No difficulty in any of three IADLs
1	Some difficulty in one but no difficulty in the other two
2	Some difficulty in two but no difficulty in other one
3	Some difficulty in all three
4	Great difficulty in one but less than great difficulty in the other two
5	Great difficulty in two but less than great difficulty in the other one
6	Great difficulty in all three

From: Canadian Collaborating Centre – interRAI, 2004.

3.4.5 The Pain Scale

The pain scale takes into account both the frequency and intensity of pain experienced. It was validated against the Visual Analogue Scale (VAS), specifically the vertical version (v-VAS) in Fries *et al*. (2001). A score on the MDS Pain Scale is assigned for the RAI HC and the interRAI CHA as shown in Table 8.

"Present but not exhibited in last 3 days" (J5a =1) and "exhibited on 1-2 of last 3 days" (J5a =2) on the CHA are equated with "less than daily" on the RAI HC (K4a=1). Also, the RAI HC distinguishes between "daily multiple periods" and "daily one period" while the interRAI CHA does not distinguish.

Table 8 Pain Scale items for RAI HC/interRAI CHA

Score	Description	RAI HC Items	interRAI CHA Items
0	No pain	K4a=0	J5a=0
1	Less than daily pain	K4a=1	J5a=1 or 2
2	Daily pain but not severe	K4a=2 or 3 AND K4b= 1 or 2	J5a=3 AND J5b=1 or 2
3	Severe daily pain	K4a=2 or 3 AND K4b= 3 or 4	J5a=3 AND J5b=3 or 4

From: Canadian Collaborating Centre – interRAI, 2004.

3.4.6 Depression Rating Scale (DRS)

According to Burrows and colleagues (2000) a score of 3 or more suggests major/minor depression with a possible score on the DRS ranging from 0 to 14. The DRS considers the following items on the RAI HC and interRAI CHA (see Table 9).

Table 9 Depression Rating Scale items for RAI HC/interRAI CHA

Description	Item
Negative statements	E1a
Persistent anger	E1b
Expressions of unrealistic fears	E1c
Repetitive health complaints	E1d
Repetitive anxious complaints	E1e
Sad, pained, worried facial expression	E1f
Tearfulness	E1g

From: Canadian Collaborating Centre – interRAI, 2004.

3.4.7 Self-Reliance Index (SRI)

The newly developed Self-Reliance Index categorizes people as being either self-reliant or impaired. It is a particularly sensitive measure that allows researchers to distinguish between the "low" and "mild" categories using the MAPLe algorithm (see Appendix D). Its purpose is to decrease assessment burden for lighter needs clients. Those who are determined to be self-reliant need only have a two page screener assessment completed rather than the entire assessment. On the RAI HC, seven items determine a person's status: cognitive skills for daily decision making (B2),

stamina (H6b), meal preparation (H1aB), ordinary housework (H1bB), transportation (H1gB), personal hygiene (H2i) and bathing (H2j). Those defined as self-reliant must be independent in daily decision making and independent in at least 3 of the other 6 items. A person who is categorized as self-reliant is able to make daily decisions and has minimal functional impairment. He/she would likely be able to manage at home for a short period of time without any assistance. Using the interRAI CHA, self-reliance is based on being independent/set-up help only, on the 3 ADLs (bathing, personal hygiene and walking) and being independent in cognitive skills for daily decision making. This index is a more sensitive measure than the ADL hierarchy, when considering clients with lighter care needs.

3.4.8 Changes in Health, End-stage disease and Sign and Symptoms (CHESS)

The CHESS score (Hirdes *et al*., 2003) is a measure of instability of health and decline in ability to function. On the RAI HC, it takes into account items that in combination, may suggest frailty/instability including: vomiting, dehydration, leaving food uneaten, weight loss, shortness of breath and edema as well as decline in cognitive or ADL function or end stage disease items. Scores range from stable (0) to the highest level of instability (5).

The CHESS score using the interRAI CHA ranges from (0) to (4) and takes into account vomiting (J2j), dehydration (K1b), weight loss (K1a), shortness of breath (J3) a decline in decision making (C3), or a decline in ADL status (G5). The end stage disease items, edema and leaving food uneaten are not available in the interRAI CHA. For the purposes of comparison between these two groups, a score of 4 and 5 was combined into CHESS=4 for the RAI HC.

3.4.9 Method of Assigning Priority Levels (MAPLe)

The MAPLe algorithm (see Appendix D) derived from the RAI HC is used to categorize home care clients into 5 levels of risk for adverse outcomes (low, mild, moderate, high, very high). Adverse outcome risk is based on a client's cognitive status, ADL impairment level and a variety of

behavioral disturbances. A client with a higher MAPLe score is more likely to be eligible for services and may be more likely to require long term care facility admission (Cormack, Varey & Voelker, 2004). A client identified as "low risk" is at low risk for nursing home admission, low risk for causing informal caregiver burnout and on item O2b both the client and caregiver are most likely to answer "no" to feeling the client would be better off living in another environment. The interRAI-CHA lacks the information needed to calculate a MAPLe score (e.g., ADL Hierarchy, ulcers and behavioural symptoms).

3.5 Analysis of the Data

Data was analyzed using SAS 9.1 for windows. Prior to formal analyses taking place, data were checked for dubious values. Any errors found were set to missing values excluding that individual value from the current analysis but not excluding the client from the entire database. Following cleaning of the data, a number of questions were explored using data from the RAI HC and interRAI CHA assessment instruments.

3.5.1 Question # 1 Demographics of elderly within and outside of the Home Care system

The demographics of light-care and non light-care home care clients (measured using the RAI HC) were compared with the demographics of those not receiving long-term home care services through a CCAC (measured using the interRAI CHA). Of particular interest were the characteristics of light-care home care clients and how they compare with those assessed using the interRAI CHA, since it was expected that overlap may exist between these two groups.

The frequencies of a number of demographic variables were calculated from both the RAI HC and interRAI CHA data sets. Some items in the response sets were combined due to small sample size (e.g., combining Marital Status= Separated with Marital Status= Divorced).

Demographics for RAI HC: Gender (BB1); **Age** (calculated using BB2a); **Primary Language** (BB5); **Marital Status** (BB4) Never married, Married, Widowed, or Separated/Divorced); **Education** (BB6) No schooling, up to Grade 11, High school, Technical or trade school, College/Bachelor's/Graduate Degree); **Where client lived at time of referral** (CC5) Private home or apartment with/without home care, group home/assisted living/residential care; **Who client lived with at referral** (CC6) Lived alone, with spouse, with adult child, with other relatives, in group setting not with relatives.

Demographics for interRAI CHA: Gender (A2); **Age** (calculated using A3); **Marital Status** (A4) Never married, Married, Widowed, Separated/Divorced; **Primary Language** (B3); **Client's Residential/Living status at time of assessment** (A11) Private home/apartment, Board & care/assisted living; **Living Arrangement** (A12) Alone, with spouse, with adult child, with non-relative.

3.5.2 Question # 2 Characteristics of elderly within and outside of the Home Care system

The interRAI CHA does not contain enough information to calculate all possible outcome measures found in the RAI HC. Characteristics of those outside the home care system can be explored in terms of their mean Cognitive Performance Scale, Depression Rating Scale, IADL Involvement Scale, Pain Scale, CHESS and Self-Reliance Index. Of particular interest will be the mean scores of interRAI CHA clients on these scales, compared with Provincial RAI HC (both light-care and non light-care) clients who are currently receiving long term home care services. Other characteristics of interest include: disease diagnoses, falls, lifestyle choices and self-reported health.

3.5.3 Question # 3 Formal Care Service Utilization by light-care clients

Understanding the needs of light-care clients and the effect that cutting them from services may have, requires knowledge of the formal and informal support services they currently receive. On the RAI HC, item P1 indicates number of days/hours/minutes of services utilized in the past 7 days

or since the last assessment was completed if less than 7 days ago. Formal care services utilized with sufficient frequency include: Home health aid (P1a), Visiting nurse (P1b), Homemaking (P1c), Meals (P1d), Physical therapy (P1f), Occupational therapy (P1g),Speech therapy (P1h), Day care or day hospital (P1i). Which of these services were provided and the average hours of each service to both light-care and non light-care clients will be explored.

3.5.4 Question # 4 Informal Care Service Utilization by light-care clients

Questions about informal support are located in Section G of the RAI HC. A primary and secondary informal support source may be named. Items of interest include: whether the informal caregiver lives with the client (G1e); the relationship of the caregiver to the client (G1f) adult child, spouse, other relative, friend or neighbour; the types of care the caregiver provides IADL care (G1h), ADL care (G1i); questions on caregiver status (G2a) A caregiver is unable to continue in caregiving activities, (G2b) Primary caregiver is not satisfied with support received from family and friends, (G2c) Primary caregiver expresses feelings of distress, anger or depression; and hours of ADL/IADL care provided by the informal caregivers across the weekdays (G3a) and weekends days (G3b). Hours across weekend and weekdays will be combined to get an estimate of average weekly caregiving hours.

Informal support networks for light-care clients are of particular interest because if they are cut from formal home care services, there must be family/friends/neighbours available to support them. For comparison purposes, the formal and informal support utilized by those home care clients categorized as not being light-care, is also of interest.

3.5.5 Question # 5 Comparisons pre and post budget freeze (Summer 2001)

Trends across time will be explored in terms of changes to the impairment levels of home care clients between 1998 and 2005; specifically around the year 2001 when cuts were made to the

CCAC system. Chi-Square will be used to test for significant change across time in the percentage of home care clients with high levels of impairment on a number of outcome measures including Cognitive Performance Scale, Depression Rating Scale, ADL Hierarchy, IADL Capacity, Pain Scale, CHESS, MAPLe, Self-Reliance and informal support hours. Time will be collapsed into a binary measure of pre and post budget cuts occurring around the summer of 2001.

3.5.6 Question # 6 Home Care International Comparisons

The Aged in HOme Care Project (Carpenter *et al*., 2004), compares a number of home care client variables across 11 European countries. Data collected from the RAI HC instrument, will be used to expand this study to incorporate Ontario home care data and for the purposes of benchmarking. The variables of interest include: gender, age, percentage of clients living alone, mean Cognitive Performance Scale score and mean ADL Hierarchy Score. These analyses will provide an indication of where Ontario fits in terms of the characteristics of its home care clients compared with a number of European countries. When possible, Ontario's community support agency data will also be included in these comparisons.

3.5.7 Question # 7 Predicting CCAC Service Utilization

Logistic regression will be used to predict the likelihood of utilizing CCAC services. Those utilizing CCAC services will be those assessed using the RAI HC. Those not utilizing CCAC services will be those assessed using the interRAI CHA. CCAC service use is the binary dependant variable (assessment type) with a number of independent variables, including hierarchical scales, being considered for inclusion in the model. Models will also be created for predicating being a light-care CCAC client versus a CHA client and being a LC CCAC clients versus a subpopulation of CHA clients who do not use supportive housing services.

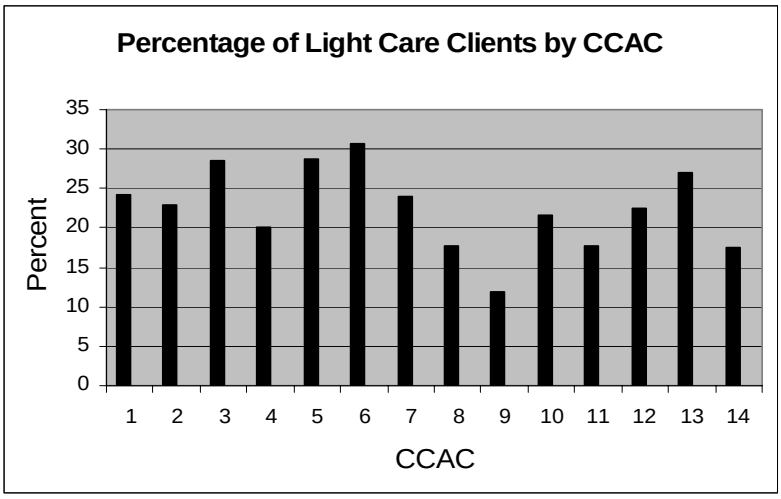
4.0 RESULTS

RAI HC Data

RAI HC data were collected by CCAC Case Managers as part of normal clinical practice. Unique cases between April 2004 and March 2005 were analyzed. Data were analyzed for those expected to be on services for 60 days or longer, who were 75 years or older and who matched with an interRAI CHA site in terms of geographic location. The data analyzed included 14 CCACs with a total sample size of 39,241; 20.8% had a MAPLe score of 1 and were therefore defined for the purposes of this paper, as being "light-care" (n=8163). Substantially variation existed among CCACs (see Figure 2) in terms of the percentage of their clientele who were defined as light-care; percentages varied from 12% of clients in one CCAC to 31% in another.

Another RAI HC data base was used for comparisons across time. Data collected in the Waterloo region between 1998 and 2005 was used for these analyses. This data set was chosen because it had assessments collected across so many years and provided the opportunity for longitudinal comparisons and observation of change across time in impairment levels of CCAC clients.

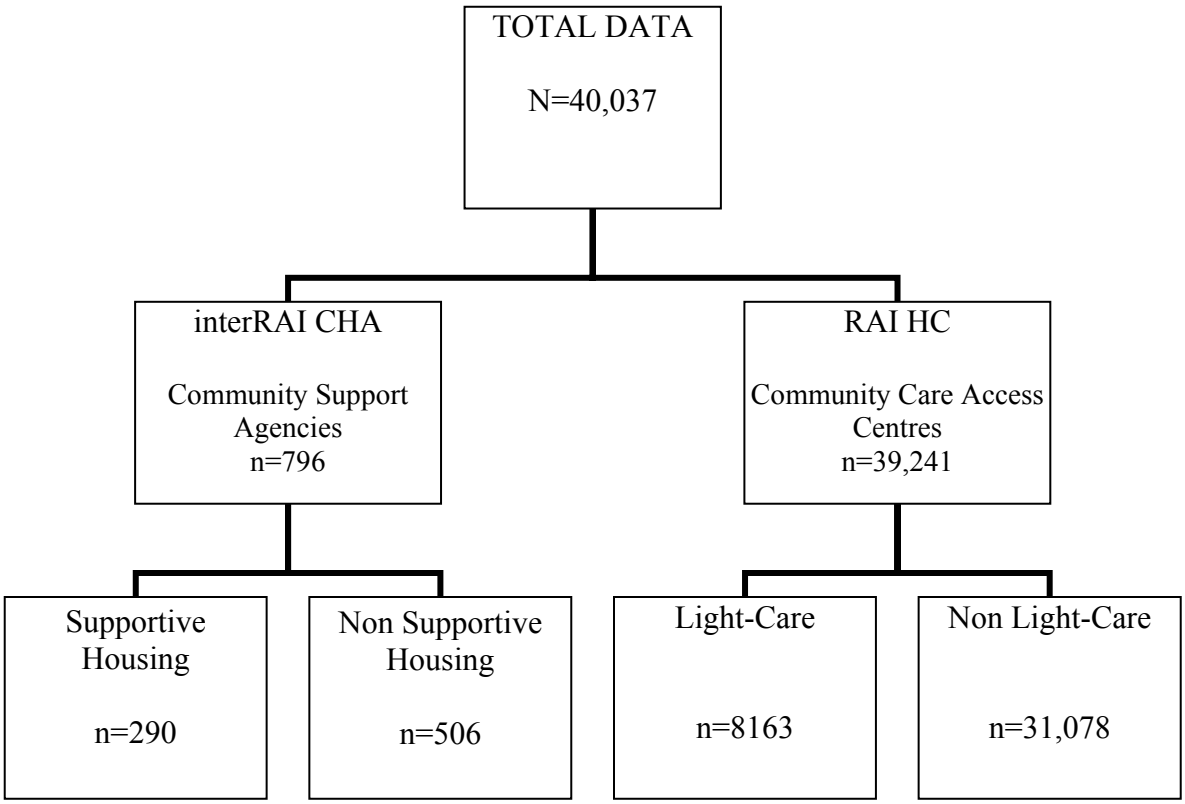
Figure 2 Percentage of light-care clients by CCAC



interRAI CHA Data

interRAI CHA data were collected from 17 community support agencies in Ontario. Those eligible to participate were aged 75 years or older and not currently receiving CCAC services. Ethics clearance for the pilot project was obtained in November 2004 and all sites were trained by January 2005. As of February 2006, 834 assessments had been collected providing 796 complete assessments to be analysed (see Figure 3). CSA clients were further divided into two relevant categories for some analyses. Four sites reported that the majority of their clients accessed supportive housing services (CHATS, Luthervillage, Baycrest and St Joseph's). All assessments from these four sites were classified as supportive housing for a total sample size of 279. The other sites had mostly non-supportive housing clients so were classified as such for a total sample of 517.

Figure 3: Data Distributions



The results section consists of comparisons between CCAC and CSA clients in terms of a number of demographic and characteristic variables, types of formal support received by CCAC clients, the informal support network of CCAC clients, comparison across time in the impairment levels of clients provided with CCAC services, international comparisons, and three logistic regression models.

4.1 Demographics of elderly within and outside of the home care system

4.1.1 Demographics

Demographic comparisons were made among three client types: non light-care home care client (NLC), light care home care clients (LC) and those receiving services through a community support agency assessed using the interRAI CHA (CHA). Type of client was significantly related to all demographic variables (see Table 10).

The mean (SD) age of clients was very similar among the three groups: NLC clients had a mean age of 84.7 (5.5) years, LC clients had a mean age of 83.7 (5.1) years and CHA clients had a mean age of 83.8 (5.1) years. Most clients in all three groups were widowed, with *married* being the next most common marital status. Never having been married, being divorced or being separated was very uncommon among the three types of clients. No information is collected on education level in the interRAI CHA so comparison could only be made between types of home care clients. Having no schooling was rare in both groups, but twice as common in NLC compared with LC clients (3.7% and 1.3% respectively). Post secondary education (including college, university, bachelor's or graduate school) was more common in LC clients than in NLC clients (16.4% and 14.7% respectively). Other categories of education were similar between these two groups. Most spoke English as their primary language. French and Italian were the next most common primary languages spoken by 10% of NLC clients compared with less than 1% of CHA clients. NLC clients and CHA clients had nearly twice the percent of those who spoke languages other than English,

French or Italian (14.4% and 12.8% respectively) compared with LC clients (7.8%). Most clients lived in a private home at the time of referral (with or without home care services). A higher percentage of CHA clients (27.5%) lived in a group home or type of assisted living facility compared to either type of home care client (7.6% of non light-care and 7.6% of light-care clients). Most CHA and LC clients lived alone (66.7% and 62.5% respectively); while only 33% of NLC clients lived alone. Of those who did not live alone, most lived with a spouse or adult child; few lived with non relatives, or in a group home.

4.2 Characteristics of elderly within and outside of the home care system

4.2.1 Disease Diagnoses

Table 11 summarizes the percentage of LC, NLC and CHA clients that had diseases that were present at the time of assessment. Differences among the groups were found to be statistically significant. Arthritis, Hypertension, Coronary artery disease and Osteoporosis were very common among both types of home care clients but were not inquired about in the CHA group. Arthritis, affected 61.2% of LC and 51.2% of NLC clients; Hypertension affected 55.3% of LC and 52.2% of NLC clients. The most common diagnoses/conditions across all three groups were Stroke or Diabetes. A Cancer diagnosis within the last 5 years occurred for 11.2% of NLC, 13.8% of LC and 15.6% of CHA clients. Alzheimer's disease was most common among NLC clients (10.7%) compared with LC (0.7%) and CHA clients (5.7%)

Table 10 Summary table of RAI HC and interRAI CHA demographics

Variable [2] (%)	Response Set	Home Care		CHA	Sig.
		Non Light-Care % (n)	Light-care % (n)	All %(n)	
Female	N/A	69.5 (21596)	75.6(6173)	75.8(603)	p<.0001
Marital Status	Widowed	57.4(17831)	64.7(5281)	66.9(530)	p<.0001
	Married	35.2(10923)	26.4(2152)	25.5(202)	
	Other	7.4(2289)	8.9(906)	7.6(60)	
Education	No Schooling	3.7(942)	1.3(100)	NA	p<.0001
	Less than High School	53.6(13822)	51.3(3912)		
	High School	19.9(5121)	22.1(1686)		
	Technical/ Trade	8.2(2116)	9.2(699)		
	Post-Secondary	14.7(3786)	16.4(1231)		
Language	English	75.7(23519)	85.9(7014)	86.8(691)	p<.0001
	French	2.0(605)	1.7(149)	0.4(3)	
	Italian	8.0(2481)	4.5(369)	0(0)	
	Other	14.4(4473)	7.8(637)	12.8(102)	
Where client lived	Private Home (no HC)	72.2(22438)	84.9(6930)	NA	p<.0001
	Private Home (with HC)	15.3(4745)	11.4(930)	NA	
	Private Home (with/without)	87.5(27184)	96.4(7865)	72.4(576)	
	Group Home/Assisted Living	7.6(2346)	2.3(184)	27.5(219)	
With whom client lived	Alone	33.0(10255)	62.5(5101)	66.7(531)	p<.0001
	Spouse	34.4(10566)	25.3(2065)	22.8(165)	
	Adult Child	18.9(5873)	7.8(636)	7.5(60)	
	Other relative	6.1(1896)	2.7(220)	NA	
	Non-Relative/Group Home	7.7(2393)	1.7(138)	2.6(21)	
*Age (95% CL)	N/A	84.7 (84.6 - 84.8)	83.7 (83.6 – 83.9)	83.8 (83.5 - 84.2)	p<.0001

NA= No Information Available

[2] Numbers are reported in percent (n) with the exception of Age which is reported as a mean value with corresponding confidence limits

Table 11 Disease diagnoses (RAI HC)

Disease/Condition	Non Light-care clients with condition %(n)	Light-care clients with condition %(n)	CHA %(n)	Sig.
Hypertension	52.2(16235)	55.3(4512)	NA	p<.0001
Arthritis	51.2(15914)	61.2(5001)	NA	p<.0001
Coronary artery disease	24.8(7699)	26.4(2126)	NA	p = 0.02
Stroke	22.0(6832)	12.1 (988)	15.7(125)	p<.0001
Diabetes	21.4(6645)	18.5(1507)	18.2(145)	p<.0001
Osteoporosis	20.7(6435)	23.3(1899)	NA	p<.0001
Other Dementia	16.7(5197)	1.4(116)	7.4(59)	p<.0001
Congestive heart failure	16.0(4970)	12.3(1006)	9.8(78)	p<.0001
Cancer in last 5 years	11.2(3493)	13.8(1128)	15.6(124)	p<.0001
Alzheimer's	10.7(3331)	0.7(59)	5.7(45)	p<.0001

NA= Data not available

4.2.2 Outcome measures

Embedded within the assessment instruments are a number of outcome measures that can assist health care professionals in evaluating health status. In the CHA population, these measures may be used to indicate the potential need for a client to be assessed using a more in-depth assessment instrument (i.e., RAI HC). Some of these outcome measures are used to define what it is to be a "light-care" client (e.g., CPS and SRI) and so cannot be used to compare between LC and NLC clients. Scores on outcome measures differ among client types as shown in Table 12.

Mean CHESS and DRS scores are significantly higher for NLC clients compared to both LC and CHA clients. LC and CHA clients do not differ on these scores. Mean Pain scale scores and IADL Capacity scores are highest for NLC clients followed by LC followed by CHA clients. CPS and SRI scores are higher for home care clients than they are for CHA clients on average.

Table 12 Average scores on Outcome Measures

Outcome Measure	Mean (95% CI) scores for Non Light-care clients	Mean (95% CI) scores for Light-care clients	Mean (95% CI) scores for CHA clients
CPS*	1.25(1.24-1.27)		0.62 (0.55-0.69)
SRI** %(n)	Yes 88.5 (34726) No 11.5 (4505)		0.35 (0.31-0.38)
CHESS	1.26 (1.25-1.27)	0.70 (0.70-0.74)	0.74 (0.68-0.80)
DRS	0.95 (0.93-0.97)	0.45(0.43-0.48)	0.66 (0.54-0.78)
IADL Capacity	4.58 (4.56-4.59)	2.29(2.25-2.33)	1.60 (1.46-1.75)
Pain Scale	1.22 (1.20-1.23)	1.28(1.26-1.31)	0.82 (0.75-0.89)

*CPS and SRI are reported for home care clients overall, not split by LC/NLC because these measures are used to distinguish between LC/NLC clients based on the MAPLe algorithm
** All values reported are averages with the exception of the binary variable Sri which is reported as a percent.

4.2.3 Other Characteristics

A number of other characteristics were compared among the three types of clients (see Table 13). The majority of clients experienced no falls in the 90 days prior to the assessment. CHA clients were the least likely to have fallen, followed by LC clients, followed by NLC clients. However, most (63%) NLC clients experienced some unsteady gait while less than half of LC and CHA clients experienced it (39.1% and 40.9% respectively). Most clients did not report being in poor health. Non light-care clients reported being in poor health the most often of the client types (21.2%) compared with light care clients (14.2%) and CHA clients (6.0%). Most do not report feelings of loneliness; NLC clients have the largest percentage of clients who report being in poor health and the smallest percentage of clients who report feeling lonely. Approximately 95% of all clients report not being daily smokers.

Table 13 Summary table of RAI HC and interRAI CHA Characteristics

		Home Care		CHA	Sig.
Variable	**Explanation**	**Non Light-Care %(n)**	**Light-care %(n)**	**All %(n)**	
Unsteady Gait	Yes	63.0(19587)	39.1(3180)	40.9(324)	p <.0001
	No	37.0(11491)	61.0(4983)	59.0(467)	
Falls in last 90 days	0	64.6(20088)	77.6(6331)	86.2(674)	p <.0001
	1	19.5(6049)	15.4(1255)	12.5(98)	
	2	15.9(4941)	7.1(577)	1.3(10)	
Loneliness	Yes	16.5(4756)	81.0(6603)	70.7(555)	p <.0001
	No	83.5(24039)	19.1(1554)	29.3(230)	
Daily Smoker	Yes		94.8(7742)	95.1(757)	p = 0.01
	No	95.6(29714)			
Self-Report Health to be poor	Yes	21.2(6600)	14.2(1162)	6.0(47)	p <.0001
	No	78.8(24478)	85.8(7001)	94.0(737)	

4.3 Formal care service utilization by light-care clients

The RAI HC inquires about services received in the last 7 days. In Table 14, the average hours of each service provided in the past week (when service time was greater than 0), is given for light-care and non light-care clients. Table 14 also lists the percentage of clients who received any of each service. A higher percentage of NLC clients receive each type of formal home care service compared with LC clients. Mean hours of services per week were higher for NLC clients for most services with the exception of physical, occupational and speech therapy. These rehabilitation services were provided more to NLC clients but the hours provided on average each week did not differ significantly between groups.

Home health aid and Homemaking services are often provided by the same person and are referred to as “homemaking/personal support” in the literature. The majority (70.5%) of LC and the majority (77.7%) of NLC clients received some personal support/ homemaking services. Similarly, occupational, physical and speech therapies are often combined in the literature and referred to as “rehabilitation services”. If these services are combined, 8.3% of LC and 19.4% of NLC clients received one or more kinds of rehabilitation services.

Table 14 Formal care services (RAI HC Provincial Data)

	If receiving service, average hours received in 1 week			Percent of clients who get some of this service		
	Light-care Average (95% CI)	**Non light-care Average (95% CI)**	**Sig.**	**Light-care %(n)**	**Non light-care %(n)**	**Sig.**
Home health aid	1.6 (1.6-1.7)	4.8 (4.7-4.9)	p <.0001	46.3 (15280)	67.2 (67338)	p <.0001
Visiting nurse	2.3(3.4) (2.2-2.3)	2.9(5.8) (2.8-3.0)	p <.0001	32.7 (10804)	34.0 (34126)	p <.0001
Homemaking	2.0 (3.8) (1.9-2.0)	3.4 (8.9) (3.3-3.5)	p <.0001	35.6 (11764)	47.2 (47324)	p <.0001
Meals	7.2(8.7) (6.8-7.5)	11.9 (9.1) (11.8-12.0)	p <.0001	7.1 (2328)	24.3 (24390)	p <.0001
Physical therapy	1.3 (1.6) (1.2-1.4)	1.4 (2.5) (1.3-1.5)	NS	6.5 (2160)	15.7 (15774)	p <.0001
Occupational therapy	1.1 (1.8) (1.0-1.2)	1.2 (2.2) (1.2-1.3)	NS	4.4 (1441)	14.2 (14222)	p <.0001
Speech therapy	1.1 (0.7) (0.9-1.3)	1.3 (1.8) (1.2-1.5)	NS	0.4 (130)	7.3 (7332)	p <.0001
Day care/ Day hospital	6.5(5.1) (6.1-7.0)	11.5(10.5) (11.1-11.8)	p <.0001	1.6 (519)	10.7 (10722)	p <.0001

4.4 Informal care service (RAI HC)

Primary Caregivers

Comparisons were made between caregivers who supported LC versus those who supported NLC clients (see Table 15). Higher percentages (55.9%) of primary caregivers (PC) of LC clients do not live with the client compared with PC of NLC clients (41.9%). If the client was married, the spouse was the primary caregiver most of the time; an adult child most often took on the role of the secondary caregiver (SC). Other relatives or friends served as primary caregivers less often but more for LC than for NLC clients. Caregiver support was provided to a higher percentage of NLC clients than LC clients with IADL support being provided by most primary caregivers and ADL support being provided less.

Table 15 Informal Caregiver

		Informal Caregiver		
		LC %(n)	**NLC %(n)**	**Sig.**
Lives with Client?	No (PC)	55.9(18449)	41.9(42004)	p < .0001
	Yes (PC)	39.1(12907)	55.8(55950)	
	Has No PC	5.0(1648)	2.3(2327)	
	No (SC)	53.1(17514)	52.9(53021)	
	Yes (SC)	10.6(3481)	16.7(16718)	
	Has No SC	36.4(12009)	30.5(30542)	
PC Relationship to client	Adult Child	48.3(15128)	48.3(47351)	p < .0001
	Spouse	26.5 (8307)	33.1(32445)	
	Other relative	13.4 (4209)	11.8(11562)	
	Friend/ Neighbour	11.8 (3712)	6.7(6596)	
SC Relationship to client	Adult Child	61.6 (12935)	69.4(48432)	p < .0001
	Spouse	2.4(514)	3.0(2089)	
	Other relative	19.3(4058)	17.7(12375)	
	Friend/ Neighbour	16.6(3488)	9.8(6844)	
Primary Caregiver Support	IADL	85.4(26782)	91.6(89765)	p < .0001
	ADL	26.5(8305)	53.3(52167)	p < .0001

Hours of Informal care

Caregiver Status

The RAI HC has three items that inquire about the status of the caregiver. These include whether the caregiver is: unable to continue in caregiving activities; unsatisfied with the support they get from family/friends; or expresses feelings of distress, anger or depression. The majority (95.8%) of caregivers of LC clients indicated none of these to be the case; while those caring for NLC clients indicated none of these to be the case 81.3% of the time. Caregivers of LC clients experienced these negative feelings less often than did caregivers of NLC clients answering in the affirmative to being unable to continue in caregiving activities (2.5% and 9.7% respectively); to being unsatisfied with the support they get from family/friends (0.5% and 2.6% respectively); and expressing feelings of distress, anger or depression (1.7% and 10.4% respectively).

LC clients received less informal support care hours in a given week than did NLC clients. LC clients received an average of 9.7 hours of informal support (SD=11.1) in a given week (across weekend and weekdays) with 12.8% receiving no informal support time. NLC clients received an average of 23.9 hours (SD=24.8) of informal support in a given week (across weekend and weekdays) with 5.9% receiving no informal support time.

Satisfaction with Living Arrangement

Most client and caregiver did not feel that the client would be better of living elsewhere. This was the case for 89.7% of LC clients and 74.3% of NLC clients.

4.5 Comparisons pre and post budget freeze (Summer 2001)

Table 16 shows change across time in the percentage of home care clients with cogntive and functional impairments as well as changes in the hours of informal support provided. Impairments in cogntion (CPS), ADLs, IADLs, CHESS and MAPLe all show significant change (an increasing

trend), suggesting that the home care system is targetting a more impaired population. Pain levels showed significant change across time with decreasing trend. Depression and informal support hours varied across time.

Table 17 collapsed time into a binary measure being either pre CCAC budget freeze (before Summer 2001) or post budget freeze. With the exception of pain, which shows a significant decrease across summer 2001, all other impairments appear to increase in the home care population after the budget freeze. Signifcant increases are found in CPS, ADLs, CHESS and Maple. This indicates that post budget cuts, the CCAC system was targetting their services to a more impaired population.

The significantly lower levels of pain observed after the summer 2001 budget cuts may appear to be a surprising result considering that those with lighter-care needs (and presumably lower pain levels) were becoming less a part of the home care population post budget cuts. However, Fries and colleagues (2001) state that it may be more difficult to detect pain in elderly clients with cognitive impairment; even those with moderate cognitive impairment. The current research shows that while rates of daily pain were lower the rates of cognitive impairment were higher. Therefore, the apparent lower rates of daily pain among home care clients post cuts may be explained by a difficulty in detecting pain in this more cognitively impaired population.

Table 16 Change across time in impairment levels

	Year						
	1998 N=396 %(n)	**1999 N=658 %(n)**	**2000 N=1232 %(n)**	**2001 N=954 %(n)**	**2002 N=1275 %(n)**	**2003 N=2187 %(n)**	**Sig.**
CPS 2+	27.5(109)	26.6(175)	29.4(362)	38.0(362)	45.9(585)	42.3(924)	p<.0001
ADL Hierarchy 2+	24.5(97)	24.0(158)	22.1(272)	25.9(247)	29.7(379)	30.3(663)	p<.0001
IADL Capacity 5+	44.2(175)	48.3(318)	44.3(546)	50.1(478)	57.5(733)	58.2(1273)	p<.0001
CHESS 2+	25.5(101)	27.2(179)	36.1(444)	34.4(328)	32.2(410)	42.8(937)	p<.0001
MAPLe 3+	59.3(235)	61.4(404)	58.0(715)	62.7(598)	71.3(909)	72.3(1582)	p<.0001
Pain 2+	54.8(217)	54.6(369)	55.7(686)	50.5(482)	46.0(586)	49.2(1075)	p<.0001
DRS 3+	8.1(32)	7.3(48)	11.6(143)	10.4(99)	10.8(138)	9.9(217)	p=0.04
Informal Hours 8+	58.6(232)	63.4(417)	57.7(711)	58.6(559)	63.8(813)	60.1(1314)	p = 0.01

Table 17 Change Across Time: Pre and Post Summer 2001 Budget Freeze

	Pre and Post Budget Freeze (summer 2001)		
	Pre N=2822 %(n)	**Post N=3880 %(n)**	**Sig.**
CPS 2+	29.9(845)	43.1(1672)	p<.0001
ADL Hierarchy 2+	23.3(656)	29.9(1160)	p<.0001
IADL Capacity 5+	46.0(1299)	57.3(2224)	p<.0001
CHESS 2+	9.3(262)	12.7(493)	p<.0001
MAPLe 3+	59.5(1679)	71.2(2764)	p<.0001
Pain 2+	54.3(1531)	48.3(1874)	p<.0001
DRS 3+	9.8(277)	10.3(400)	NS
Informal Hours 8+	58.9(1661)	61.5(2385)	p=0.03

Figure 4 shows a decrease in the average hours of homemaking/personal suppot provided to home care clients across time. In particular, a decrease is observed in homemaking provided to the lightest care clients around the time of the budget freeze. A decrease in hours occurred at all MAPLe levels. MAPLe scores of 1 and 2 showed similar patterns across time so were therefore combined; similarly, MAPLe scores of 4 and 5 were combined. Homemaking/Personal Support hours were very low for MAPLe 1 and 2 clients while MAPLe level three clients showed similar average hours to those with a higher MAPLe score. Substantial differences in 1998 may be a reflection of a small sample size. Table 18 shows the 95% confidence around these means.

Figure 4 Homemaking/Personal Support Hours Across Time by Maple Category

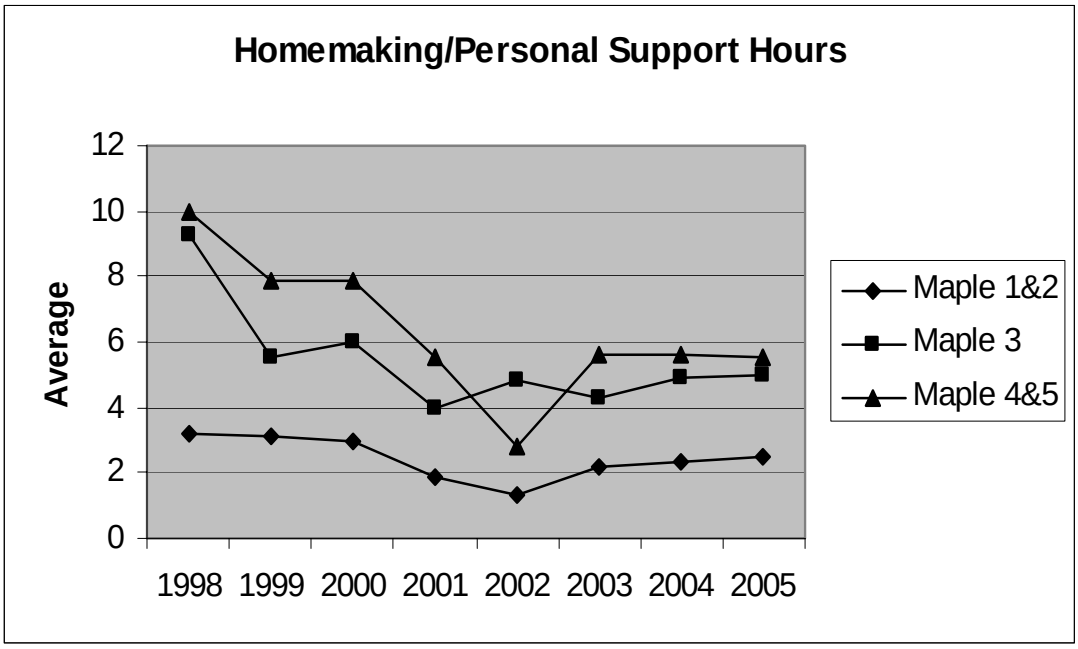


Table 18 Confidence Limits for Homemaking/Personal Support Hours

	Year							
	1998	**1999**	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**
Maple 1 & 2 Average (95% CI)	3.2 (2.6-3.8)	3.1 (1.8-4.4)	3.0 (2.7-3.4)	1.9 (1.5-2.2)	1.3 (0.8-1.8)	2.2 (2.0-2.4)	2.3 (2.2-2.5)	2.5 (2.2-2.7)
Maple 3 Average (95% CI)	9.3 (4.1-14.5)	5.5 (4.4-6.6)	6.0 (3.8-8.3)	4.0 (2.7-5.2)	4.8 (0.8-8.7)	4.3 (3.9-4.7)	4.9 (4.4-5.3)	5.0 (4.3-5.7)
Maple 4 & 5 Average (95% CI)	10.1 (7.5-12.7)	7.9 (5.2-10.6)	7.9 (5.5-10.4)	5.5 (4.0-7.0)	2.8 (2.1-3.6)	5.6 (5.0-6.2)	5.6 (5.2-6.1)	5.5 (4.7-6.3)

Figure 5 shows some increase in informal support hours around the time of the budget freeze (2001) This is true for all levels of MAPLe. Average hours increase as MAPLe score increases. Table 19 shows the 95% confidence around these means.

Figure 5 Informal Care Hours Across Time by Maple Category

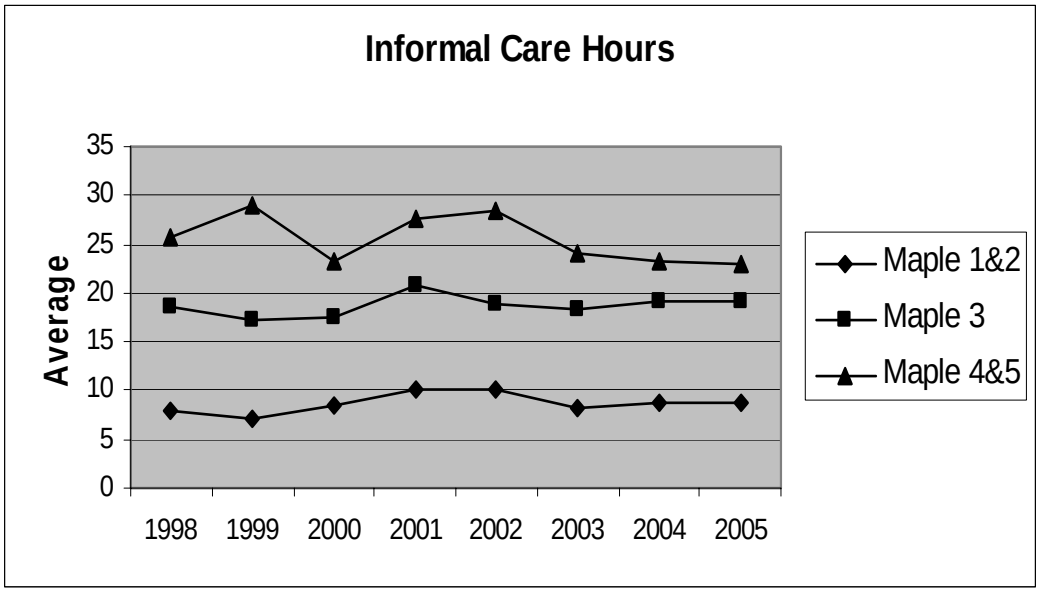


Table 19 Confidence Limits for Informal Support Hours

	Year							
	1998	**1999**	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**
Maple 1 & 2 Average (95% CI)	8.0 (6.6-9.5)	7.0 (5.6-8.3)	8.6 (7.6-9.7)	10.1 (8.7-11.5)	10.2 (8.4-12.0)	8.1 (7.5-8.8)	8.8 (7.5-8.9)	8.8 (8.4-9.5)
Maple 3 Average (95% CI)	18.7 (14.2-23.1)	17.1 (14.5-19.8)	17.4 (15.0-19.8)	20.8 (17.8-23.9)	18.9 (15.8-22.1)	18.4 (17.1-19.8)	19.2 (18.1-20.3)	19.2 (18.1-20.3)
Maple 4 & 5 Average (95% CI)	25.7 (19.6-31.7)	29.0 (23.1-34.9)	23.3 (20.2-26.4)	27.7 (24.1-31.3)	28.5 (24.2-32.8)	24.1 (22.6-25.6)	23.2 (22.1-24.4)	23.0 (21.2-24.8)

Figure 6 looks at caregiver stress across time by maple category. For the most part, caregiver stress increased as MAPLe score increased. The crossover observed in 1998 may be explained by the small sample size in that year. Caregiver stress peaked for the highest MAPLe score clients around the time of the budget freeze. Maple score 1 and 2 clients are at low risk for causing caregiver stress and therefore did not show substantial change on this variable across time.

Figure 6 Caregiver Stress Across Time by Maple Category

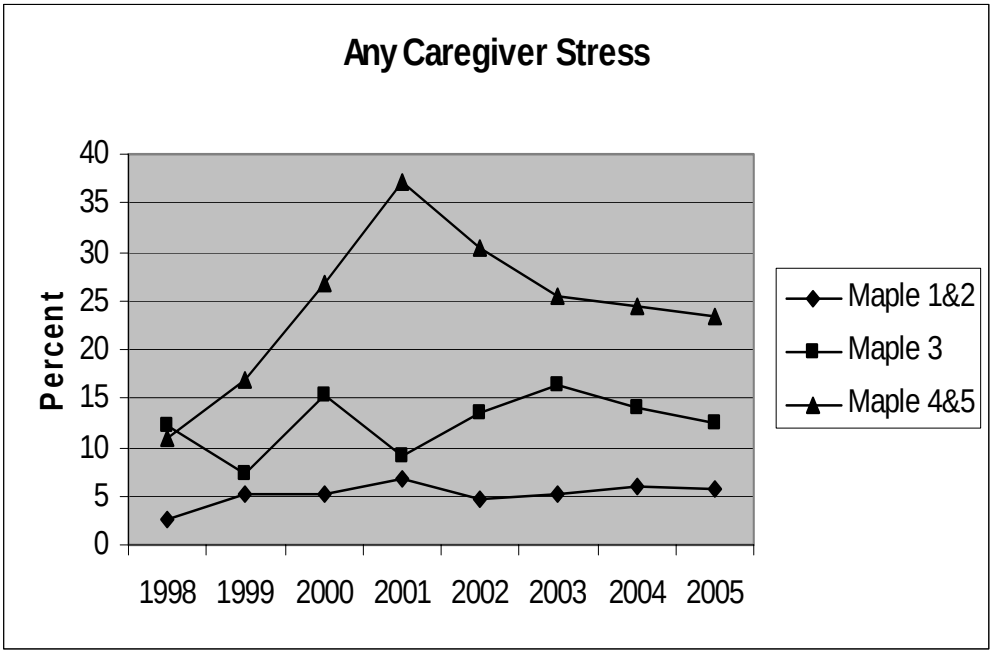
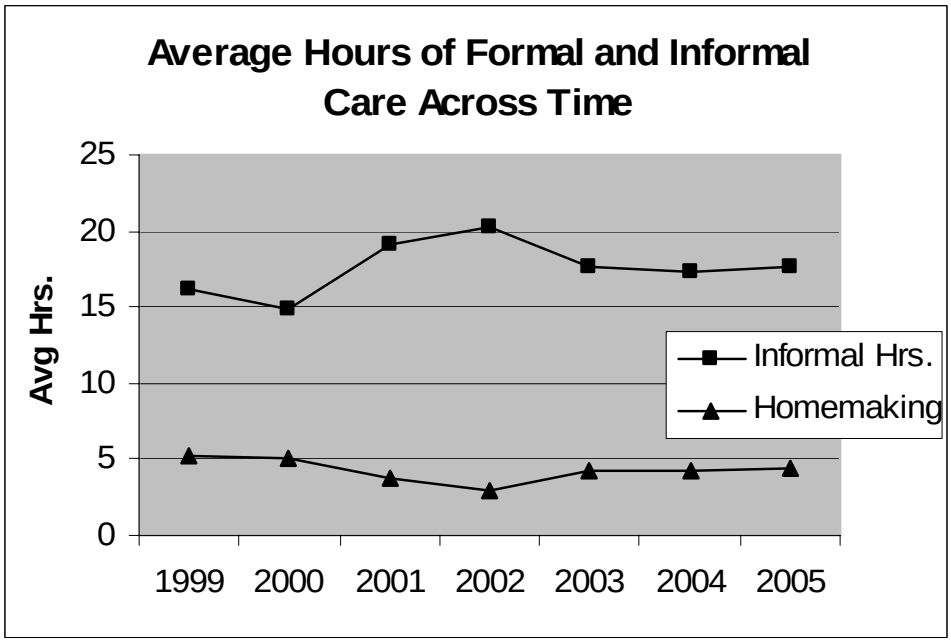


Figure 7 shows change across time in average hours of homemaking and average hours informal suppot provided to home care clients for all levels of MAPLe. The hours of homemaking show a decrease around the time of the budget freeze while the hours of informal care show an increase at this time. This sugests that when homemaking is decreased the informal support network may step in to assist with these duties.

Figure 7 Homemaking hours and Informal Care hours across time



4.6 International Home Care Comparisons

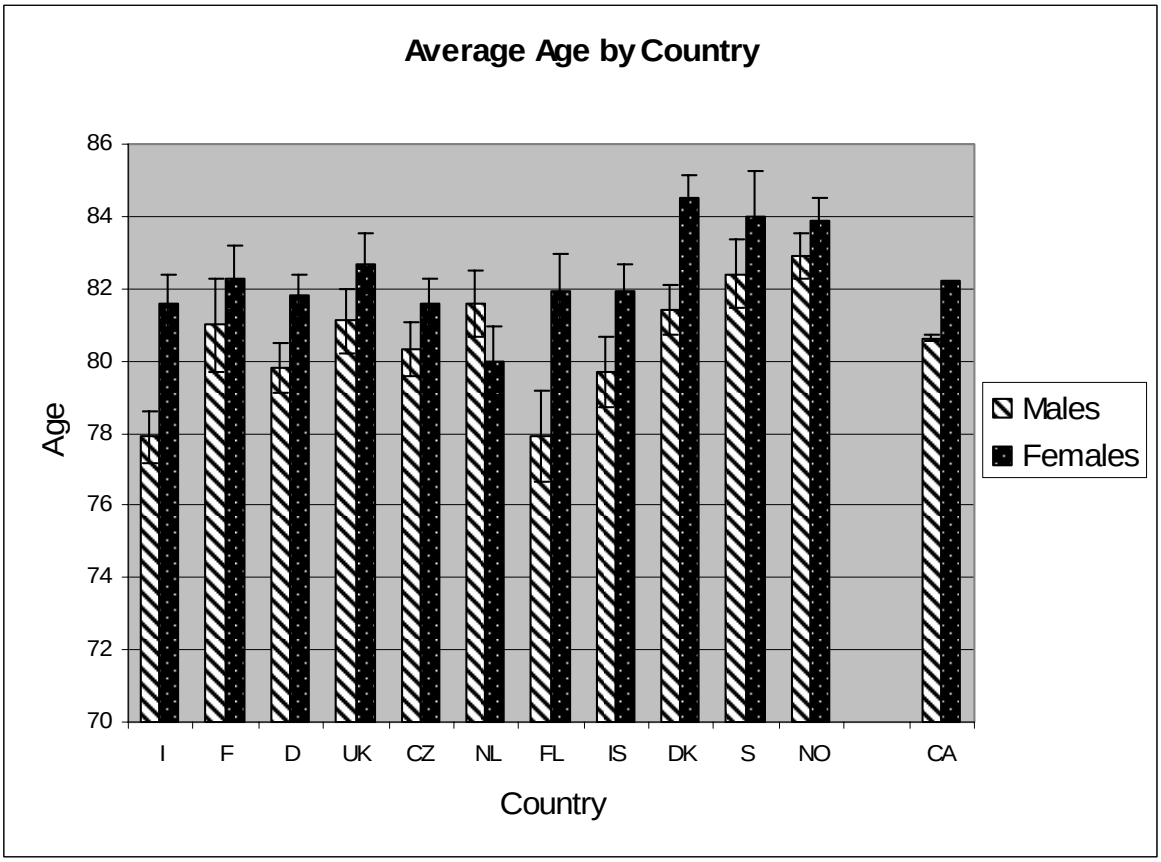
Using data from the Aged in HOme Care Project (Carpenter *et al*., 2004), graphs were produced that compared their 11 European countries with Canadian data on variables including: Age, Gender, Marital Status, percent of clients living alone, average CPS score and average ADL Hierarchy Score. The cut-off age for inclusion in this comparison was 65 years in order to match Ontario data with the international data.

Country short forms are as follows: I=Italy, F=France, D=Germany, UK=England, CZ= Czech Republic, NL=The Netherlands, FL=Finland, IS=Iceland, DK=Denmark, S=Sweden, NO=Norway, CA=Canada (HC=Home Care clients; SH CHA =Supportive Housing CHA clients; NSH=Not Supportive Housing CHA clients).

Age (Figure 8**):**

The average age of elderly home care clients was 80.6 (SD=7.4) years for men and 82.2 (SD=7.4) years for woman in Canada. CSA clients in Canada who utilized supportive housing had a mean age of 85.5 (SD=5.3) years and those who did not utilize supportive housing had a mean age of 83.0 (4.7). The Both Italy and Finland had younger men on average in the home care system (77.9 years SD=7.5 and 77.9 years SD=8.8 respectively). Norway had older men on average in the home care system (82.9 years, SD=6.3). The Netherlands had the youngest females in the home care system on average (80 years, SD=6.8); Denmark had the oldest (84.5 years, SD=6.7). The average age of elderly home care clients in Ontario was 80.5 years for men and 82.2 years for women, compared with 80.6 years for men and 82.2 years for women on average across the 11 European countries.

Figure 8 Average Age of Home Care Clients, by Country

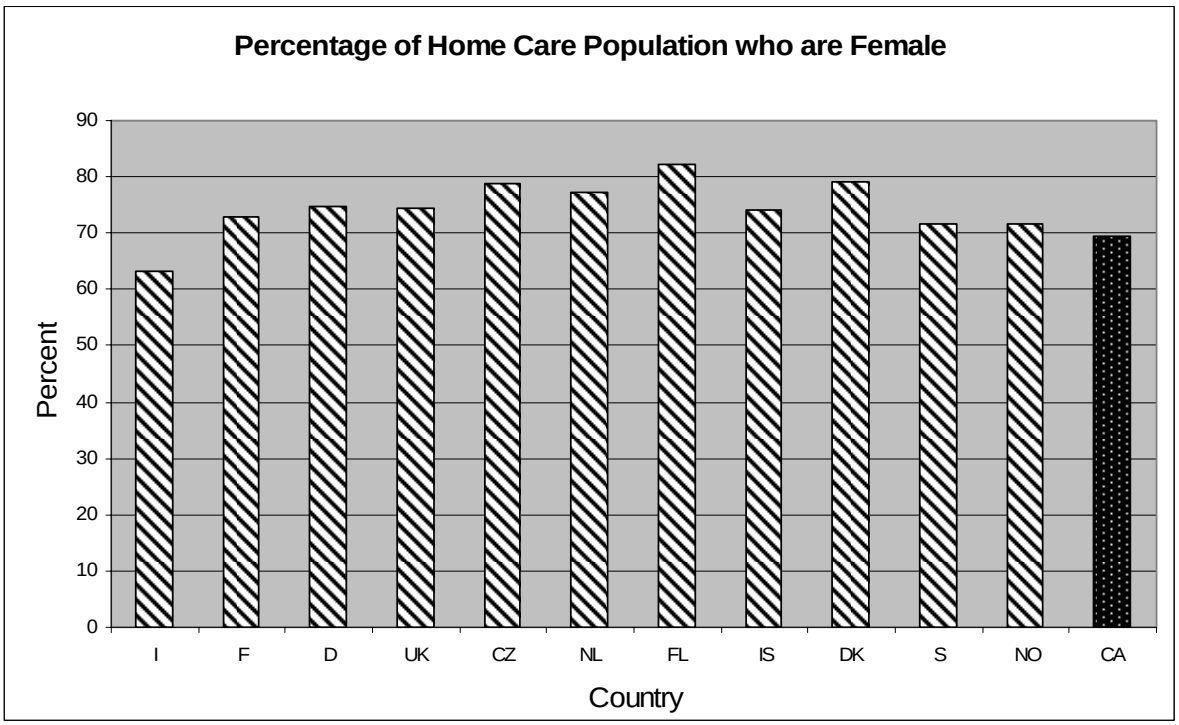


Data for the European countries from: The Aged in Home Care project, Carpenter *et al*., (2004)

Gender (Figure 9**):**

Most home care clients aged 65 years or older were woman. This is true for Canada's home care clients (69.4%) and CHA client as well as for all countries that were part of the AdHOC (Carpenter *et al*., 2004) research project. The percent varied from 63.1% in Italy to 82.2% in Finland. Canada had a smaller percentage of female home care clients than the European countries, on average (69.4% versus 74.5%).

Figure 9 Percentage of Home Care Population who are Female, by Country

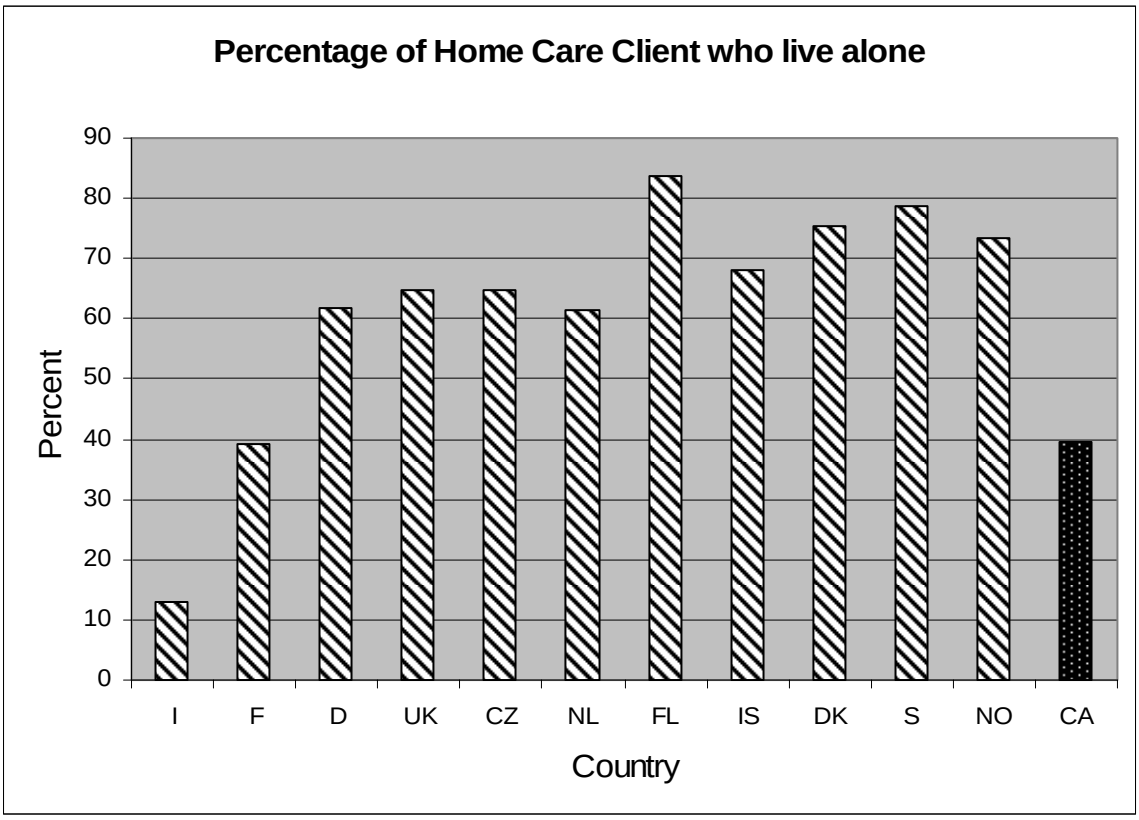


Data for the European countries from: The Aged in Home Care project, Carpenter *et al.,* (2004)

Living Alone:

Substantial variation existed among countries (Figure 10)**:** Canada had 39.4% of its elderly home care population living alone; Italy has 12.8%; and Finland has 83.8%. Most supportive housing CHA clients in Canada live alone (79%). This may reflect clients who live in a supportive housing facility in their own rooms.

Figure 10 Percentage of Home Care Clients Who Live Alone, by Country



Data for the European countries from: The Aged in Home Care project, Carpenter *et al.,* (2004)

CPS and ADL Hierarchy Scores by Country:

The Aged in HOme Care Project (Carpenter *et al*., 2004) plotted average CPS by average ADL Hierarchy Scale (Figure 13). Home care clients in France and Italy, on average, had high levels of both cognitive and ADL impairment. The Netherlands, Czech Republic, Finland, Iceland, Denmark, Sweden and Norway had lower levels of impairment among their home care clientele. Germany, United Kingdom and Canada (when it was added to this graph) fell midway between these two clusters.

Canadian elderly home care clients had an average CPS score (Figure 11) of 1.2(SD=1.5). Supportive Housing CHA clients had a lower CPS score on average than did Canadian HC clients but a higher CPS score on average than did NSH clients. Average CPS scores for home care clients in the European countries found France on the high end (2.2, SD=2.2) and Sweden on the low end (0.4, SD=0.8). Canada's home care clients averaged ADL Hierarchy scores **(** Figure 12**)** of 0.87(SD=1.4), compared with Italy on the high end (2.8, SD=2) and the Netherlands (0.2, SD=0.8), Finland (0.2, SD=0.9) and Iceland (0.2, SD=0.7), on the low end.

Figure 11 Average CPS Score for Home Care Clients, by Country

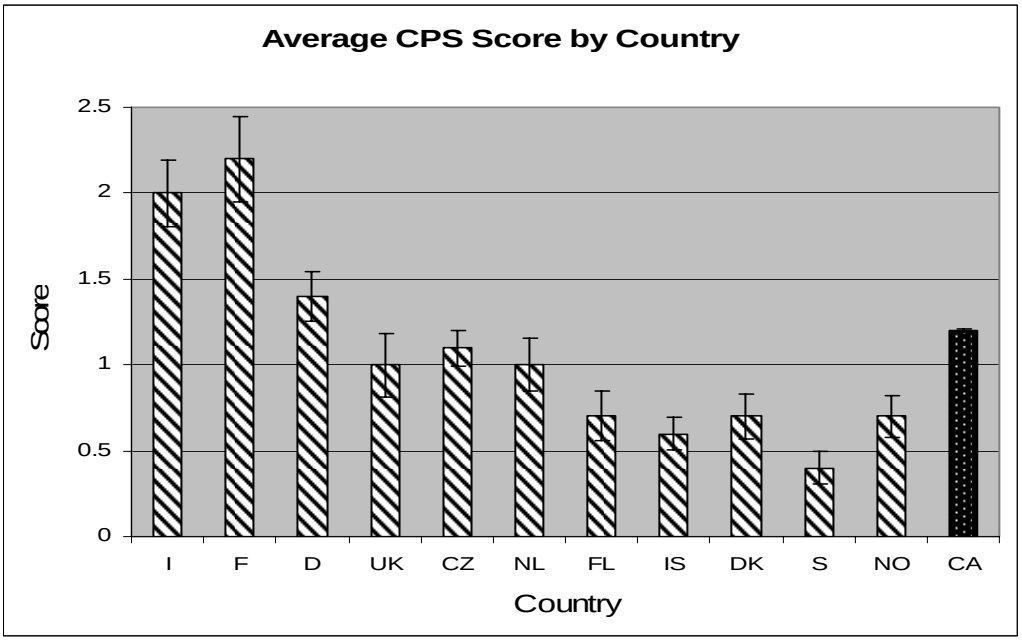
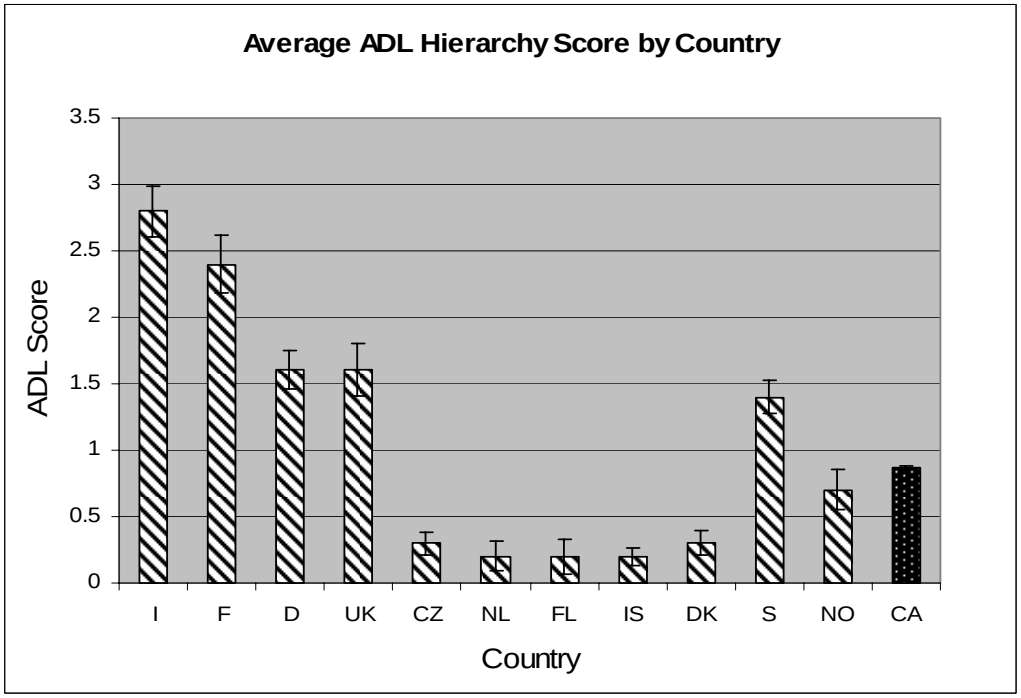
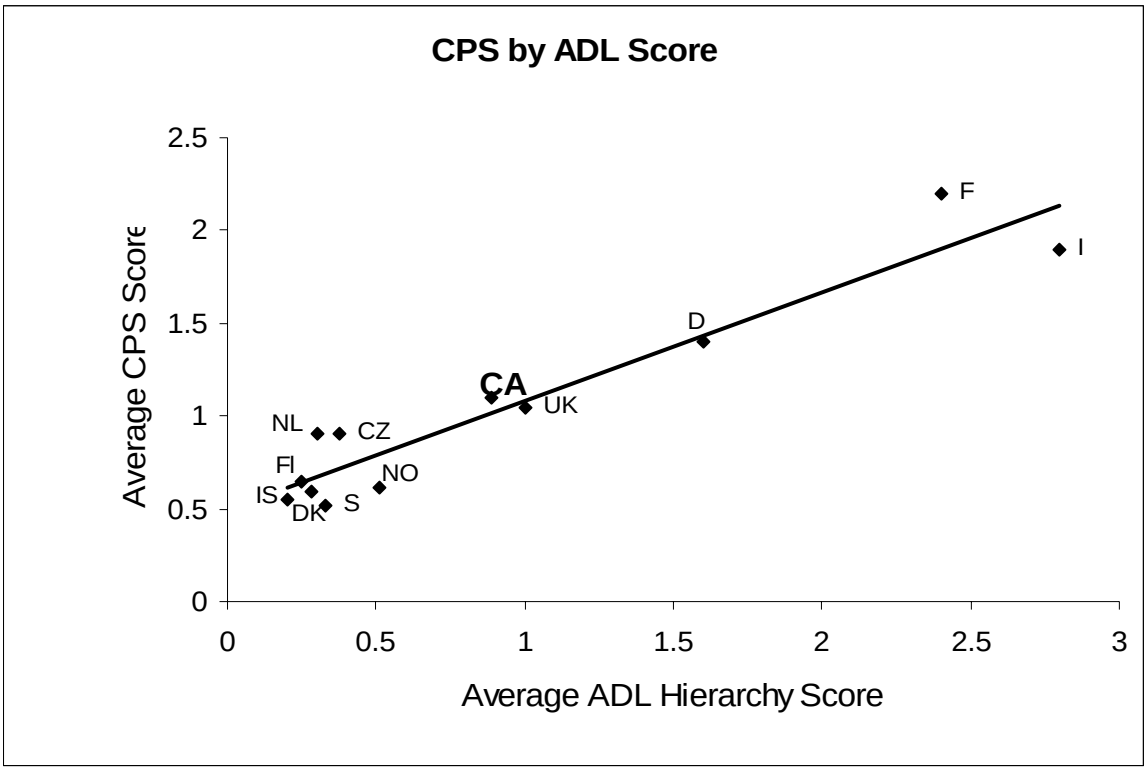


Figure 12 Average ADL Hierarchy Score for Home Care Clients, by Country



Data for the European countries from: The Aged in Home Care project, Carpenter *et al.,* (2004)
Note: the interRAI CHA does not provide enough information to calculate an ADL Hierarchy score

Figure 13 Average CPS by Average ADL Hierarchy Score, by Country



Data for the European countries from: The Aged in Home Care project, Carpenter *et al.,* (2004)

4.7 Predicting CCAC Service Utilization

All 42 Community Care Access Centres, in Ontario, assessed their clients using the RAI HC between April 2004 and March 2005; producing 133,286 unique assessments. A combined data set, from these RAI HC data and interRAI CHA data collected from 17 community support agencies, was created for variables of potential interest to be included in the logistic regression.

The sample size for the combined data set was 88,865 (796 of which were interRAI CHA assessments). For the purposes of the logistic regression, CCACs were included, only if they matched regions with an interRAI CHA site (see Table 20). Also, the RAI HC data was limited to those 75 years or older in order to match the interRAI CHA age cut-off. This combined data set used for the analysis had a total sample size of 40037, with 796 interRAI CHA clients and 39,241 RAI HC clients (20.8% of which were light-care). Weights were added to the RAI HC data (wt=0.0211) due to the unbalanced sample sizes between the two data sets; however, weighting made little difference to the equation and was later dropped.

SAS offers a forward, backwards and stepwise process of selecting potential variables to enter into the logistic regression equation. However, using these automatic processes ignores clinical considerations and does not allow a researcher to enter a variable one at a time to see how it affects the equation. Therefore, these automatic processes were not used to create the logistic regression equation.

Where possible, scales were used as potential independent variables rather than individual items due to the fact that scales can provide a more comprehensive measure of a domain than could a specific item; for example, the Pain Scale incorporates both intensity and duration of pain while a single item could only consider one of these measures. However, individual items at times appear in more than one scale (e.g., cognitive skills for daily decision making appear in both the CPS and SRI scales) and therefore to avoid redundancy, use of one scale in the equation negated use of the other.

After Chi-square and Odds Ratios were calculated for each item in relation to assessment type (interRAI CHA or RAI HC), clinical considerations were made from knowledge of the literature. Interaction terms (suggested in the literature) were tested for significance and found not to be significant.

Bivariate analyses (Table 21) revealed significant relationship between the majority of potential independent variables and assessment type (interRAI CHA or RAI HC). Multicollinearity was tested for and found not to be a concern for the variables included in the equation.

Logit plots were made for each variable to assess linearity and decide whether they could be included in the logistic regression equation as ordinal rather than as a class variable. CPS, IADL Capacity, CHESS and Isolation all appeared linear; pain and hygiene somewhat linear; DRS, IADL Involvement and bathing appeared non-linear. The Odds Ratio and corresponding 95% C.I. and c statistic for each potential independent variable, controlling for gender and age, was calculated (Table 22) in order to determine possible candidates for the logistic regression equation.

Age and gender were non-significant and therefore not included in the final equations. Three final logistic models were compiled. The first was predicting being either a CCAC or CSA client. The second predicted being a LC CCAC client versus a CSA client and the third predicted being a LC CCAC versus being a CHA client who did not utilize supportive housing services. The final equations included variables/scales from a variety of relevant domains and remained parsimonious while providing a high c statistic.

Not being self-reliant, having ADL decline, having more falls, self reporting to be in poor health, not reporting being lonely and living with others make one more likely to be receiving CCAC home care support (rather than support through a community support agency). The final c statistic for the first model (Table 23) was 0.85.

Table 20 CCACs matched by location with interRAI CHA sites

interRAI- CHA SITE (18)	CCAC (14 unique matched by region)
Cambridge Home Support -Cambridge	Waterloo Region
Heidehof Supportive Housing- St. Catherine's	Niagara
Luthervillage -Waterloo	Waterloo Region
St. Joseph's Health Centre -Guelph	Wellington-Dufferin
Scarborough Support Services for the Elderly	Scarborough
Gananoque Area Services to Assist Independent Living	Lanark, Leeds, Grenville
South Essex Community Council - Leamington	Windsor/Essex
Etobicoke Services for Seniors	Etobicoke York
CHATS -Aurora	York Region
Joyce Scott Non-Profit Homes -Milton	Halton
Helping Hands -Orillia	Simcoe Country
Community Care City of Kawartha Lakes -Lindsay	Halliburton, Northumberland, Victoria
St. Pauls' L'Amoreaux Seniors Centre- Scarborough	Scarborough
Community Care East York	East York
Baycrest - NorthYork	North York
Town and Country -Clinton	Huron
York Public Health	York Region
Toronto Public Health - Etobicoke	Etobicoke York

Table 21 Potential independent variables for predicting assessment type

Potential Independent Variables	Chi-Square Value χ^2	P-Value
Cognitive Performance Scale	123.05	$p < .0001$
Depression Rating Scale	5.53	$p < .05$
Pain Scale	211.25	$p < .0001$
Gender	26.59	$p < .0001$
Marital Status	127.76	$p < .0001$
Living Arrangement	645.21	$p < .0001$
Lives With	368.13	$p < .0001$
IADL Capacity	3477.89	$p < .0001$
IADL Involvement	2431.07	$p < .0001$
CHESS	50.57	$p < .0001$
Self-Reliance Index	1638.05	$p < .0001$
Bathing	1801.10	$p < .0001$
Hygiene	294.07	$p < .0001$
Isolation	237.77	$p < .0001$
Lonely	128.68	$p < .0001$
ADL Decline	290.16	$p < .0001$
Activity Levels	471.77	$p < .0001$
Falls	140.49	$p < .0001$
Self-Reported Health	202.73	$p < .0001$

Table 22 Odds Ratios for potential independent variables for logistic regression

Variable Name	Explanation	Odds Ratio	95% Confidence Interval	Sig.	c Statistic
CPS		1.48	1.38 – 1.58	<.0001	0.63
COG	CPS divided into 3 categories	2.73	2.30 – 3.26	<.0001	0.63
DRS		1.08	1.03 – 1.13	0.0018	0.57
DEP	DRS binary	1.29	1.02 - 1.63	0.0334	0.56
Pain		1.45	1.36 – 1.56	<.0001	0.62
IADL Capacity		2.04	1.96 – 2.13	<.0001	0.82
IADL Involvement		1.71	1.65 – 1.78	<.0001	0.80
CHESS		1.50	1.39 – 1.62	<.0001	0.62
CHESS1	Recoded to 4 not 5 categories	1.62	1.41 – 1.87	<.0001	0.61
SRI		14.32	12.38 – 16.58	<.0001	0.77
Bathing		2.21	2.10 – 2.32	<.0001	0.81
Hygiene		1.82	1.66 – 1.99	<.0001	0.67
Isolation		0.66	0.62 – 0.70	<.0001	0.65
Lonely		0.48	0.41 – 0.56	<.0001	0.56
Decline	ADL decline	5.15	4.18 – 6.34	<.0001	0.65
Falls		2.38	2.04 – 2.78	<.0001	0.60
SR health		0.36	0.31 – 0.41	<.0001	0.57
Gender		0.77	0.66 – 0.91	0.0016	0.53
Age		1.02	1.01 – 1.04	0.0003	0.53

Controlling for gender and age

Table 23 Estimated Odds Ratios for being a home care client (versus a Community Support Agency client)

Variable	Explanation	Parameter Estimate (SE)	Odds Ratio (95% C.I.) Predicting	Sig.	c Statistic *
SRI	0=Self-Reliant 1=Not Self-Reliant	2.52(0.12)	9.74 (8.30 – 11.41)	p <.0001	0.77
ADL Decline	0= no decline 1=decline	0.97(0.12)	2.63 (2.09 – 3.30)	p <.0001	0.65
Falls	0 1 2	Ref. -0.41(0.13) 1.17(0.21)	1.00 (Ref.) 1.43(1.14-1.81) 6.92(3.69-13.01)	 p= 0.002 p <.0001	0.60
SR Health	1= self-report poor health 0= do not self-report poor health	1.08(0.16)	2.96 (2.16 – 4.04)	p <.0001	0.57
Loneliness	0 = not lonely 1=lonely	-0.62(0.09)	0.53 (0.45 – 0.64)	p <.0001	0.56
Live	0 = alone 1= with others	0.69(0.08)	2.00 (1.70 – 2.36)	p <.0001	0.64

*The values reported in the table reflect the c statistic for bivariate logistic regression models. For the full multivariate model c=0.85.

A second logistic regression equation predicating the likelihood of being a light care CCAC home care client (versus a CHA client) is shown in Table 24. The final c statistic for the model is 0.70. With whom the client lived is no longer significant and was dropped form the equation. The point estimates are much lower for this equation than for the first equation predicting being a CHA or HC client (see Table 23); however, the same pattern is observed such that age and gender remain non-significant and self-reliance, ADL decline, having more falls, self reporting to be in poor health and not reporting being lonely make one more likely to be receiving CCAC home care support (LC home support specifically).

A third logistic regression model predicting the likelihood of being a light care CCAC client (versus a CHA client who does not access supportive housing services) shows a similar pattern of variables (see Table 25). The final c statistic for this model was 0.73.

Table 24 Estimated Odds Ratios for being a light-care home care client (versus a Community Support Agency client)

Variable	Explanation	Parameter Estimate (SE)	Point Estimate (95% C.I.)	Sig.	c Statistic *
SRI	0=Self-Reliant 1=Not Self-Reliant	1.02(0.08	2.79(2.37-3.27)	p<.0001	0.67
ADL Decline	0= no decline 1=decline	0.51(0.11)	1.67(1.32-2.10)	p<.0001	0.57
Falls	0	Ref.	1.00(ref.)		0.55
	1	-0.38(0.13)	1.31(1.04-1.66)	p=0.004	
	2	1.04(0.22)	5.41(2.87-10.20)	p<.0001	
SR Health	1= self-report poor health 0= do not self-report poor health	0.93(0.16)	2.55(1.86-3.50)	p<.0001	0.54
Loneliness	0 = not lonely 1=lonely	-0.69(0.09)	0.50(0.42-0.60)	p<.0001	0.55

* The values reported in the table reflect the c statistic for bivariate logistic regression models. For the full multivariate model c=0.70.

Table 25 Estimated Odds Ratios for being a light-care home care client (versus a Community Support Agency client not in receipt of supportive housing services)

Variable	Explanation	Parameter Estimate (SE)	Odds ratio (95% C.I.)	Sig.	c Statistic *
SRI	0=Self-Reliant 1=Not Self-Reliant	1.43(0.11)	4.19 (3.40-5.17)	p<.0001	0.63
ADL Decline	0=no decline 1=decline	0.98(0.17)	2.68(1.91-3.75)	p<.0001	0.55
Falls	0 1 2	Ref -0.26(0.15) 0.86(0.24)	1.00(ref.) 1.40(1.04-1.90) 4.29(2.11-8.73)	 p=0.009 p=0.004	0.55
SR Health	1= self-report poor health 0= do not self-report poor health	0.75(0.19)	2.11(1.45-3.06)	p<.0001	0.54
Loneliness	0 = not lonely 1=lonely	-0.63(0.11)	0.53(0.43-0.66)	p<.0001	0.55

*The values reported in the table reflect the c statistic for bivariate logistic regression models. For the full multivariate model c=0.73.

5.0 DISCUSSION

Home care is an important aspect of the Canadian health care system. Romanow (2002) refers to home care as the "next essential service" and states that it is among the fastest growing parts of the Canadian health care system. The Canadian population is aging and by 2041 there are expected to be nine million seniors in Canada making up 25% of the total population, with those aged 85 and older being the fastest growing segment (Health Canada, 2001). There is desire on the part of the elderly to remain living at home for as long as possible. As the population ages, there will be more elderly people requiring care in order to remain living at home. Many will only require light-care type services as a result of a chronic condition or minor cognitive or functional impairment. However, without these light-care services, many may end up institutionalized, ultimately decreasing the quality of life for a significant proportion of Canadians.

With the large increase in the number of elderly people in the population, it has become necessary to re-evaluate our best care practices. There are less hospital beds available, people being released from hospital "quicker and sicker", advances in technology allowing people to be cared for at home and desires on the part of our elderly to remain living at home(Coyte & McKeever, 2001; Levine, 2003). The informal support network currently provides as much as 80% of care to the elderly; however, as adult children (mostly adult daughters) move farther from their aging parents, work full-time and have families of their own, there may be less of this type of support available.

Community Care Access Centers (CCACs) in Ontario act as a single point of entry to services for those in need of home care, admission to long term care facilities, or information about other community support services available in Ontario. The three main functions of home care are: to act in place of acute care when people are released from hospital sooner than they might have been in the past; act in place of long term care facilities allowing people to be cared for at home; and to maintain people in their own homes delaying deterioration and avoiding institutionalization

(MacAdam, 2004). CCACs provide services to a wide variety of clients including adults and children living with disabilities and elderly people requiring care.

Romanow (2002) states that defining all services provided through the home care system as "medically necessary" under the Canada Health Act, would be too costly and that priority should be given to those people receiving home care services due to a mental health condition, those who have been recently released from hospital and those receiving palliative services. However, there are many elderly people who desire to remain living in their own homes who do not fit Romanow's "priorities". Many require basic services such as assistance with bathing, transportation, or meal preparation in order to remain living in their own homes.

An elderly individual who does not have family support and requires services to remain living at home, but it not eligible for home care services through a CCAC, may access services in Ontario through a number of community support agencies. However, these agencies vary widely in term of the services they provide and the cost to the consumer. Some examples include prepared meal delivery, supportive housing, and housekeeping or transportation services.

This paper explored the demographics and characteristics of those receiving home care services through a CCAC (both those with light-care needs and others) as well as those who receive services through a CSA in Ontario. It explored the types of formal services provided by CCACs, as well as the services provided by the informal support network, recognizing caregiver stress and burnout. Comparisons were made across time to observe changes to the make up of clients served by the Ontario home care system between 1998- 2005 on a backdrop of policy changes (e.g., Ontario Regulation 386/99, Ontario Ministry of Health and Long Term Care, 1994). International comparisons using *RAI-Home Care* data were made for the purposes of benchmarking. Lastly, logistic regression was used to predict the likelihood of being a CCAC home care client compared with a community support agency client based on a number of prediction variables.

This paper will contributed to the limited literature on elderly people with light-care needs. As the Canadian population ages, we are faced with an increasing number of people who will require

services in order to remain living in their own homes. It is important to make evidence based decisions about who receives services (e.g., only those most impaired), who provides these services (e.g., CCAC, CSA, family) and how services will be funded.

5.1 CCAC and CSA Clients

CCAC clients (both LC and NLC) look quiet similar to CSA clients in terms of demographics. The average client is about 83 year's old, female, widowed and speaks English as their primary language. If living alone is a proxy for overall health, LC CCAC clients and CSA clients appear similar in overall health and ability to live alone while NLC clients are more impaired. Similarly a higher percentage of NLC client have Alzheimer's disease and other forms of dementia as well as unsteady gait putting them at risk for falls and possible institutionalization due to injuries suffered from these fall.

When predicting the likelihood of being a CCAC client (versus being a CSA client), being less self-reliant, experiencing decline in ADL, experiencing more falls, self-reporting one's health to be poor and reporting less loneliness all make one more likely to be a CCAC client. A similar pattern is noted when predicting being a LC client versus a CHA client and when predicting being a LC client versus a CHA client who does not access supportive housing services. Being a CCAC client is associated with more impairment overall. However, overlap exists and these models do not predict with 100% accuracy whether an individual will be a CCAC client.

It is still unclear who applies for CCAC services. CSA clients may be made up of those who applied for CCAC services and were rejected or alternatively, they may represent a group who has had enough informal support to meet their needs, a group who is unaware of the CCAC services available to them or a group who has the means to pay for just the services that they require and prefers to choose services for themselves rather than be assessed and assigned by a Case Manager from a CCAC.

The difficulty with CSAs is that they vary widely in terms of the services they offer, their availability and their quality. They lack a uniform assessment instrument and therefore cannot communicate with other CSAs effectively. Many CSAs collect data on their clients but do not have the time or availability of research trained staff to know what to do with this information. Some CSA clients may be eligible for CCAC services but because the CSAs lack a uniform assessment instrument that shares the language of other healthcare agencies, it is difficult for them to accurately assess the needs of their clients.

CCACs have the RAI HC which allows them to communicate effectively among each other as well as with other sectors of the health care system that also use an assessment that is part of the interRAI suit (e.g., MDS 2.0 for nursing homes in the USA). Without the wide-spread implementation of the interRAI CHA, CSAs risk their credibility as part of the health care system. Having a suite of instruments among the various health care settings in Ontario allows researchers and clinicians to investigate the differences between clients in these settings and which variables contribute to receipt of various services.

5.2 Predicting CCAC service utilization

The Self-Reliance Index is a particularly sensitive measure when it comes to distinguishing amongst those on the lighter end of care needs. The SRI separates those with a low risk for adverse outcomes (using the MAPLe algorithm) from those with mild or moderate risk. Adverse outcomes may include caregiver burnout and/or long term care facility admission (Cormack, Varey & Voelker, 2004). Not being self-reliant makes one much more likely to be receiving home care services through a CCAC. The SRI is a good measure of overall risk and it makes sense that a more impaired population (RAI HC) would be more at risk for adverse outcomes than one less impaired on average (interRAI CHA). The magnitude of the point estimate suggests that SRI status clearly distinguishes

between CCAC and CSA clients. SRI remain an important variable in the second and third models as well, distinguishing between CCAC LC clients and both CSA and a subgroup of CSA clients.

Decline in ADLs puts a person at risk for institutionalization and may increase strain on informal support providers. The ADL decline item considers current ADL status compared with ADL status 90 days ago. A decline likely indicates worsening physical or cognitive state. ADL decline is associated with receipt of CCAC home care services suggesting these clients may not only be more impaired but may also be experiencing more decline.

Elderly people who fall risk serious injury (e.g., breaking a hip) or institutionalization and previous falls are predictive of possible future falls (interRAI, Health e training International, ΛIS, 2005). An increased number of falls is associated with receipt of CCAC home care services. An elderly client may fall, be admitted to hospital for a short time and then released home with home care services. However, this scenario may be more indicative of a short stay home care client who receives services for fewer than 60 days while they recover from injury sustained from the fall and such clients would not appear in this data set because they would not receive a RAI HC assessment. What is more likely is that CCAC home care clients are more frail with less steady gait leading to more falls than are found in the CSA population.

Perceptions of one's own health can be as important as one's actual health (Mossey & Shapiro, 1982). Self-reporting health as being poor is associated with CCAC home care services. This may reflect actual health status being poorer overall compared with those found in the CHA population; or may reflect CCAC home care clients feeling more impaired because they are in receipt of home care services. Also, the RAI HC self-report health question reads "Client feels he/she has poor health (when asked)" while the interRAI CHA question reads "In general how would you rate your health". It is possible that asking this somewhat subjective question in these two different ways might account for some of the differences in self-reported health between the two types of clients.

Loneliness is a subjective feeling that may or may not reflect the reality of how much time a person spends alone during the day. Not feeling lonely is associated with receipt of services through a CCAC. This may reflect CCAC clients being more impaired than CSA clients and requiring assistance from more people for more time in a day and therefore finding themselves regularly surrounded by people. Living with others is associated with being a CCAC home care client. CCAC clients are more impaired than CSA clients and are less likely to be able to live alone because they require assistance from others to accomplish basic life tasks.

These logistic models demonstrate that CCAC, LC CCAC and CSA clients are at least to some degree different from each other in a number of relevant domains. As model one demonstrates, with an overall c statistic of 0.85, CCAC client are more impaired than CSA clients overall. Similarly, model two demonstrates that even LC CCAC client differ from CSA client. The same is true in model three for a sub sample of CHA clients who do not utilize supportive housing services. They too differ from LC CCAC clients on these variables. One critical variable that may be missing from these models is informal support. The interRAI CHA does not provide substantial information on informal support and therefore could not be entered into the model. Ability to pay for services may also be an important consideration but it not inquired about on either assessment instrument. It is important to attempt to predict the likelihood of being a CCAC client in order to understand what variables differentiate a heavier needs clients from a lighter needs client.

5.3 Implications of cutting services to light care clients

Romanow (2002) recognizes the important role of the family in caring for those in need. Informal care is unpaid care provided by family, friends, neighbors and others. It has been suggested that clients with lighter-care needs should be cared for by family members/friends, leaving the formal home care system with the means to provide services to more medically complex patients (Anderson & Parent, 2000).

Informal caregiving continues to be a gendered activity and with adult daughters being increasingly occupied with their own careers and young families or living farther away from their aging parents, the reality is that there are less informal caregivers available to provide care to light-care elderly. Limitations in informal support can be a risk factor for nursing home admission (McFall & Miller, 1992). Home care services may be put in place to support both the client and the informal support caregiver. Obtaining a better understanding of the characteristics of informal support providers, the types of support they provide and their feeling about providing support, may assist with evidence based decision making as our population ages and we have more people requiring informal support and less people available to provide it.

Primary caregivers tend to be a spouse who lives with the client if the client is married; otherwise an adult child who does not live with the client. Secondary caregivers are often the adult child and do not live with the client in the majority of cases. IADL is provided by the majority of informal support caregivers to both LC and NLC clients; ADL support is provided less often. IADL support may be easier to provide since it can easily be incorporated into a caregiver's own schedule (e.g., shopping) and may have always been part of the caregivers' role (e.g., meal preparation). ADLs, however, can be much more intrusive (e.g., toileting assistance) and may not be required as often in a home care population.

Caring for an aging family member or friend can be a stressful task. The RAI HC inquires about a number of possible sources of distress. Although caring for a NLC clients may be more stressful than caring or a LC client, both report distress rarely. The reason for this may be that they are under-reporting distress due to concern that the elderly family member/friend may overhear this or somehow become aware of their feelings.

Ontario is providing home care services to an increasingly impaired population as was shown in this research, but some lighter care clients still receive services. CCACs do not make eligibility decisions based on the MAPLe algorithm which this study used to define light care clients. Light-care clients are a heterogeneous group that varies in terms of impairment but also in terms of

the availability of informal support, financial situations and risk of deterioration. To cut all LC clients from CCAC services as a group would be a mistake that could put undo stress on the informal network. The current research already shows an increase in caregiver stress after the budget cut that reduced the percentage of LC clients in the CCAC system. Cuts in the CCAC system would likely also result in the CSA being accessed more often. CSAs may not be ready for such drastic change until they improve their quality of care beginning with their methods of assessment. Ontario should not target all LC clients to be cut from services. Each client needs to be individually assessed for CCAC eligibility and if deemed ineligible should be referred to CSA as an alternative and a way to assist their family network.

5.4 Targeting Services and the effects of budget cuts

Targeting services in a time of dwindling resources due to an aging population is a challenging and controversial task. The literature provides a number of suggestions on how best to define *need*; a system is needed that helps providers of services to decide how to prioritize. Bebbington and Davies (1993), discuss targeting of home care services in terms of Horizontal Target Efficiency (HTE) and Vertical Target Efficiency (VTE). Target efficiency is a type of quality check of the health care system. Poor HTE would suggest a health care system that has many people *in need* (such as an aging population) but that does not provide services to enough of those people. This could be a result of simply not having enough resources to go around, or could point to a system that is overly inclusive in who they define as being *in need*. A poor VTE in a health care system may suggest that too many people are receiving services and that a percentage of them do not truly require these services. Before the 2001 budget cuts in Ontario, VTE was arguable poor and CCAC services were being provided to clients who had minimal impairment. Chernew and colleagues (2001) suggests a more continuous approach to defining need and suggests that home care clients should be assessed in terms of risk of various adverse outcomes and the degree to which home care

services have the potential to limit these risks. This takes into account both impairment levels and potential for improvement.

During the 1990s the Harris Government budget cuts led to a reevaluation of the home care system and how best to utilize limited resources. The Public Accountability Act (Government of Ontario, 2001), Ontario Regulation 386/99 (Ontario Ministry of Health and Long Term Care, 1994) and the summer of 2001 CCAC budget freeze, made targeting services to those most in need a necessity. In response to these strategies and others, CCACs of Ontario were left with a much-reduced budget and responded by tightening eligibility criteria and cutting services to lighter-care clients. Whether these cuts took place immediately after the budget freeze took effect or whether they had been occurring slowly over time is hard to determine.

This research showed that CCAC services are provided more often to NLC clients and more hours on average of services are also provided to NLC. Comparisons across time revealed a number of significant changes. Significant increases were noted across time on the majority of outcome measures, indicating an increasingly impaired home care population receiving CCAC services across time due to those with lighter-care needs no longer being eligible for services. In particular, increases were noted across the summer 2001 budget cuts such that average score of home care clients on outcome measures were higher post cuts. It is difficult to observe major changes across time in outcome measure scores mainly because home care clients tend to show minimal impairment and therefore their scores on average are all relatively low.

Not only did these cuts affect CCACs and the clients for whom they provided services, but cuts also had the potential to affect families who provide informal support. When a client is no longer eligible for CCAC services but still requires some care in order to remain living at home, the informal support network must step in. They may provide services themselves or assist their family member or friend in accessing CSA services. This can be time consuming and expensive.

Despite CCAC services being provided to an increasing impaired population across time Ontario's home care clients are neither the most nor the least impaired. In terms of benchmarking, it

appears that Canada provides home care services to a somewhat impaired population, more impaired compared to some countries and less impaired compared to others. A cluster of countries (France and Italy) provide services to a highly impaired population (high on CPS and ADL impairment) while the Nordic Country provide home care to a much lighter care population. Ontario falls somewhere in between these two clusters near the UK and Germany.

Post budget cuts services in Ontario appear to be targeted more towards higher needs clients, so the question remains as to what has happened to those cut from services. Livadiotakis, Gutman & Hollander (2003) conducted qualitative interviews with light care clients cut form services in British Columbia in the mid 1990s and found that some coped well and were able to access other services (paid for out of pocket) or rely on their informal network. Others reported feeling abandoned by the healthcare system.

No matter where the line is drawn between those in need and those not in need, mistakes will be made and some who truly needed services to remain living at home will be lost in the system while other who could have managed without home care will receive it. Careful targeting of services is a challenge we must face as our population ages; for example, using home care services as a preventive measures may no longer be feasible.

5.5 Preventive Function of Home Care

One of the three main functions of home care is to serve a preventive function for those who have health problems or functional impairments, who wish to remain living in their homes. The preventive function of home care is to delay deterioration and avoid institutionalization for as long as is feasible (MacAdam, 2004). However, making an argument for home care being a cost-effective alternative to institutionalization (Hollander and Chapell, 2000) is difficult when most clients receiving preventive home care are at such a low risk of institutionalization. Logistic regression models in this research predicted with some level of accuracy the likelihood of being a CCAC client

and the CHESS scale predicts with some accuracy the likelihood of deterioration; however, whether a person will be institutionalized if preventive home care is not put in place (or removed) is very difficult to predict. As the population of Ontario ages, providing preventive services to all seniors in case they deteriorate may become a less viable option. Monitoring is important but perhaps this already occurs through family members' daily contact and through regular Doctor's visits. Ontario may be better off to focus on primary preventive services that are population wide initiatives rather than on individuals. For example, population wide initiatives to increase exercise among the elderly, or decrease falls, or suggest breast cancer screening may be more effective than providing a home care worker to check in on individual seniors on a regular basis.

5.6 International Comparisons

For the purposes of benchmarking, Ontario RAI HC data were used to compare the characteristics of Ontario home care clients with home care client in 11 European countries, collected as part of the Aged in HOme Care Project (Carpenter, *et al*., 2004). RAI HC data for clients aged 65 or older were used for comparison purposes to match the age used in the Aged in HOme Care Project paper.

In order to be able to compare variables such as cognition and ADL impairment across countries, it is important that countries are similar in terms of age and gender distribution, since these demographic variables may affect impairment. RAI HC data from Canada (Ontario) matches closely with data from the 11 European counties in terms of age and gender distribution.

Percentage of home care clients who live alone may be an indicator of impairment level such that having a higher percentage of a country's home care clients living alone may indicate a home care population with lighter-care needs. However, cultural differences may also be a part of the explanation; for example, family duty may dictate that an elderly relative remain living in their own home supported as much as possible by family members. A lot of variation exists among the

countries with some having almost all their clients living alone and some having almost none of their clients living alone. Canada appears to fall somewhere in the middle. It is not clear whether cultural differences or average client impairment levels are responsible for this range, but it is likely a combination of these factors.

Canada is not the only country who has or ever will experience the difficulty of providing care to an aging population. Benchmarking can be a useful means by which we compare our policies with that of other countries in similar situation (i.e., aging), providing an opportunity to gain knowledge and improve using them as a standard by which was can judge ourselves. Who should receive home care services is a challenge all countries with an aging population and limited resources may face. These decisions form policies based on the unique cultural, social and economical values of each individual country. While Canada has its own uniqueness, it has much to gain from knowledge of how others tackled similar challenges. The use of the RAI HC across so many countries provides the opportunity for such comparisons.

5.7 Benefits of the RAI HC and interRAI CHA Instruments

interRAI is a not-for-profit international network of researchers and clinicians, who work to develop, implement and evaluate an integrated health information system. Development of the *RAI* 1.0 for long term care facilities began in the early 90s and since then, interRAI has developed 12 assessment instruments including the Resident Assessment Instrument for Home Care (RAI HC) and interRAI-Community Health Assessment (interRAI CHA). These instruments span the health care system including institutional settings, community settings, primary care and mental health. These instruments provide a common language, theoretical basis, clinical emphasis, data collection method and some common core elements that allow care providers in different health care settings to communicate effectively with each other. The instruments meet high reliability and validity

standards and are continuously reevaluated by interRAI researchers. The instruments have a number of important applications. On an individual level, they provide relevant information to care providers in order to assist in developing care plans. They provide outcome measures on a number of relevant domains including cognition and functional impairment, which assist agencies in evaluating best care practices. They provide information on client case-mix for the purposes of funding and they provide an objective means of evaluating quality of care. Having the same instrument to evaluate clients in similar settings across the country provides continuity of health care and ultimately benefits clients, families, care providers, researchers and policy makers.

Health care in Canada exists on a continuum with palliative services on one end and primary care services on the other; however, targeting of CCAC home care services to higher needs clients has resulted in a lighter-care population whose needs are not being met as part of this continuum. These clients often access services through CSAs. These agencies are numerous and vary substantially in terms of the services they provide, the populations they serve, and the quality of these services. Without an assessment instrument linking them to the rest of the health care system, they lack adequate information to fully address the needs of this population. These CSA will be providing many services to our aging population and it is of the utmost importance that we ensure that these services are of high standards and that CSAs are recognized as an important part of our health care system. These clients may have lighter care needs, but CSAs still require an assessment tool to assist in developing individual care plans, knowledge of the impairment levels of their clients in order to make informed decisions and a way to objectively measure the quality of care they are providing. In addition, some CSAs serve some clients with needs as great as or greater than the average CCAC client. This assessment instrument will provide the CSAs with the ability to effectively communicate with each other with other health care setting to provide the best care possible to our aging population.

CSA currently use a wide variety of assessment instrument to make decisions about how best to care for their population. These instruments may or may not have been tested for validity and

reliability, and even if they are quality instruments, they vary so widely among so many different agencies that there is a disconnect between agencies that may be assisting the very same individuals. A common language is needed among CSA and between CSA and the CCAC system to increase communication and understanding and better serve our aging population. As the Canadian population ages it becomes even more important for the many sectors of the health care system to work together in order to provide the best evidence based care that they can.

5.8 How Ontario should respond to these findings

Canada's population is aging and decisions need to be made as to how we will provide care to our population. There are predicted to be less informal caregivers available to provide care in the future and more elderly living longer with chronic condition requiring support. Health care is no longer being thought of as care provided by a doctor in a hospital setting. Home care is a potentially cost-effective alternative to institutionalization (Hollander and Chappell, 2002). Romanow states that home care is the "next essential service" but that providing services to all home care clients is not viable and that priority should be given to some.

It would be difficult for the Ontario healthcare system to monitor all seniors and therefore they must therefore rely on the informal support network. Already, the informal support network is estimated to provide as much as 80% of care provided to Ontario's seniors. But caregiver burnout is a serious concern and family caregivers need to be supported whether this is financial support or support by other means. Technological advances also provide us with a way to support family caregivers. For example, 24 hour emergency services can be accessed by informal caregivers or clients from their homes. When formal care can be accessed easily in an emergency, daily care may be more easily provide within the family unit.

While funding may only be available for those more highly impaired in the home care system, those with lighter care needs cannot be ignored. These clients may still suffer from chronic

condition, cognitive or functional impairments and may risk serious decline if their needs are not met. CSA have the potential to meet these needs and effort should be put into improving their quality and availability of these services including implementing the interRAI CHA assessment tool to increase ease of communication among the various health care sectors.

Decisions on how best to target services should be evidence based. The MAPLe algorithm assigns clients to one of five levels (low to very high) based on a number of relevant domains and provides an indication of that client's risk for adverse outcomes. These risks are based on a client's cognitive status, their ability to perform ADL, a number of behaviours, and a measure of self-reliance. Those with higher MAPLe scores are at higher risk for institutionalization and their caregivers are more likely to experience caregiver stress. The MAPLe is intended to be used by Case Managers to assist in prioritizing client placement. Those with higher MAPLe scores are more likely to require services urgently. The MAPLe should be used by the CCACs to make decisions about targeting of services. A client with a MAPLe score of 1 (low) is at low risk for institutionalization or for causing caregiver stress and may therefore be considered a lower priority for services than a client with a higher MAPLe score. If home care is intended to prevent institutionalization and to support informal caregivers, then clients who are at low risk for either of these situations arguably are less in need of home care services. The MAPLe is not intended to substitute for clinical judgment. Special circumstances may allow a client with a high score to remain living in the community while someone with a low score may require placement. The MAPLe should be used as a tool to aid Case Mangers in making evidence based targeting decisions.

Finally, Ontario is not alone in these concerns; British Columbia also cut service to home care clients with light care needs and numerous countries have an aging population and will need to deal with these same issues. Benchmarking offers the opportunity to compare ourselves with others.

5.9 Future Research

Future work should focus on implementing the interRAI CHA in CSA as one step towards increasing the quality and efficiency of agencies that will be providing so many types of services to our elderly. Research should investigate who applies for CCAC and CSA services in order to get a better understanding of the inter relationship between these two types of agencies and whether clients are applying to the "correct" service to suit their needs.

Longitudinal CSA data is currently being collected in Ontario as part of the interRAI CHA pilot. This data set will provide the opportunity to investigate functional change in CSA clients across time. With wider implementation of a CSA assessment instrument may come the opportunity to make international comparisons and benchmark Canadian practices.

Supporting the informal support network should be a priority since they provide more care to the elderly than the formal health care system. We should take advantage of the advances in technology to support clients in their home and the caregivers who support them.

6.0 LIMITATIONS

The interRAI CHA does not provide information on whether an elderly individual currently receiving service through a CSA applied for services through a CCAC and was deemed ineligible or whether for some reason, they never applied through the CCAC system. Therefore, the logistic regression equation used to predict receipt of services through a CCAC, excludes this potentially significant variable; receipt of CCAC services may to some degree be explained by whether one applied for them in the first place. The interRAI CHA is a shorter instrument than the RAI HC and therefore provides less comprehensive information on certain variables (e.g., functional impairment in ADL and the informal support network). This makes it difficult to use logistic regression to predict with certainly, the likelihood of receiving CCAC services as a function of impairment in a number of domains.

More information on ADLs would be useful for the purposes of calculating the ADL hierarchy and being able to make comparisons between CSA and CCAC clients on ADL. However, CSA clients would likely have very low ADL hierarchy scores on average. Similarly, information on informal support is minimal on the interRAI CHA because little informal support is needed for a population with such minor impairment levels. Therefore, the assessment burden would not justify the collection of this extra data. While research is important, the needs of clinicians and the data they require to make care plans for clients also needs to be considered. Furthermore, clients with minor impairments may become frustrated and be unwilling to answer a long list of questions on an assessment instrument that they feel is not applicable to their situation and needs.

The RAI HC was mandated in 2001 for use in all CCACs in Ontario for those clients expected to be on services for 60 days or more and therefore provides us with census-like data; the interRAI CHA lacks this advantage. Data collected using the interRAI CHA provides a much smaller sample size and is less representative than the RAI HC. Not all CSA sites participated and those sites

who did participate were responsible for selecting which clients would be assessed (within the project imposed restrictions) and therefore biases (e.g., selection bias) may have been introduced making results more difficult to generalize.

Prior to 2001, the RAI HC was not in full circulation. The RAI-HIP study piloted the RAI HC in 12 CCAC in Ontario from 1999 to March 2001, at which time only the region of Waterloo CCACs continued its use. Therefore, when considering outcome measure scores across time, the data being used are from the region of Waterloo and are not necessarily representative of Ontario as a whole. Also, after the use of the RAI HC was mandated, it took some time for all CCACs to adopt its use.

It is difficult to know exactly when CCACs began limiting services to those with light-care needs. The budget was frozen at the 2000/2001 level in May of 2001, but the fiscal year began in July of 2001. Prior to this time (in the 90s) many cuts were being made in the health care sector. Therefore, significant change in mean impairment levels across time may reflect numerous policy changes that took place in this 5 year span, including the 2001 CCAC budget freeze.

Comparing one's own performance to that of others can be a strong driving force for improvement. Benchmarking, which can be loosely defined as: "a standard by which something can be measured or judged" (online dictionary), may be utilized for the purposes of identifying and implementing best practices. Dolowitz and Marsh (2000), caution about the use of benchmarking for uniformed, incomplete or inappropriate transfer of policies between countries, which may lead to failure of the policy in the adopting country. Uniformed transfer may occur if there is a lack of knowledge about the ways in which the policy operates in the country of comparison. Incomplete transfer may occur if a policy is transferred to a new country without recognition of possible elements that made it a success in the originating country. Inappropriate transfer may occur if the social, political or economic differences between countries are not sufficiently considered.

Therefore, when using international data collected as part of the Aged in Home Care project (Carpenter *et al*., 2004) for the purposes of benchmarking Canadian home care policy, it is

important to consider these limitations and recognize that direct policy comparisons cannot be made without a more in-depth knowledge of the workings of these countries.

7.0 REFERENCES

Anderson, M. & Parent, K. (2000). Care in the home: Public responsibility – private roles? Paper prepared for the Dialogue on Health Reform, Queen's University. Retrieved July 14, 2005, from http://www.utoronto.ca/hpme/dhr/pdf/Anderson_Parent.pdf

Anderson, R. & Newman, J.F. (1973). Societal and individual determinants of medical care utilization in the United States. *Milbank Memorial Fund Quarterly Health and Society*, *51,* 95-124.

Bebbington, A. & Davies, B. (1983). Equity and Efficiency in the allocation of personal social services. *Journal of Social Policy*, *12*, 309-330.

Bebbington, A. & Davies, B. (1993). Efficient targeting of community care: The case of the home helper. *Journal of Social Policy*, *22,* 373-391.

Burrows, A.B., Morris, J.N., Simon, S.E., Hirdes, J.P., & Phillips, C. (2000). Development of a Minimum Data set-based depression rating scale for use in nursing homes. *Age and Aging*, *29,* 165 – 172.

Carpenter, I. Gambassi, G., Topinkova, E., Schroll, M., Finne-Soveri, H., Henrard, J.C., *et al*. (2004). Community care in Europe: The Aged in Home Care project (AdHOC). *Aging and Clinical Experimental Research, 16,* 259 – 269.

Chernew, M.E., Weissert, W.G., & Hirth, R.A. (2001). Heterogeneity of risk in a managed home health care population. *Medical Care, 39,* 1002 – 1013.

Cormack, L., Varey, M., & Voelker, K. (2004) Personal Health Profile Project: Presented at OACCAC Conference 2004. Retrieved August 16, 2005, from: http://www.oaccac.on.ca/media/PHP_OACCAAC_presentation_kv.ppt#257,1,Personal Health Profile Project

Coyte, P.C. & McKeever, P. (2001). Home care in Canada: Passing the buck. *Canadian Journal of Nursing Research*, 33, 11 – 25.

Dolowitz, D. P. and Marsh,D. (2000), Learning from Abroad: The Role of Policy Transfer in Contemporary Policy-Making, Governance: An International Journal of Policy and Administration, 13(1), 5 - 24.

Eastley, R. & Wilcock, G.K. (1998) Prevalence and correlates of aggressive behaviours occurring in patients with Alzheimer's disease. International Journal of Geriatric Psychiatry, 4, 484-487.

Folstein, M.F., Folstein, S.E., & McHugh, P.R. (1975). "Mini-mental state". A practical method for grading the cognitive state of patients for the clinician. *Journal of Psychiatric Research, 12,* 189-198.

Forbes, D.A., Stewart, N., Morgan, D. Anderson, M., Parent, K., & Janzen, B.L. (2003). Individual Determinants of Home- Care Nursing and Housework Assistance. *Canadian Journal of Nursing Research*, *35*, 14 – 36.

Fries, B.E., Simon, S.E., Morris, J.N., Flodstrom, C., & Bookstein, F.L. (2001) Pain in US nursing homes: Validation a pain scale for the Minimum data set. *The Gerontologist, 41*, 173-179.

Gagnon, A.J. (2002). Responsiveness of the Canadian health care system towards newcomer. Commission on the future of heath care in Canada: Discussion paper 40, Taken April 12, 2006 from: http://dsp-psd.pwgsc.gc.ca/Collection/CP32-79-40-2002E.pdf

Government of Ontario (2001) Bill 46 Retrieved August 3, 2005, from: http://www.ontla.on.ca/documents/Bills/37_Parliament/Session2/b046.pdf

Grando, V.T., Mehr, D. Popejoy, L., Maas,M., Rantz, M., Wipke-Tevis, D.D., & Westhoff, R. (2002). Why older adults with light-care needs enter and remain in nursing homes. *Journal of Gerontological Nursing*, *28,* 47-53.

Health Canada (2001) Statistical Snapshots: Prepared by Statistics Canada for the Division of Aging and Seniors. Retrieved August 10, 2005 from: http://www.phac- aspc.gc.ca /seniors-aines/pubs/factoids/2001/pdf/1-37_e.pdf

Health Canada: Report on Home Care (prepared by the Federal/Provincial/Territorial Working Group on Home Care, a Working Group of the Federal/Provincial/Territorial Subcommittee on Long Term Care) (1990).

Health Canada: Provincial and Territorial Home Care Programs: A Synthesis for Canada (1999) Retrieved June 10, 2005, from http://www.hc-sc.gc.ca/

Health Canada: Canada Health Care Act (1984). Retrieved August 3, 2005, from http://www.hc-sc.gc.ca /medicare/home.htm

Health Canada: National Advisory Council on Aging (1999) 1999 and Beyond: Challenges of an aging Canadian society. Retrieved August 9, 2005 from: http://www.naca-cnta.ca/beyond1999/pdf/beyond_e.pdf

Health Service Utilization and Research Commission: The Impact of preventive home care and seniors housing on health outcomes. Summary report #14 (2000). Retrieved June 15, 2005, from http://www.ocsa.on.ca /PDF/ Impact _of _ preventive _home _care _and _ seniors_housing_on_health_outcomes.pdf

Hirdes, J.P., Frijters, D.H., & Teare, G.F. (2003) The MDS-CHESS scale: A new measure to predict mortality in institutionalized older people. *Journal of the American Geriatric Society*, *51,* 96-100.

Hollander, M & Tessaro, A. (2001) Evaluation of the maintenance and preventive model of home care. Retrieved June 28, 2005, from http://www.hollanderanalytical. com /downloads/preventivehomecarereport.pdf

Ikegami, N., Morris, J.N., & Fries, B.E. (1997). Low-care cases in long-term care settings: Variation among nations. *Age and Aging, 26*, 67 – 71.

interRAI (2004) Outcome measurements for the RAI-Home Care version 2.0: Prepared by the Canadian Collaborating Centre

interRAI, Health e training International, ΛIS (2005) Mastering RAI HC, multimedia training

Kennedy,G.J., Kelman, H.R., Thomas,C., Wisniewski, W, Metz, H. and Bijur, P.E. **(1989).** Hierarchy of characteristics associated with depressive symptoms in an urban elderly sample, American Journal of Psychiatry, 146, 220-225.

Landi, F., Tua, E., Onder, G., Carrara, B., Sgadari, A., Rinaldi, C., *et al*. (2000) Minimum data set for home care: A valid instrument to assess frail older people living in the community. *Medical Care,* 38(12), 1184-1190.

Levine, S.A., Boal, J., & Boling, P.A. (2003) Home Care. *Journal of the American Medical Association, 290*,1203-1207.

Livadiotakis, G., Gutman, G., & Hollander, M.J. (2003) Rationing home care resources: How discharged seniors cope. *Home Health Care Services Quarterly*, *22*, 31-42.

Logan JR, Spitze G. (1994) Informal support and the use of formal services by older Americans. Journal of Gerontology, 49(1), S25-34.

MacAdam, M. (2004) Examining home care in other countries: The policy issues. *Home Health Care Management & Practice*, *16*, 393- 404.

Martel, L., Belanger, A., Berthelot, J.M., & Carrière, Y. (2005) Healthy today, health tomorrow? Findings from the National Population Health Survey. Retrieved August 11, 2005 from: http://www.statcan.ca/english/research/82-618-MIE/2005004/pdf/82-618-MIE2005004.pdf

McAllister, N. & Hollander, M.J. (1993) Seniors' perceptions of and attitudes toward the British Columbia Continuing Care System. *Health Reports*, *5*, 409-417.

McFall, S. & Miller, B.H. (1992). Caregiver burden and nursing home admission of frail elderly persons. Journal of Gerontology, 47(2), S73-9.

Morris, J.N., Fries, B.E., Mehr, D.R., Hawes, C., Phillips, C., Mor, V., & Lipsitz, L.A. (1994) MDS Cognitive Performance Scale. *Journal of Gerontology: Medical Sciences*, *49*, M174 – M182.

Morris, J.N., Fries, B. E., & Morris ,S.A. (1999) Scaling ADLs within the MDS. *Journal of Gerontology: Medical Sciences*, *54a*, M546 – M553.

Morris, J.N., Fries, B.E., Bernabei, R., Steel, K., Ikegami, N., Carpenter, I., Gilgen, R., DuPasquier, J.N., Frijters, D., Henrard, J.C., Hirdes, J.P., & Belleville-Taylor, P. (2000) RAI-Home Care (RAI HC) Assessment manual for version 2.0. Washington DC: InterRAI Corporation

Morris, J.N., Fries, B.E., Steel, K., Ikegami, N., Bernabei, R., Carpenter, I., Gilgen, R., Hirdes, J.P., & Topinkova, E. (1997) Comprehensive clinical assessment in community settings: Applicability of the RAI HC. *Journal of the American Geriatric Society*, *45*, 1017 – 1024.

Mossey, J.M. & Shapiro, E. (1982). Self-rated health: a predictor of mortality among the elderly. American Journal of Public Health, 72(8), 800-808.

OACCAC (2001) Options for the Introduction of a Client Cost Sharing Policy for the Homemaking Services Provided by Community Care Access Centers – A Discussion Paper. Retrieved July 2, 2005, from http://www.ocsa.on.ca/PDF/oaccac-paper.PDF

Ontario Association of Community Care Access Centers, Ontario Community Support Association, Ontario Home Health Care Providers' Association. (2000) The Role and Value of Homemakers/ Personal Support Workers in the Health Care System. Retrieved Jul 12, 2005, from http:// www. homecareontario.ca/about/publications.cfm

Ontario Health Coalition (2001) Secrets in the House: Homecare Reform in Ontario Retrieved June 19, 2005, from http://www.web.net/~ohc/docs/secret.htm

Ontario Health Coalition (2001) "Dip and Skip" A Supplement to the June 2001 Report on Homecare Reform in Ontario. Retrieved June 2, 2005, from http://www.web.net /~ohc/docs/report2.htm

Ontario Ministry of Health and Long Term Care: Long-Term Care Act, 1994, Ontario Regulation 386/99 . Retrieved June 13, 2005, from http://www.e-laws.gov. on.ca/DBLaws/Regs/English/990386_e.htm

Ontario Ministry of Health and Long Term Care: Regulated Health Professions Act (1991) Retrieved July 15, 2005, from http://192.75.156.68/DBLaws/Statutes/ English/ 91r18_e.htm

Patterson, C., & Chambers, L.W. (1995). Preventive health care. *The Lancet*, 345(8965), 1611 – 1615.

Romanow, R.J. (2002) Building on values: The future of health care in Canada. Retrieved Dec 4 2005 from: http://www.hc-sc.gc.ca/english/pdf/romanow/pdfs/HCC_Final_Report.pdf

Spector, W.D., Reschovsky, J.D., & Cohen, J.W. (1996). Appropriate placement of nursing home residents in lower levels of care. *The Milbank Quarterly*, *74*, 139-160.

Statistics Canada. (2005) Life expectancy by sex. Taken on April 12, 2006 from: http://www40.statcan.ca/l01/cst01/health26.htm

Walker, A., Pratt, C., & Eddy, L. (1995) Informal Caregiving to Aging Family Members. *Family Relations*, 44,402-411.

Weissert, W., Chernew, M., & Hirth, R. (2003) Titrating versus targeting home care services to frail elderly clients. *Journal of Aging and Heath*, *15*, 99 – 123.

Weissert, W. & Miller, E.A. (2000). Balancing resources and risk: Selecting home care clients in Florida's CARES program. *Home Health Care Services Quarterly*, *18*, 63 – 76.

Wilson, G. (1994). Co-production and self-care: New approaches to managing community care services for older people. *Social Policy and Administration, 28*, 236 – 250.

Yoo, S.H., & Sung, K.T. (1997). Elderly Koreans' tendency to live independently from their adult children: adaptation to cultural differences in America. *Journal of Cross-Cultural Gerontology, 12*, 225-244.

8.0 APPENDICES

8.1 Appendix A Defining homemaking and personal support services

---

Ontario Ministry of Health and Long Term Care Act, 1994

2.(5) For the purposes of this act, the following are homemaking services

- Housecleaning
- Laundry
- Ironing
- Mending
- Shopping
- Banking
- Paying Bills
- Planning menus
- Preparing meals
- Caring for children
- Assisting person with any of the activities referred to in paragraphs 1-10
- Training a person to carry out or assist with any of the activities referred to in paragraphs 1-10
- Providing prescribed equipment, supplies or other goods.
- Services prescribed as homemaking services

2.(6) For the purposes of this act, the following are personal support services

- Personal hygiene activities
- Routine personal activities of living
- Assisting a person with any of the activities referred to in paragraphs 1 and 2
- Training a person to carry out or assist with any of the activities referred to in paragraphs 1 and 2
- Providing prescribed equipment, supplies or other goods.
- Services prescribed as personal support services

From: Ontario Ministry of Health and Long Term Care Act, 1994

8.2 Appendix B Eligibility for home care services, by Province

PROV/ TERR	Eligibility Requirements
B.C.	Residency: landed immigrant or a Canadian citizen. Minimum of 12-month residency for intermediate care level clients and minimum 3-month residency for extended care clients to access home support, residential care, respite services, adult day centers. Access to Home Support Services: client has presence of a chronic illness for a minimum of 3 months. Access to Direct Care Services of community nurses requires a physician's order as part of hospital discharge. Hospital liaison staff may be employed by health authorities to facilitate discharge. Community home care nurses may make an assessment visit without a physician order.
ALTA.	Residency: Inter-provincial agreements exist for residents of British Columbia and Saskatchewan living in certain communities bordering on Alberta. Client does not require 24-hour services provision.
SASK.	Residency: Inter-provincial agreements exist for residents of Manitoba and Alberta living in certain communities bordering on Saskatchewan.
MAN.	All residents of Manitoba across the life span may access home care for assessment for eligibility for home care services. Anyone may refer a client to the Manitoba Home Care Program for assessment for eligibility.
ONT.	Residency: Eligible if living in the area of a CCAC Eligible for professional services if needs are not met by a hospital outpatient service. Eligible for homemaking and personal care if there is a need for assistance with personal care and/or there is a risk that the person will require institutional care without the service.

Appendix B Eligibility for home care services, by Province – Continued

PROV/ TERR	Eligibility Requirements
QUE.	Non-residents: pay full cost or are referred to private sector. Clients must use coverage from other public programs if applicable. Definition of home : According to Ministry of Health and Social Services policy, home includes private long-term residential care facilities and also *résidence d'accueil* or foster home arrangements where supplementary services may be required.
N.B.	Specific criteria established for some service. Extra-Mural Program: Physician referral except for rehabilitation. Services are needed from one of the health professionals employed by the EMP (long- or short-term). Drugs covered if no private insurance. Long Term Program: Home support and long-term residential care. Health care if needed.
P.E.I.	Clients must be medically stable Non-residents pay the full cost of services excluding administrative costs
N.S.	Specific criteria for each level of service
NFLD.	Available to all residents of Newfoundland, based on assessed need
N.W.T.	Permanent residents of the Northwest Territories; Care needs that cannot be met by the family; Care services provided subject to availability in the community
Y.T.	Criteria for admission to program:- physical and mental disabilities- acute care needs - terminal illness - frail elderly needing assistance in daily living

From: Provincial and Territorial Home Care Programs: A Synthesis for Canada http://www.hc-sc.gc.ca/homecare/english/syn_8.html

8.3 Appendix C Eligibility for homemaking support, by Province

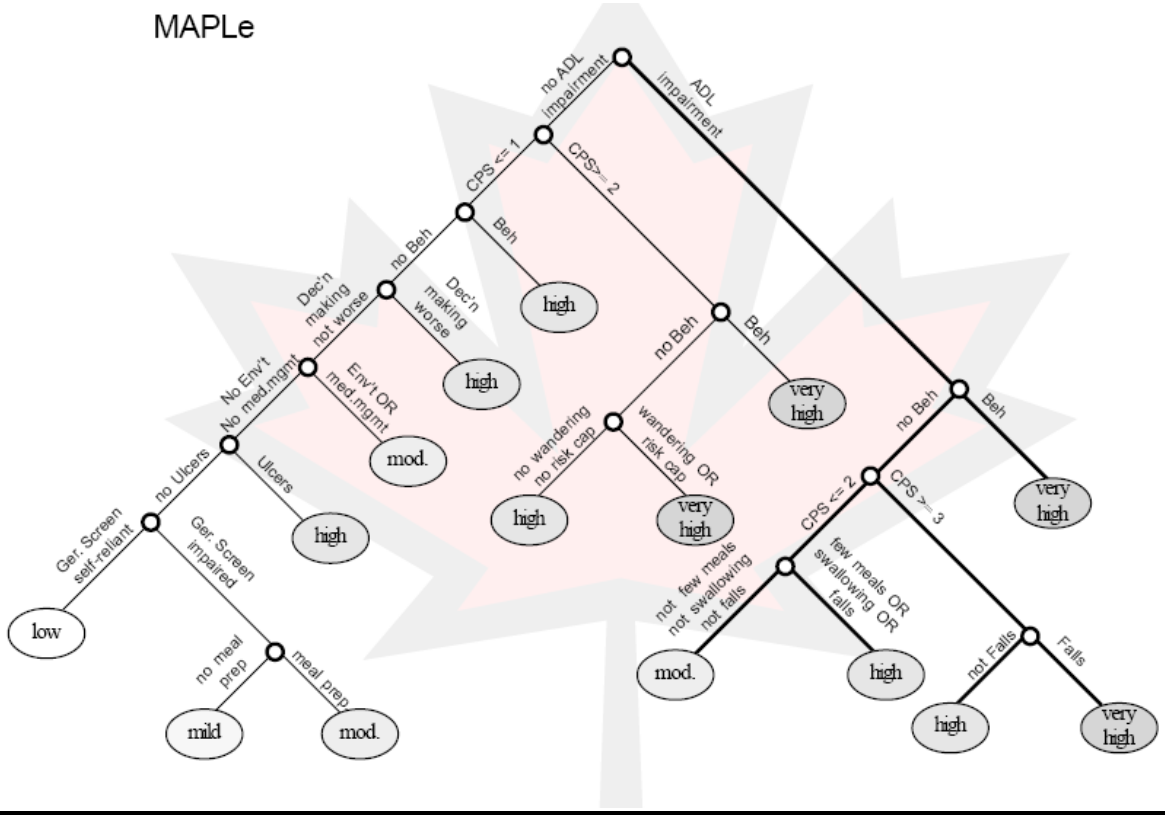
Province/ Territory	Homemaking/Home Support	Income Test	Assets Considered
B.C.	Income test considers net income after taxes. Clients receiving income benefits are not required to pay.	Yes	No
ALTA.	User charge of $5.00 per hour for homemaking, up to a maximum of $300 per month. Income test considers net income and family size. Fee is waived for clients receiving income benefits. No charge for personal support.	Yes	No
SASK.	All clients charged flat rate of $5.75 per unit for 10 ten units. After first 10 units, a rate per unit and a maximum monthly charge is calculated based on net income. The maximum unit cost is $6.20/unit and the maximum monthly charge is $347.	Yes	No
MAN.	Home Care Program provides homemaking services only to clients who are unable to access services from the community and would otherwise require institutional care.	No	No
QUE.	No charge for services provided through home care plan, however, there is a "Financial Assistance Program for Domestic Help Services" provided by recognized "domestic help businesses". The financial assistance ranges from $4.00 to $10.00 per hour of service. The client pays the difference between the rate charged by the business and the financial assistance granted	No	No

Appendix C Eligibility for homemaking support, by Province – continued

Province/ Territory	Homemaking/Home Support	Income Test	Assets Considered
N.B.	No charge for Extra-Mural Program, but there is an income and assets test for long-term assistance. Family pays the full cost of service, unless a financial assessment is completed to determine a family contribution. The family's assessed monthly contribution and any private insurance benefits must first be applied to the cost of service before the provincial subsidy is applied.	Yes	Yes
N.S.	Fees for home support and personal care services assessed on a sliding scale that considers income and family size. Individuals who have low incomes as per the Canada Assistance Plan guidelines are not required to pay for services.	Yes	No
P.E.I.	Clients are assessed for ability to pay for homemaking, personal care, meals and respite. Rates are determined by local agencies.	Yes	No
NFLD.	No provincial home care legislation. Subsidy towards the cost of homemaking and personal support services is provided through local Health and Community Services Boards, based on income, expenses and savings.	Yes	Yes
Y.T	No charge for homemaking and personal support services.	No	No
N.W.T	No charge for homemaking and personal support services.	No	No

From: OACCAC,2001 (from information provided by the Provincial and Territorial Home Care Programs: A Synthesis for Canada, 1999)

8.4 Appendix D Method of Assigning Priority Levels (MAPLe)



From: interRAI website: http://interrai.org/applications/maple_diagram.pdf

Appendix E Minimum Data Set – Home Care (RAI HC)

Minimum Data Set Home Care (MDS-HC)© Canadian Version

- Unless otherwise noted, score for last 3 days
- Examples of exceptions include IADLs/Continence/ Services/Treatments where status scored over last 7 days

Addressograph

SECTION AA: NAME AND IDENTIFICATION INFORMATION

1	NAME OF CLIENT	a. Last/Family Name b. First Name c. Middle Name/Initial
2	CASE RECORD NUMBER	
3a	HEALTH CARD NUMBER	a. Enter the client's health card number, or enter "**0**" if unknown or "**1**" if not applicable.
3b	PROVINCE/ TERRITORY ISSUING HEALTH CARD NO.	b. Enter the Province/Territory code issuing health card number. (See RAI-HC manual for province/ territory) and for missing/not applicable codes)
4	POSTAL CODE OF RESIDENCE	See RAI-HC manual for homeless/missing codes.

SECTION BB. PERSONAL ITEMS

1	SEX	**M.** Male **F.** Female
2a	BIRTH DATE	Year Month Day
2b	ESTIMATED BIRTH DATE	Birth date is estimated? **0.** No **1.** Yes
3	ABORIGINAL ORIGIN	Client's origin is Inuit, Métis or North American Indian **0.** No **1.** Yes
4	MARITAL STATUS	**1.** Never married **2.** Married **3.** Widowed **4.** Separated **5.** Divorced **6.** Other
5	LANGUAGE	a. Primary language (See RAI-HC manual for additional codes.) **ENG.** English **FRA.** French b. Interpreter needed **0.** No **1.** Yes
6	EDUCATION (Highest Level Completed)	**1.** No schooling **2.** 8th grade/less **3.** 9–11 grades **4.** High school **5.** Technical or trade school **6.** Some college/university **7.** Diploma/Bachelor's degree **8.** Graduate degree **9.** Unknown

7	RESPONSI-BILITY/ ADVANCED DIRECTIVES	***(Code for responsibility/advanced directives)*** **0.** No **1.** Yes a. Client has a legal guardian/substitute decision-maker b. Client has advanced medical directives in place (for example, a do not hospitalize order)
8	RESPONSI-BILITY FOR PAYMENT	***(Check all that apply)*** a. Provincial/territorial government plan b. Other province/territory c. Federal government—Veteran Affairs Canada d. Federal government—First Nations and Inuit Health Branch (FNIHB) e. Federal government—other (RCMP, Canadian Armed Forces federal penitentiary inmate, refugee) f. Worker's Compensation Board (WCB/WSIB) g. Canadian resident—private insurance pay h. Canadian resident—public trustee pay i. Canadian resident—self pay j. Other country resident—self pay k. Responsibility for payment unknown/unavailable

SECTION CC. REFERRAL ITEMS *(Complete at Intake Only)*

1	DATE CASE OPENED/ REOPENED	Year Month Day
2	REASON FOR REFERRAL	**1.** Post hospital care **2.** Community chronic care **3.** Home placement screen **4.** Eligibility for home care **5.** Day care **6.** Other
3	UNDER-STANDING OF GOALS OF CARE	***(Code for client/family understanding of goals of care)*** **0.** No **1.** Yes a. Skilled nursing treatments b. Monitoring to avoid clinical complications c. Rehabilitation d. Client/family education e. Family respite f. Palliative care

Name of Client _____ Case Record # _____

4	TIME SINCE LAST HOSPITAL STAY	Time since discharge from last inpatient setting ***(Code for most recent instance in LAST 180 DAYS)***	
		0. Presently in hospital **1.** No hospitalization within 180 days **2.** Within last week **3.** Within 8 to 14 days **4.** Within 15 to 30 days **5.** More than 30 days ago	☐
5	WHERE LIVED AT TIME OF REFERRAL	**1.** Private home/apt. with no home care services **2.** Private home/apt. with home care services **3.** Board and care/assisted living/group home **4.** Residential care facility **5.** Other	☐
6	WHO LIVED WITH AT REFERRAL	**1.** Lived alone **2.** Lived with spouse only **3.** Lived with spouse and other(s) **4.** Lived with child (not spouse) **5.** Lived with other(s) (not spouse or children) **6.** Lived in group setting with non-relative(s)	☐
7	PRIOR RESIDENTIAL CARE FACILITY PLACEMENT	Resided in a residential care facility at anytime during **5 YEARS** prior to case opening **0.** No **1.** Yes	☐
8	RESIDENTIAL HISTORY	Moved to current residence within last two years. **0.** No **1.** Yes	☐

SECTION A. ASSESSMENT INFORMATION

1	ASSESSMENT REFERENCE DATE	***Date of assessment*** ☐☐☐☐ Year ☐☐ Month ☐☐ Day	
2	REASON FOR ASSESSMENT	***Type of assessment*** **1.** Initial assessment **2.** Follow-up assessment **3.** Routine assessment at fixed intervals **4.** Review within 30-day period prior to discharge from the program **5.** Review at return from hospital **6.** Change in status **7.** Other	☐

SECTION B. COGNITIVE PATTERNS

1	MEMORY RECALL ABILITY	***(Code for recall of what was learned or known)*** **0.** Memory OK **1.** Memory problem	
		a. Short-term memory OK—seems/appears to recall after 5 minutes	☐
		b. Procedural memory OK—can perform all or almost all steps in a multitask sequence without cues for initiation	☐
2	COGNITIVE SKILLS FOR DAILY DECISION-MAKING	a. How well client made decisions about organizing the day (e.g. when to get up or have meals, which clothes to wear or activities to do) **0.** *INDEPENDENT*—Decisions consistent/reasonable/safe **1.** *MODIFIED INDEPENDENCE*—Some difficulty in new situations only **2.** *MINIMALLY IMPAIRED*—In specific situations, decisions become poor or unsafe and cues/supervision necessary at those times **3.** *MODERATELY IMPAIRED*—Decisions consistently poor or unsafe, cues/supervision required at all times **4.** *SEVERELY IMPAIRED*—Never/rarely made decisions	☐
		b. Worsening of decision making as compared to status of **90 DAYS AGO** (or since last assessment if less than 90 days) **0.** No **1.** Yes	☐
3	INDICATORS OF DELIRIUM	a. Sudden or new onset/change in mental function over **LAST 7 DAYS** (including ability to pay attention, awareness of surroundings, being coherent, unpredictable variation over course of day) **0.** No **1.** Yes	☐
		b. In the **LAST 90 DAYS** (or since last assessment if less than 90 days), client has become agitated or disoriented such that his or her safety is endangered or client requires protection by others **0.** No **1.** Yes	☐

SECTION C. COMMUNICATION/HEARING PATTERNS

1	HEARING	***(With hearing appliance if used)*** **0.** *HEARS ADEQUATELY*—Normal talk, TV, phone, doorbell **1.** *MINIMAL DIFFICULTY*—When not in quiet setting **2.** *HEARS IN SPECIAL SITUATIONS ONLY*—Speaker has to adjust tonal quality and speak distinctly **3.** *HIGHLY IMPAIRED*—Absence of useful hearing	☐
2	MAKING SELF UNDER-STOOD (Expression)	***(Expressing information content—however able)*** **0.** *UNDERSTOOD*—Expresses ideas without difficulty **1.** *USUALLY UNDERSTOOD*—Difficulty finding words or finishing thoughts BUT if given time, little or no prompting required **2.** *OFTEN UNDERSTOOD*—Difficulty finding words or finishing thoughts, prompting usually required **3.** *SOMETIMES UNDERSTOOD*—Ability is limited to making concrete requests **4.** *RARELY/NEVER UNDERSTOOD*	☐
3	ABILITY TO UNDER-STAND OTHERS (Compre-hension)	***(Understands verbal information—however able)*** **0.** *UNDERSTANDS*—Clear comprehension **1.** *USUALLY UNDERSTANDS*—Misses some part/intent of message, BUT comprehends most conversation with little or no prompting **2.** *OFTEN UNDERSTANDS*—Misses some part/intent of message; with prompting can often comprehend conversation **3.** *SOMETIMES UNDERSTANDS*—Responds adequately to simple, direct communication **4.** *RARELY/NEVER UNDERSTANDS*	☐
4	COMMUNI-CATION DECLINE	Worsening in communication (making self understood or understanding others) as compared to status of **90 DAYS AGO** (or since last assessment if less than 90 days) **0.** No **1.** Yes	☐

Name of Client _____ Case Record # _____

SECTION D. VISION PATTERNS

1	VISION	***(Ability to see in adequate light and with glasses if used)*** **0**. *ADEQUATE*—Sees fine detail, including regular print in newspapers/books **1**. *IMPAIRED*—Sees large print, but no regular print in newspapers/books **2**. *MODERATELY IMPAIRED*—Limited vision; not able to see newspaper headlines, but can identify objects **3**. *HIGHLY IMPAIRED*—Object identification in question, but eyes appear to follow objects **4**. *SEVERELY IMPAIRED*—No vision or sees only light, colours, or shapes; eyes do not appear to follow objects	☐
2	VISUAL LIMITATION/ DIFFI-CULTIES	Saw halos or rings around lights, curtains over eyes, or flashes of lights **0**. No **1**. Yes	☐
3	VISION DECLINE	Worsening of vision as compared to status of **90 DAYS AGO** (or since last assessment if less than 90 days) **0**. No **1**. Yes	☐

SECTION E. MOOD AND BEHAVIOUR PATTERNS

1	INDICATORS OF DEPRESSION, ANXIETY, SAD MOOD	***(Code for observed indicators irrespective of the assumed cause)*** **0**. Indicator not exhibited in last 3 days **1**. Exhibited 1–2 of last 3 days **2**. Exhibited on each of last 3 days	
		a. **A FEELING OF SADNESS OR BEING DEPRESSED**, that life is not worth living, that nothing matters, that he or she is of no use to anyone or would rather be dead	☐
		b. **PERSISTENT ANGER WITH SELF OR OTHERS**—e.g. easily annoyed, anger at care received	☐
		c. **EXPRESSIONS OF WHAT APPEAR TO BE UNREALISTIC FEARS**—e.g. fear of being abandoned, left alone, being with others	☐
		d. **REPETITIVE HEALTH COMPLAINTS**—e.g. persistently seeks medical attention, obsessive concern with body functions	☐
		e. **REPETITIVE ANXIOUS COMPLAINTS, CONCERNS**—e.g. persistently seeks attention/ reassurance regarding schedules, meals, laundry, clothing, relationship issues	☐
		f. **SAD, PAINED, WORRIED FACIAL EXPRESSIONS**—e.g. furrowed brows	☐
		g. **RECURRENT CRYING, TEARFULNESS**	☐
		h. **WITHDRAWAL FROM ACTIVITIES OF INTEREST**—e.g. no interest in long standing activities or being with family/friends	☐
		i. **REDUCED SOCIAL INTERACTION**	☐
2	MOOD DECLINE	Mood indicators have become worse as compared to status of **90 days ago** (or since last assessment if less than 90 days) **0**. No **1**. Yes	☐
3	BEHAVIOURAL SYMPTOMS	Instances when client exhibited behavioural symptoms. If EXHIBITED, ease of altering the symptom when it occurred. **0**. Did not occur in last 3 days **1**. Occurred, easily altered **2**. Occurred, not easily altered	
		a. **WANDERING**—Moved with no rational purpose, seemingly oblivious to needs or safety	☐
		b. **VERBALLY ABUSIVE BEHAVIOURAL SYMPTOMS**—Threatened, screamed at, cursed at others	☐
		c. **PHYSICALLY ABUSIVE BEHAVIOURAL SYMPTOMS**—Hit, shoved, scratched, sexually abused others	☐
		d. **SOCIALLY INAPPROPRIATE/ DISRUPTIVE BEHAVIOURAL SYMPTOMS**—Disruptive sounds, noisiness, screaming, self-abusive acts, sexual behaviour or disrobing in public, smears/ throws food/feces, rummaging, repetitive behaviour, rises early and causes disruption	☐
		e. **RESISTS CARE**—Resisted taking medications/ injections, ADL assistance, eating, or changes in position	☐
4	CHANGES IN BEHAVIOUR SYMPTOMS	Behavioural symptoms have become worse or are less well tolerated by family as compared to **90 DAYS AGO** (or since last assessment if less than 90 days) **0**. No, or no change in behavioural symptoms or acceptance by family **1**. Yes	☐

SECTION F. SOCIAL FUNCTIONING

1	INVOLVE-MENT	a. At ease interacting with others (e.g. likes to spend time with others) **0**. At ease **1**. Not at ease	☐
		b. Openly expresses conflict or anger with family/friends **0**. No **1**. Yes	☐
2	CHANGE IN SOCIAL ACTIVITIES	As compared to **90 DAYS AGO** (or since last assessment if less than 90 days ago), decline in the client's level of participation in social, religious, occupational or other preferred activities. IF THERE WAS A DECLINE, client distressed by this fact **0**. No decline **1**. Decline, not distressed **2**. Decline, distressed	☐
3	ISOLATION	a. Length of time client is alone during the day (morning and afternoon) **0**. Never or hardly ever **1**. About one hour **2**. Long periods of time—e.g. all morning **3**. All of the time	☐
		b. Client says or indicates that he/she feels lonely **0**. No **1**. Yes	☐

SECTION G. INFORMAL SUPPORT SERVICES

1	TWO KEY INFORMAL HELPERS Primary (A) and Secondary (B)	NAME OF PRIMARY AND SECONDARY HELPERS a. (Last/Family Name) b. (First Name) c. (Last/Family Name) d. (First Name)	(A) Pri	(B) Sec
		e. Lives with client **0**. Yes **1**. No **2**. No such helper (skip other items in the appropriate column)	☐	☐
		f. Relationship to client **0**. Child or child-in-law **1**. Spouse **2**. Other relative **3**. Friend/neighbour	☐	☐

Name of Client _____ Case Record # _____

		Areas of help: **0**. Yes **1**. No	
		g. Advice or emotional support	☐ ☐
		h. IADL care	☐ ☐
		i. ADL care	☐ ☐
		If needed, willingness (with ability) to increase help: **0**. More than 2 hours per day **1**. 1–2 hours per day **2**. No	
		j. Emotional support	☐ ☐
		k. IADL care	☐ ☐
		l. ADL care	☐ ☐
2	CAREGIVER STATUS	***(Check all that apply)***	
		A caregiver is unable to continue in caring activities—e.g. decline in the health of the caregiver makes it difficult to continue	a.
		Primary caregiver is not satisfied with support received from family and friends (e.g. other children of client)	b.
		Primary caregiver expresses feelings of distress, anger or depression	c.
		NONE OF ABOVE	d.
3	EXTENT OF INFORMAL HELP (HOURS OF CARE, ROUNDED)	For instrumental and personal activities of daily living received over the **LAST 7 DAYS**, indicate extent of help from family, friends, and neighbours	**HOURS**
		a. Sum of time across five weekdays	☐☐☐
		b. Sum of time across two weekend days	☐☐☐

SECTION H. PHYSICAL FUNCTIONING:
- **IADL PERFORMANCE IN 7 DAYS**
- **ADL PERFORMANCE IN 3 DAYS**

1	**IADL SELF-PERFORMANCE**—Code for functioning in routine activities around the home or in the community during the **LAST 7 DAYS**.		
	(A) IADL SELF-PERFORMANCE CODE **(Code for client's performance during LAST 7 DAYS)** **0**. *INDE*PENDENT—did on own **1**. SOME HELP—help some of the time **2**. FULL HELP—performed with help all of the time **3**. BY OTHERS—performed by others **8**. ACTIV*ITY DID NOT OCCUR*		
	(B) IADL DIFFICULTY CODE How difficult it is (or would it be) for client to do activity on own **0**. *NO DIFFICULTY* **1**. *SOME DIFFICULTY*—e.g. needs some help, is very slow, or fatigues **2**. *GREAT DIFFICULTY*—e.g. little or no involvement in the activity is possible	**(A) Performance**	**(B) Difficulty**
	a. **MEAL PREPARATION**—How meals are prepared (e.g. planning meals, cooking, assembling ingredients, setting out food and utensils)	☐	☐
	b. **ORDINARY HOUSEWORK**—How ordinary work around the house is performed (e.g. doing dishes, dusting, making bed, tidying up, laundry)	☐	☐
	c. **MANAGING FINANCES**—How bills are paid, cheque book is balanced, household expenses are balanced	☐	☐
	d. **MANAGING MEDICATIONS**—How medications are managed (e.g. remembering to take medicines, opening bottles, taking correct drug dosages, giving injections, applying ointments)	☐	☐
	e. **PHONE USE**—How telephone calls are made or received (with assistive devices such as large numbers on telephone, amplification as needed)	☐	☐
	f. **SHOPPING**—How shopping is performed for food and household items (e.g. selecting items, managing money)	☐	☐
	g. **TRANSPORTATION**—How client travels by vehicle (e.g. gets to places beyond walking distance)	☐	☐
2	**ADL SELF-PERFORMANCE**—The following address the client's physical functioning in routine personal activities of daily life, for example, dressing, eating, etc. during the **LAST 3 DAYS, considering all episodes of these activities.** For clients who performed an activity independently, be sure to determine and record whether others encouraged the activity or were present to supervise or oversee the activity **(Note—For bathing, code for most dependent single episode in LAST 7 DAYS.)** **0**. *INDEPENDENT*—No help, setup, or oversight—OR—Help, setup, oversight provided only 1 or 2 times (with any task or subtask) **1**. *SETUP HELP ONLY*—Article or device provided within reach of client 3 or more times **2**. *SUPERVISION*—Oversight, encouragement or cueing provided 3 or more times during last 3 days—OR—Supervision (1 or more times) plus physical assistance provided only 1 or 2 times (for a total of 3 or more episodes of help or supervision) **3**. *LIMITED ASSISTANCE*—Client highly involved in activity; received physical help in guided manoeuvring of limbs or other non-weight bearing assistance 3 or more times —OR— Combination of non-weight bearing help with more help provided only 1 or 2 times during period (for a total of 3 or more episodes of physical help) **4**. *EXTENSIVE ASSISTANCE*—Client performed part of activity on own (50% or more of subtasks), but help of following type(s) were provided 3 or more times: — Weight-bearing support—OR— — Full performance by another during part (but not all) of last 3 days **5**. *MAXIMAL ASSISTANCE*—Client involved and completed less than 50% of subtasks on own (includes 2+ person assist), received weight bearing help or full performance of certain subtasks 3 or more times **6**. *TOTAL DEPENDENCE*—Full performance of activity by another **8**. *ACTIVITY DID NOT OCCUR* (regardless of ability)	
	a. **MOBILITY IN BED**—Including moving to and from lying position, turning side to side, and positioning body while in bed.		☐
	b. **TRANSFER**—Including moving to and between surfaces—to/from bed, chair, wheelchair, standing position. (Note—Excludes to/from bath/toilet)		☐
	c. **LOCOMOTION IN HOME**—(Note—If in wheelchair, self-sufficiency once in chair.)		☐
	d. **LOCOMOTION OUTSIDE OF HOME**—(Note—If in wheelchair, self-sufficiency once in chair.)		☐
	e. **DRESSING UPPER BODY**—How client dresses and undresses **(street clothes, underwear)** above the waist, includes prostheses, orthotics, fasteners, pullovers, etc.		☐
	f. **DRESSING LOWER BODY**—How client dresses and undresses **(street clothes, underwear)** from the waist down, includes prostheses, orthotics, belts, pants, skirts, shoes, and fasteners.		☐
	g. **EATING**—Including taking in food by any method, including tube feedings.		☐
	h. **TOILET USE**—Including using the toilet room or commode, bedpan, urinal, transferring on/off toilet, cleaning self after toilet use or incontinent episode, changing pad, managing any special devices required (ostomy or catheter), and adjusting clothes.		☐
	i. **PERSONAL HYGIENE**—Including combing hair, brushing teeth, shaving, applying makeup, washing/drying face and hands (EXCLUDE baths and showers).		☐

Name of Client _____ Case Record # _____

	j. **BATHING**—How client takes full-body bath/shower or sponge bath (**EXCLUDE** washing of back and hair). Includes how each part of body is bathed: arms, upper and lower legs, chest abdomen, perineal area. **Code for most dependent episode in LAST 7 DAYS.**		
3	ADL DECLINE	ADL status has become worse (i.e. now more impaired in self-performance) as compared to status **90 days ago** (or since last assessment if less than 90 days) **0.** No **1.** Yes	
4	PRIMARY MODES OF LOCOMO-TION	**0.** No assistive device **4.** Wheelchair **1.** Cane **8.** ACTIVITY DID NOT OCCUR **2.** Walker/crutch **3.** Scooter (e.g. Amigo)	
		a. Indoors	
		b. Outdoors	
5	STAIR CLIMBING	In the **last 3 days**, how client went up and down stairs (e.g. single or multiple steps, using handrail as needed). **0.** Up and down stairs without help **1.** Up and down stairs with help **2.** Not go up and down stairs	
6	STAMINA	a. In a typical week, during the **LAST 30 DAYS** (or since last assessment), code the number of days client usually went out of the house or building in which client lives (no matter how short a time period) **0.** Every day **2.** 1 day a week **1.** 2-6 days a week **3.** No days	
		b. Hours of physical activities in the last 3 days (e.g. walking, cleaning house, exercise) **0.** Two or more hours **1.** Less than two hours	
7	FUNCTIONAL POTENTIAL	***(Check all that apply)***	
		Client believes he/she capable of increased functional independence (ADL, IADL, mobility)	a.
		Caregivers believe client is capable of increased functional independence (ADL, IADL, mobility)	b.
		Good prospects of recovery from current disease or conditions, improved health status expected	c.
		NONE OF ABOVE	d.

SECTION I. CONTINENCE IN LAST 7 DAYS

1	BLADDER CONTINENCE	a. In **LAST 7 DAYS** (or since last assessment if less than 7 days) control of urinary bladder function (with appliances such as catheters or incontinence program employed) (Note—if dribbles, volume insufficient to soak through underpants) **0.** *CONTINENT*—Complete control; DOES NOT USE any type of catheter or other urinary collection device **1.** *CONTINENT WITH CATHETER*—Complete control with use of any type of catheter or urinary collection device that does not leak urine **2.** *USUALLY CONTINENT*—Incontinent episodes once a week or less **3.** *OCCASIONALLY INCONTINENT*—Incontinent episodes 2 or more times a week but not daily **4.** *FREQUENTLY INCONTINENT*—Tends to be incontinent daily, but some control present **5.** *INCONTINENT*—Inadequate control, multiple daily episodes **8.** *DID NOT OCCUR*—No urine output from bladder	
		b. Worsening of bladder incontinence as compared to status **90 days ago** (or since last assessment if less than 90 days) **0.** No **1.** Yes	
2	BLADDER DEVICES	(**Check all that apply in LAST 7 DAYS**—or since last assessment if less than 7 days)	
		Use of pads or briefs to protect against wetness	a.
		Use of an indwelling urinary catheter	b.
		NONE OF ABOVE	c.
3	BOWEL CONTINENCE	In **LAST 7 DAYS** (or since last assessment if less than 7 days), control of bowel movement (with appliance or bowel continence program if employed) **0.** *CONTINENT*—Complete control; DOES NOT USE ostomy device **1.** *CONTINENT WITH OSTOMY*—Complete control with use of ostomy device that does not leak stool **2.** *USUALLY CONTINENT*—Bowel incontinent episodes less than weekly **3.** *OCCASIONALLY INCONTINENT*—Bowel incontinent episodes once a week **4.** *FREQUENTLY INCONTINENT*—Bowel incontinent episodes 2–3 times a week **5.** *INCONTINENT*—Bowel incontinent all (or almost all) of the time **8.** *DID NOT OCCUR*—No bowel movement during entire 7 day assessment period	

SECTION J. DISEASE DIAGNOSES

1	DISEASES	Disease/infection that doctor has indicated is present and affects client's status, requires treatment, or symptom management. Also include if disease is monitored by a home care professional or is the reason for a hospitalization in LAST 90 DAYS (or since last assessment if less than 90 days). (**blank**) Not present **1.** Present—not subject to focused treatment or monitoring by home care professional **2.** Present—monitored or treated by home care professional (If no disease in list, check **J1ac**, *None of Above*)			
		HEART/CIRCULATION		**SENSES**	
		a. Cerebrovascular accident (stroke)		q. Cataract	
		b. Congestive heart failure		r. Glaucoma	
		c. Coronary artery disease		**PSYCHIATRIC/MOOD**	
		d. Hypertension		s. Any psychiatric diagnosis	
		e. Irregularly Irregular pulse		**INFECTIONS**	
		f. Peripheral vascular disease		t. HIV infection	
		NEUROLOGICAL		u. Pneumonia	
		g. Alzheimer's		v. Tuberculosis	
		h. Dementia other than Alzheimer's disease		w. Urinary tract infection (**in LAST 30 DAYS**)	
		i. Head trauma		**OTHER DISEASES**	
		j. Hemiplegia/ hemiparesis		x. Cancer (in past 5 years) not including skin cancer	
		k. Multiple sclerosis		y. Diabetes	

Name of Client _____ Case Record # _____

		l. Parkinsonism	☐	z. Emphysema/ COPD/ asthma	☐
				aa. Renal Failure	☐
		MUSCULO-SKELETAL			
		m. Arthritis	☐	ab. Thyroid disease (hyper or hypo)	☐
		n. Hip fracture	☐		
		o. Other fractures (e.g. wrist, vertebral)	☐	ac. *NONE OF ABOVE*	☐
		p. Osteoporosis	☐		
2	OTHER CURRENT OR MORE DETAILED DIAGNOSES AND ICD-10-CA CODES	a.	☐☐☐ • ☐☐☐		
		b.	☐☐☐ • ☐☐☐		
		c.	☐☐☐ • ☐☐☐		
		d.	☐☐☐ • ☐☐☐		

SECTION K. HEALTH CONDITIONS AND PREVENTIVE HEALTH MEASURES

1	PREVENTIVE HEALTH (PAST TWO YEARS)	**(Check all that apply—in PAST 2 YEARS)**			
		Blood pressure measured	a. ☐	IF FEMALE: Received breast examination or mammography	d. ☐
		Received influenza vaccination	b. ☐		
		Test for blood in stool or screening endoscopy	c. ☐	*NONE OF ABOVE*	e. ☐
2	PROBLEM CONDITIONS PRESENT ON 2 OR MORE DAYS	**(Check all that were present on at least 2 of the last 3 days)**			
		Diarrhea	a. ☐	Loss of appetite	d. ☐
		Difficulty urinating or urinating 3 or more times at night	b. ☐	Vomiting	e. ☐
				NONE OF ABOVE	f. ☐
		Fever	c. ☐		
3	PROBLEM CONDITIONS	**(Check all present at any point during last 3 days)**			
		PHYSICAL HEALTH		**MENTAL HEALTH**	
		Chest pain/pressure at rest or on exertion	a. ☐	Delusions	f. ☐
				Hallucinations	g. ☐
		No bowel movement in 3 days	b. ☐	*NONE OF ABOVE*	h. ☐
		Dizziness or lightheadedness	c. ☐		
		Edema	d. ☐		
		Shortness of breath	e. ☐		
4	PAIN	a. Frequency with which client complains or shows evidence of pain **0.** No pain (score b–e as 0) **1.** Less than daily **2.** Daily—one period **3.** Daily—multiple periods (e.g. morning and evening)			☐
		b. Intensity of pain **0.** No pain **1.** Mild **2.** Moderate **3.** Severe **4.** Times when pain is horrible or excruciating			☐
		c. From client's point of view, pain intensity disrupts usual activities **0.** No **1.** Yes			☐
		d. Character of pain **0.** No pain **1.** Localized—single site **2.** Multiple sites			☐
		e. From client's point of view, medications adequately control pain **0.** Yes or no pain **1.** Medications do not adequately control pain **2.** Pain present, medication not taken			☐
5	FALLS FREQUENCY	Number of times fell in **LAST 90 DAYS** (or since last assessment if less than 90 days). If none, code "**0**", if more than 9, code "**9**".			☐
6	DANGER OF FALL	**(Code for danger of falling)** **0.** No **1.** Yes			
		a. Unsteady gait			☐
		b. Client limits going outdoors due to fear of falling (e.g. stopped using bus, goes out only with others)			☐
7	LIFESTYLE (Drinking/ Smoking)	**(Code for drinking or smoking)** **0.** No **1.** Yes			
		a. **In the LAST 90 DAYS** (or since last assessment if less than 90 days), client felt the need or was told by others to cut down on drinking, or others were concerned with client's drinking			☐
		b. **In the LAST 90 DAYS** (or since last assessment if less than 90 days), client had to have a drink first thing in the morning to steady nerves (i.e. an "eye opener") or has been in trouble because of drinking			☐
		c. Smoked or chewed tobacco daily			☐
8	HEALTH STATUS INDICATORS	**(Check all that apply)**			
		Client feels he/she is poor health (when asked)	a. ☐	Treatments changed in **LAST 30 DAYS** (or since last assessment if less than 30 days) because of a new acute episode or condition	d. ☐
		Has conditions or diseases that make cognition, ADL, mood, or behaviour patterns unstable (fluctuations, precarious, or deteriorating)	b. ☐	Prognosis of less than six months to live—e.g. physician has told client or client's family that client has end-stage disease	e. ☐
		Experiencing a flare-up of a recurrent or chronic problem	c. ☐	*NONE OF ABOVE*	f. ☐
9	OTHER STATUS INDICATORS	**(Check all that apply)**			
		Fearful of a family member or caregiver	a. ☐	Physically restrained (e.g. limbs restrained, used bed rails, constrained to chair when sitting)	e. ☐
		Unusually poor hygiene	b. ☐		
		Unexplained injuries, broken bones, or burns	c. ☐	*NONE OF ABOVE*	f. ☐
		Neglected, abused, or mistreated	d. ☐		

SECTION L. NUTRITION/HYDRATION STATUS

1	WEIGHT	**(Code for weight items)** **0.** No **1.** Yes	
		a. Unintended weight loss of 5% or more in the **LAST 30 DAYS** (or 10% or more in the **LAST 180 DAYS**)	☐
		b. Severe malnutrition (cachexia)	☐
		c. Morbid obesity	☐

Name of Client _____ Case Record # _____

2	CONSUMP-TION	**(Code for consumption)** **0**. No **1**. Yes	
		a. In at least 2 of the last 3 days, ate one or fewer meals a day	☐
		b. **In last 3 days**, noticeable decrease in the amount of food client usually eats or fluids usually consumes	☐
		c. Insufficient fluid—did not consume all/almost all fluids during last 3 days	☐
		d. Enteral tube feeding	☐
3	SWALLOW-ING	**0**. *NORMAL*—Safe and efficient swallowing of all diet consistencies **1**. *REQUIRES DIET MODIFICATION TO SWALLOW SOLID FOODS* (mechanical diet or able to ingest specific foods only) **2**. *REQUIRES MODIFICATION TO SWALLOW SOLID FOODS AND LIQUIDS* (puree, thickened liquids) **3**. *COMBINED ORAL AND TUBE FEEDING* **4**. *NO ORAL INTAKE (NPO)*	☐

SECTION M. DENTAL STATUS (ORAL HEALTH)

1	ORAL STATUS	**(Check all that apply)**	
		Problem chewing (e.g. poor mastication, immobile jaw, surgical resection, decreased sensation/motor control, pain while eating)	a.
		Mouth is "dry" when eating a meal	b.
		Problem brushing teeth or dentures	c.
		NONE OF ABOVE	d.

SECTION N. SKIN CONDITION

1	SKIN PROBLEMS	Any troubling conditions or changes in skin condition (e.g. burns, bruises, rashes, itchiness, body lice, scabies) **0**. No **1**. Yes	☐
2	ULCERS (Pressure/ Stasis)	Presence of an ulcer anywhere on the body. Ulcers include any area of persistent skin redness (Stage 1); partial loss of skin layers (Stage 2); deep craters in the skin (Stage 3); breaks in skin exposing muscle or bone (Stage 4). **[Code 0 if no ulcer, otherwise record the highest ulcer stage (Stage 1–4).]**	
		a. **Pressure ulcer**—any lesion caused by pressure, shear forces, resulting in damage of underlying tissues	☐
		b. **Stasis ulcer**—open lesion caused by poor circulation in the lower extremities	☐
3	OTHER SKIN PROBLEMS REQUIRING TREATMENT	**(Check all that apply)**	
		Burns (second or third degree)	a.
		Open lesions other than ulcers, rashes, cuts (e.g. cancer)	b.
		Skin tears or cuts	c.
		Surgical wound	d.
		Corns, calluses, structural problems, infections, fungi	e.
		NONE OF ABOVE	f.
4	HISTORY OF RESOLVED PRESSURE ULCERS	Client previously had (at any time) or has an ulcer anywhere on the body. **0**. No **1**. Yes	☐
5	WOUND/ ULCER CARE	**(Check for formal care in LAST 7 DAYS)**	
		Antibiotics, systemic or topical	a.
		Dressings	b.
		Surgical wound care	c.
		Other wound/ulcer care (e.g. pressure relieving device, nutrition, turning, debridement)	d.
		NONE OF ABOVE	e.

SECTION O. ENVIRONMENTAL ASSESSMENT

1	HOME ENVIRON-MENT	**[Check any of following that make home environment hazardous or uninhabitable (if none apply, check NONE OF ABOVE, if temporarily in institution, base assessment on home visit)]**	
		Lighting in evening (including inadequate or no lighting in living room, sleeping room, kitchen, toilet, corridors)	a.
		Flooring and carpeting (e.g. holes in floor, electric wires where client walks, scatter rugs)	b.
		Bathroom and toilet room (e.g. non-operating toilet, leaking pipes, no rails though needed, slippery bathtub, outside toilet)	c.
		Kitchen (e.g. dangerous stove, inoperative refrigerator, infestation by rats or bugs)	d.
		Heating and cooling (e.g. too hot in summer, too cold in winter, wood stove in a home with an asthmatic)	e.
		Personal safety (e.g. fear of violence, safety problem in going to mailbox or visiting neighbours, heavy traffic in street)	f.
		Access to home (e.g. difficulty entering/leaving home)	g.
		Access to rooms in house (e.g. unable to climb stairs)	h.
		NONE OF ABOVE	i.
2	LIVING ARRANGE-MENT	a. As compared to 90 DAYS AGO (or since last assessment), client now lives with other persons—e.g. moved in with another person, other moved in with client **0**. No **1**. Yes	☐
		b. Client or primary caregiver feels that client would be better off in another living environment **0**. No **1**. Client only **2**. Caregiver only **3**. Client and caregiver	☐

SECTION P. SERVICE UTILIZATION (IN LAST 7 DAYS)

1	FORMAL CARE (Minutes rounded to even 10 minutes)	Extent of care or care management in **LAST 7 DAYS** (or since last assessment if less than 7 days) since involving			
		#of:	**(A) Days**	**(B) Hours**	**(C) Mins**
		a. Home health aides	☐☐	☐☐☐	☐☐
		b. Visiting nurses	☐☐	☐☐☐	☐☐
		c. Homemaking services	☐☐	☐☐☐	☐☐
		d. Meals	☐☐	☐☐☐	☐☐
		e. Volunteer services	☐☐	☐☐☐	☐☐
		f. Physical therapy	☐☐	☐☐☐	☐☐
		g. Occupational therapy	☐☐	☐☐☐	☐☐
		h. Speech therapy	☐☐	☐☐☐	☐☐
		i. Day care or day hospital	☐☐	☐☐☐	☐☐
		j. Social worker in home	☐☐	☐☐☐	☐☐

Name of Client _____ Case Record # _____

2	SPECIAL TREATMENTS, THERAPIES, PROGRAMS	Special treatments, therapies, and programs received or scheduled during the **LAST 7 DAYS** (or since last assessment if less than 7 days) and adherence to the required schedule. Includes services received in the home or on an outpatient basis. (**Blank**) Not applicable **1**. Scheduled, full adherence as prescribed **2**. Scheduled, partial adherence **3**. Scheduled, not received (If no treatments provided, check *NONE OF ABOVE* **P2aa**)

RESPIRATORY TREATMENTS		**THERAPIES**	
a. Oxygen	☐	n. Exercise therapy	☐
b. Respirator for assistive breathing	☐	o. Occupational therapy	☐
c. All other respiratory treatments	☐	p. Physical therapy	☐
OTHER TREATMENTS		**PROGRAMS**	
d. Alcohol/drug treatment program	☐	q. Day centre	☐
		r. Day hospital	☐
e. Blood transfusion(s)	☐	s. Hospice care	☐
f. Chemotherapy	☐	t. Physician or clinic visit	☐
g. Dialysis	☐	u. Respite care	☐
h. IV infusion—central	☐	**SPECIAL PROCEDURES DONE IN HOME**	
i. IV infusion—peripheral	☐	v. Daily nurse monitoring (e.g. EKG, urinary output)	☐
j. Medication by injection	☐		
k. Ostomy care	☐	w. Nurse monitoring less than daily	☐
l. Radiation	☐	x. Medical alert bracelet or electronic security alert	☐
m. Tracheostomy care	☐		
		y. Skin treatment	☐
		z. Special diet	☐
		aa. *NONE OF ABOVE*	☐

3	MANAGE-MENT OF EQUIPMENT (**In Last 3 Days**)	**Management codes:** **0**. Not used **1**. Managed on own **2**. Managed on own if laid out or with verbal reminders **3**. Partially performed by others **4**. Fully performed by others	
		a. Oxygen	☐
		b. IV	☐
		c. Catheter	☐
		d. Ostomy	☐

4	VISITS IN LAST 90 DAYS OR SINCE LAST ASSESSMENT	**Enter "0" if none, if more than 9, code "9"**	
		a. Number of times ADMITTED TO HOSPITAL with an overnight stay	☐
		b. Number of times VISITED EMERGENCY ROOM without an overnight stay	☐
		c. EMERGENT CARE—including unscheduled nursing, physician, or therapeutic visits to office or home	☐
5	TREATMENT GOALS	Any treatment goals that have been met in the **LAST 90 DAYS** (or since last assessment if less than 90 days)? **0**. No **1**. Yes	☐
6	OVERALL CHANGE IN CARE NEEDS	Overall self-sufficiency has changed significantly as compared to status of **90 DAYS AGO** (or since last assessment if less than 90 days) **0**. No change **1**. Improved—receives fewer supports **2**. Deteriorated—receives more support	☐
7	TRADE OFFS	Because of limited funds, during the last month, client made trade-offs among purchasing any of the following: prescribed medications, sufficient home heat, necessary physician care, adequate food, home care **0**. No **1**. Yes	☐

SECTION Q. MEDICATIONS

1	NUMBER OF MEDICATIONS	Record the number of different medicines (prescriptions and over the counter), including eye drops, taken regularly or on an occasional basis in the **LAST 7 DAYS** (or since last assessment) *[If none, code "**0**", if more than 9, code "**9**".]*	☐
2	RECEIPT OF PSYCHO-TROPIC MEDICATION	Psychotropic medications taken in the **LAST 7 DAYS** (or since last assessment) [Note—Review client's medications with the list that applies to the following categories.] **0**. No **1**. Yes	
		a. Antipsychotic/neuroleptic	☐
		b. Anxiolytic	☐
		c. Antidepressant	☐
		d. Hypnotic	☐
3	MEDICAL OVERSIGHT	Physician reviewed client's medications as a whole in **LAST 180 DAYS** (or since last assessment) **0**. Discussed with at least one physician (or no medication taken) **1**. No single physician reviewed all medications	☐
4	COMPLIANCE/ ADHERENCE WITH MEDICA-TIONS	Compliant all or most of time with **medications** prescribed by physician (both during and between therapy visits) in **LAST 7 DAYS** **0**. Always compliant **1**. Compliant 80% of time or more **2**. Compliant less than 80% of time, including failure to purchase prescribed medications **3**. *NO MEDICATIONS PRESCRIBED*	☐

Name of Client _____ Case Record # _____

5	LIST OF ALL MEDICATIONS	List prescribed and nonprescribed medications taken in **LAST 7 DAYS** (or since last assessment) a. **Name**: Record the name of the medication. b. **Dose**: Record the dosage. c. **Form**: Code the route of Administration using the following list: **1**. By mouth (PO) **6**. Rectal (R) **2**. Sub lingual (SL) **7**. Topical **3**. Intramuscular (IM) **8**. Inhalation **4**. Intravenous (IV) **9**. Enteral tube **5**. Subcutaneous (SQ) **10**. Other d. **Freq**: Code the number of times per day, week, or month the medication is administered using the following list: ***PRN***. As necessary ***QOD***. Every other day ***QH***. Every hour ***QW***. Once each week ***Q2H***. Every two hours ***2W***. Two times every week ***Q3H***. Every three hours ***3W***. Three times every week ***Q4H***. Every four hours ***4W***. Four times every week ***Q6H***. Every six hours ***5W***. Five times every week ***Q8H***. Every eight hours ***6W***. Six times every week ***QD***. Once daily ***1M***. Once every month ***HS***. Bedtime ***2M***. Twice every month ***BID***. Two times daily (includes every 12 hrs) ***C***. Continuous ***TID***. Three times daily ***O***. Other ***QID***. Four times daily ***5D***. Five times daily e. **If PRN**: record number of doses taken in last 7 days.

	a. Name	**b. Dose**	**c. Form**	**d. Freq**	**e. If PRN # of times taken in last 7 days**
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					

☐ = when box blank, must enter number or letter a. = when letter in box, check if condition applies

SECTION R. ASSESSMENT INFORMATION

1	SIGNATURES OF PERSONS COMPLETING THE ASSESSMENT			
	a. Signature of Assessment Coordinator			
	b. Title of Assessment Coordinator			
	c. Date Assessment Coordinator signed as complete ☐☐☐☐ Year ☐☐ Month ☐☐ Day			
	Other Signatures	Title	Sections	Date
	d.			
	e.			
	f.			
	g.			
	h.			
	i.			

8.5 Appendix F interRAI-Community Health Assessment (interRAI CHA)

interRAI Community Health Assessment (CHA) ©

[CODE FOR LAST 3 DAYS, UNLESS OTHERWISE SPECIFIED]

SECTION A. IDENTIFICATION INFORMATION

1. NAME

a. (First) b. (Middle Initial) c. (Last) d. (Jr/Sr)

2. GENDER

○ 1. Male ○ 2. Female

3. BIRTHDATE

a) Year: ○ 1 ○ 2 ○ 8 ○ 9 ○ 0 ○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7 ○ 8 ○ 9 ○ 0 ○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7 ○ 8 ○ 9 ○ 0

b) Month: ○ January ○ February ○ March ○ April ○ May ○ June ○ July ○ August ○ September ○ October ○ November ○ December

c) Day: ○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7 ○ 8 ○ 9 ○ 10 ○ 11 ○ 12 ○ 13 ○ 14 ○ 15 ○ 16 ○ 17 ○ 18 ○ 19 ○ 20 ○ 21 ○ 22 ○ 23 ○ 24 ○ 25 ○ 26 ○ 27 ○ 28 ○ 29 ○ 30 ○ 31

4. MARITAL STATUS

○ 1. Never married ○ 2. Married ○ 3. Partner/Significant other ○ 4. Widowed ○ 5. Separated ○ 6. Divorced

5. NUMERIC IDENTIFIERS

a) Health Card Number

b) Case Record Number

6. PROVINCE OR TERRITORY OF USUAL LIVING ARRANGEMENT AND AGENCY NUMBER

a) Province or Territory: ○ AB ○ BC ○ MB ○ NB ○ NL ○ NS ○ NT ○ NU ○ ON ○ PE ○ QC ○ SK ○ YT

b) Agency Number

7. REASON FOR ASSESSMENT

○ 1. First assessment
○ 2. Routine assessment
○ 3. Return assessment (e.g., return from hospital)
○ 4. Significant change in status reassessment
○ 5. Discharge assessment, covers last 3 days of service
○ 6. Discharge tracking only
○ 7. Other (e.g. research)

8. ASSESSMENT REFERENCE DATE

a) Year: ○ 1 ○ 2 ● 2 ○ 8 ○ 9 ● 0 ○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7 ○ 8 ○ 9 ○ 0 ○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7 ○ 8 ○ 9 ○ 0

b) Month: ○ January ○ February ○ March ○ April ○ May ○ June ○ July ○ August ○ September ○ October ○ November ○ December

c) Day: ○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7 ○ 8 ○ 9 ○ 10 ○ 11 ○ 12 ○ 13 ○ 14 ○ 15 ○ 16 ○ 17 ○ 18 ○ 19 ○ 20 ○ 21 ○ 22 ○ 23 ○ 24 ○ 25 ○ 26 ○ 27 ○ 28 ○ 29 ○ 30 ○ 31

9. PERSON'S EXPRESSED GOALS OF CARE

10. POSTAL CODE OF USUAL LIVING ARRANGEMENT

11. RESIDENTIAL/LIVING STATUS AT TIME OF ASSESSMENT

○ 1. Private home/apartment/rented room
○ 2. Board and care or assisted living
○ 3. Mental health residence - e.g., psychiatric group home
○ 4. Group home for persons with physical disability
○ 5. Setting for persons with intellectual disability
○ 6. Psychiatric hospital or unit
○ 7. Homeless (with or without shelter)
○ 8. Long-term care facility (nursing home)
○ 9. Rehabilitation hospital/unit
○ 10. Hospice facility/Palliative care unit
○ 11. Acute care hospital
○ 12. Correctional facility
○ 13. Other

12. LIVING ARRANGEMENT

○ 1. Alone
○ 2. With spouse/partner only
○ 3. With spouse/partner and other(s)
○ 4. With child (not spouse/partner)
○ 5. With parent(s) or guardian(s)
○ 6. With sibling(s)
○ 7. With other relative(s) (not spouse/partner or children)
○ 8. With non-relative(s)

SECTION B. INTAKE OR INITIAL HISTORY

[Note: Complete at admission or first assessment only]

1. DATE CASE OPENED (this agency)

a) Year: ○ 1 ○ 2 ○ 8 ○ 9 ○ 0 ○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7 ○ 8 ○ 9 ○ 0 ○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7 ○ 8 ○ 9 ○ 0

b) Month: ○ January ○ February ○ March ○ April ○ May ○ June ○ July ○ August ○ September ○ October ○ November ○ December

c) Day: ○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7 ○ 8 ○ 9 ○ 10 ○ 11 ○ 12 ○ 13 ○ 14 ○ 15 ○ 16 ○ 17 ○ 18 ○ 19 ○ 20 ○ 21 ○ 22 ○ 23 ○ 24 ○ 25 ○ 26 ○ 27 ○ 28 ○ 29 ○ 30 ○ 31

2. ORIGIN IS INUIT, MÉTIS, OR FIRST NATIONS ○ 0. No ○ 1. Yes

41766

interRAI Community Health Assessment (CHA) ©

3. PRIMARY LANGUAGE
(See manual for additional codes) eng English fra French

4. RESIDENTIAL HISTORY OVER LAST 5 YEARS
Code for all settings person lived in during 5 years prior to date case opened [B1]

	No	Yes
a. Long-term care facility (e.g., nursing home)	○	○
b. Board and care home, or assisted living	○	○
c. Mental Health Residence (e.g., psychiatric group home)	○	○
d. Psychiatric hospital or unit	○	○
e. Setting for persons with intellectual disability	○	○

SECTION C. COGNITION

1. COGNITIVE SKILLS FOR DAILY DECISION MAKING
Making decisions regarding tasks of daily life, e.g., when to get up or have meals, which clothes to wear or activities to do

- ○ 0. ***Independent*** - Decisions consistent, reasonable, and safe
- ○ 1. ***Modified independence*** - Some difficulty in new situations only
- ○ 2. ***Minimally impaired*** - In specific recurring situations, decisions become poor or unsafe; cues or supervision necessary at those times
- ○ 3. ***Moderately impaired*** - Decisions consistently poor or unsafe; cues or supervision required at all times
- ○ 4. ***Severely impaired*** - Never or rarely makes decisions
- ○ 5. ***No discernible consciousness, coma [SKIP TO SECTION G]***

2. MEMORY/RECALL ABILITY
Code for recall of what was learned or known

Short-term memory OK - seems/appears to recall after 5 minutes
- ○ 0. Yes, memory OK
- ○ 1. Memory problem

3. NOW MORE IMPAIRED IN DECISION MAKING THAN 90 DAYS AGO (OR SINCE LAST ASSESMENT IF LESS THAN 90 DAYS AGO)
○ 0. No ○ 1. Yes, more impaired today ○ 8. Uncertain

SECTION D. COMMUNICATION AND VISION

1. MAKING SELF UNDERSTOOD (Expression)
Expressing information content - both verbal and nonverbal

- ○ 0. ***Understood*** - Expresses ideas without difficulty
- ○ 1. ***Usually understood*** - Difficulty finding words or finishing thought, BUT if given time, little or no prompting required
- ○ 2. ***Often understood*** - Difficulty finding words or finishing thoughts AND prompting usually required
- ○ 3. ***Sometimes understood*** - Ability is limited to making concrete requests
- ○ 4. ***Rarely or never understood***

2. ABILITY TO UNDERSTAND OTHERS (Comprehension)
Understanding verbal information content (however able; with hearing appliance, if used)

- ○ 0. ***Understands*** - Clear comprehension
- ○ 1. ***Usually understands*** - Misses some part or intent of mesage BUT comprehends most converstion
- ○ 2. ***Often understands*** - Misses some part or intent of message BUT with repetition or explanation can often comprehend conversation
- ○ 3. ***Sometimes understands*** - Responds adequately to simple, direct communication only
- ○ 4. ***Rarely or never understands***

3. HEARING
Ability to hear with hearing appliance normally used

- ○ 0. ***Adequate*** - No difficulty in normal conversation, social interaction, listening to TV
- ○ 1. ***Minimal difficulty*** - Difficulty in some environments (e.g., when person speaks softly or is more than 2 metres [6 feet] away)
- ○ 2. ***Moderate difficulty*** - Problem hearing normal conversation, requires quiet setting to hear well
- ○ 3. ***Severe difficulty*** - Difficulty in all situations (e.g. speaker has to talk loudly or speak very slowly; or person reports that all speech is mumbled)
- ○ 4. ***No hearing***

4. VISION
Ability to see in adequate light (with glasses or with other visual appliance normally used)

- ○ 0. ***Adequate*** - sees fine detail, including regular print in newspapers or books
- ○ 1. ***Minimally difficulty*** - sees large print, but not regular print in newspapers or books
- ○ 2. ***Moderate difficulty*** - limited vision; not able to see newspaper headlines, but can identify objects
- ○ 3. ***Severe difficulty*** - object identification in question, but eyes appear to follow objects; sees only light, colours, or shapes
- ○ 4. ***No vision***

SECTION E. MOOD

1. INDICATORS OF POSSIBLE DEPRESSED, ANXIOUS, OR SAD MOOD
Code for indicators observed in last 3 days, irrespective of the assumed cause

0. Not present 1. Present but not exhibited in last 3 days 2. Exhibited on 1-2 of last 3 days 3. Exhibited daily in last 3 days

	0	1	2	3
a. **Made negative statements** - e.g., *"Nothing matters"; "Would rather be dead"; "What's the use"; "Regret having lived so long"; "Let me die"*	○	○	○	○
b. **Persistent anger with self or others** - e.g., easily annoyed, anger at care received	○	○	○	○
c. **Expressions, including non-verbal, of what appear to be unrealistic fears** - e.g., fear of being abandoned, being left alone, being with others; intense fear of specific objects or situations	○	○	○	○
d. **Repetitive health complaints** - e.g., persistently seeks medical attention; incessant concern with body functions	○	○	○	○
e. **Repetitive anxious complaints or concerns (non-health related)** - e.g., persistently seeks attention or reassurance regarding schedules, meals, laundry, clothing, relationships	○	○	○	○
f. **Sad, pained, or worried facial expressions** - e.g., furrowed brow, constant frowning	○	○	○	○
g. **Crying, tearfulness**	○	○	○	○
h. **Withdrawal from activities of interest** - e.g., long-standing activities or being with family or friends	○	○	○	○
i. **Reduced social interactions**	○	○	○	○

2. SELF REPORTED MOOD

0. Not in last 3 days 1. Not in last 3 days, but often feels that way 2. In 1-2 of last 3 days 3. Daily in last 3 days 8. Person could not (would not) respond

Ask: "In the last 3 days, how often have you felt..."

	0	1	2	3	8
a. Little interest or pleasure in things you normally enjoy?	○	○	○	○	○
b. Anxious, restless, or uneasy?	○	○	○	○	○
c. Sad, depressed, or hopeless?	○	○	○	○	○

41766

interRAI Community Health Assessment (CHA) ©

SECTION F. PSYCHOSOCIAL WELL-BEING

1. SOCIAL RELATIONSHIPS

(Note: whenever possible, ask person)

0. Never	2. 8 - 30 days ago	4. In last 3 days
1. More than 30 days ago	3. 4 - 7 days ago	8. Unable to determine

	0	1	2	3	4	8
a. Participation in social activities of long-standing interest	○	○	○	○	○	○
b. Visit with a long-standing social relation or family member	○	○	○	○	○	○
c. Other contact with long-standing social relation or family member (e.g., telephone or e-mail)	○	○	○	○	○	○
d. Openly expresses conflict or anger with family or friends	○	○	○	○	○	○
e. Fearful of a familly member or close acquaintance	○	○	○	○	○	○
f. Neglected, abused, or mistreated	○	○	○	○	○	○

2. SAYS OR INDICATES HE/SHE FEELS LONELY

○ 0. No ○ 1. Yes

3. CHANGE IN SOCIAL ACTIVITIES

(or since last assessment if less than 90 days ago), decline in level of participation in social, religious, occupational or other preferred activities. IF THERE WAS A DECLINE, person distressed by this fact

○ 0. No decline ○ 1. Decline, not distressed ○ 2. Decline, distressed

4. LENGTH OF TIME ALONE DURING THE DAY (MORNING AND AFTERNOON)

○ 0. Less than 1 hour ○ 2. More than 2 hours but less than 8 hours
○ 1. 1 - 2 hours ○ 3. 8 hours or more

5. MAJOR LIFE STRESSORS IN LAST 90 DAYS - e.g., episode of severe personal illness; death or severe illness of close family member or friend; loss of home; major loss of income or assets; victim of a crime such as robbery or assault; loss of driving license or car)

○ 0. No ○ 1. Yes

SECTION G. FUNCTIONAL STATUS

1. IADL SELF-PERFORMANCE and CAPACITY

Code for PERFORMANCE in routine activities around the home or in the community during the LAST 3 DAYS.
Code for CAPACITY based on presumed ability to carry out activity as independently as possible. This will require "speculation" by the assessor.

0. ***Independent*** - No help, setup, or supervision
1. ***Setup help only***
2. ***Supervision*** - Oversight or cueing
3. ***Limited assistance*** - Help on some occasions
4. ***Extensive assistance*** - Help throughout task, but performs 50% or more of task on own
5. ***Maximal assistance*** - Help throughout task, but performs less than 50% of task on own
6. ***Total dependence*** - Full performance by others during entire period
8. ***Activity did not occur*** - During entire period [DO NOT USE THIS CODE IN SCORING CAPACITY]

P - Performance C - Capacity

		0	1	2	3	4	5	6	8
a. **Meal preparation** - How meals are prepared (e.g., planning meals, assembling ingredients, cooking, setting out food and utensils)	P	○	○	○	○	○	○	○	○
	C	○	○	○	○	○	○	○	
b. **Ordinary housework** - How ordinary work around the house is performed (e.g., doing dishes, dusting, making bed, tidying up, laundry)	P	○	○	○	○	○	○	○	○
	C	○	○	○	○	○	○	○	
c. **Managing finances** - How bills are paid, chequebook is balanced, household expenses are budgeted, credit card account is monitored	P	○	○	○	○	○	○	○	○
	C	○	○	○	○	○	○	○	
d. **Managing medications** - How medications are managed (e.g., remembering to take medicines, opening bottles, taking correct drug dosages, giving injections, applying ointments)	P	○	○	○	○	○	○	○	○
	C	○	○	○	○	○	○	○	
e. **Phone use** - How telephone calls are made or received (with assistive devices such as large numbers on telephone, amplification as needed)	P	○	○	○	○	○	○	○	○
	C	○	○	○	○	○	○	○	
f. **Stairs** - How full flight of stairs is managed (12-14 stairs)	P	○	○	○	○	○	○	○	○
	C	○	○	○	○	○	○	○	
g. **Shopping** - How shopping is performed for food and household items (e.g., selecting items, paying money) EXCLUDE TRANSPORTATION	P	○	○	○	○	○	○	○	○
	C	○	○	○	○	○	○	○	
h. **Transportation** - How travels by public transportation (navigating system, paying fare) or driving self (including getting out of house, into and out of vehicles)	P	○	○	○	○	○	○	○	○
	C	○	○	○	○	○	○	○	

2. ADL SELF-PERFORMANCE

Code for Performance over full 24 hour periods, considering all occurrences of the activity IN LAST 3 DAYS
[Note: For ALL ADLs, if less than 3 episodes over the 3-day time frame, code based on most dependent episode]

0. ***Independent*** - No help -OR- Help, setup, or supervision provided 1-2 times
1. ***Set-up help only*** - Article or device provided or placed within reach 3+ times
2. ***Supervision*** - Oversight or cuing 3+ times -OR- Oversight or cuing 1+ time and physical assistance 1-2 times
3. ***Limited assistance*** - Guided maneuvering of limbs 3+ times -OR- Combination of guided maneuvering and more help 1-2 times
4. ***Extensive assistance*** - Weight-bearing support 3+ times by one helper where person still performs 50% or more of subtasks
5. ***Maximal assistance*** - Weight-bearing support 3+ times by 2+ helpers -OR- Weight-bearing support for more than 50% of subtasks
6. ***Total dependence*** - Full performance by others during entire period
8. ***Activity did not occur*** - During entire period

	0	1	2	3	4	5	6	8
a. **Bathing** - How takes full-body bath or shower. Includes how transfers in and out of tub or shower AND how each part of body is bathed: arms, upper and lower legs, chest, abdomen, perineal area. EXCLUDE WASHING BACK AND HAIR	○	○	○	○	○	○	○	○
b. **Personal hygiene** - How manages personal hygiene, including combing hair, brushing teeth, shaving, applying make-up, washing and drying face and hands - EXCLUDE BATHS AND SHOWERS	○	○	○	○	○	○	○	○
c. **Walking** - How walks between locations on same floor indoors	○	○	○	○	○	○	○	○

3. PRIMARY MODE OF LOCOMOTION INDOORS

○ 0. Walking, no assistive device
○ 1. Walking, uses assistive device - e.g., cane, walker, crutch, pushing wheelchair
○ 2. Wheelchair, scooter
○ 3. Bedbound

4. ACTIVITY LEVEL

a. **Hours of exercise or physical activity in the last 3 days** - e.g., walking

○ 0. None ○ 3. 3-4 hours
○ 1. Less than 1 hour ○ 4. More than 4 hours
○ 2. 1-2 hours

b. **In the last 3 days, number of days went out of the house or building in which he/she lives** (no matter how short the time period)

○ 0. No days out ○ 2. 1-2 days
○ 1. Did not go out in last 3 days, but usually goes out over a 3-day period ○ 3. 3 days

5. ADL STATUS IS WORSE THAN 90 DAYS AGO (OR SINCE LAST ASSESSMENT IF LESS THAN 90 DAYS AGO)

○ 0. No ○ 1. Yes, more impaired today ○ 8. Uncertain

6. DRIVING

a. **Drove car (vehicle) in the last 90 days**

○ 0. No ○ 1. Yes

b. **If drove in last 90 days, assessor is aware that someone has suggested that person limits OR stops driving**

○ 0. No, does not drive ○ 1. Yes

41766

interRAI Community Health Assessment (CHA) ©

[CODE FOR LAST 3 DAYS, UNLESS OTHERWISE SPECIFIED]

SECTION H. CONTINENCE

1. BLADDER CONTINENCE

- ○ 0. ***Continent*** - Complete control; DOES NOT USE any type of catheter or urinary collection device
- ○ 1. ***Complete control with any catheter or ostomy*** over last 3 days
- ○ 2. ***Infrequently incontinent*** - Not incontinent over last 3 days, but does have incontinent episodes
- ○ 3. ***Occasionally incontinent*** - Less than daily
- ○ 4. ***Frequently incontinent*** - Incontinent daily, but some control present
- ○ 5. ***Incontinent*** - No control present
- ○ 8. ***Did not occur*** - No urine output from bladder in last 3 days

SECTION I. DISEASE DIAGNOSES

1. DISEASE DIAGNOSES

0. Not present
1. Primary diagnosis/diagnoses for current stay
2. Diagnosis present, receiving active treatment
3. Diagnosis present, monitored but no active treatment

	0	1	2	3
MUSCULOSKELETAL				
a. **Hip fracture during last 30 days (or since last assessment if less than 30 days)**	○	○	○	○
b. **Other fracture during last 30 days (or since last assessment if less than 30 days)**	○	○	○	○
NEUROLOGICAL				
c. **Alzheimer's disease**	○	○	○	○
d. **Dementia other than Alzheimer's disease**	○	○	○	○
e. **Stroke/CVA**	○	○	○	○
CARDIAC OR PULMONARY				
f. **Atherosclerotic coronary disease**	○	○	○	○
g. **Chronic obstructive pulmonary disease**	○	○	○	○
h. **Congestive heart failure**	○	○	○	○
PSYCHIATRIC				
i. **Anxiety**	○	○	○	○
j. **Depression**	○	○	○	○
k. **Schizophrenia**	○	○	○	○
OTHER				
l. **Cancer**	○	○	○	○
m. **Diabetes mellitus**	○	○	○	○

2. OTHER DISEASE DIAGNOSES

0. Not present
1. Primary diagnosis/diagnoses for current stay
2. Diagnosis present, receiving active treatment
3. Diagnosis present, monitored but no active treatment

	Diagnosis	Disease Code 0 1 2 3	ICD-10 Code
a.		○ ○ ○ ○	
b.		○ ○ ○ ○	
c.		○ ○ ○ ○	
d.		○ ○ ○ ○	
e.		○ ○ ○ ○	
f.		○ ○ ○ ○	

[Add additional lines as necessary for other disease diagnoses]

SECTION J. HEALTH CONDITIONS

1. FALLS

- ○ 0. No fall in last 90 days
- ○ 1. No fall in last 30 days, but fell 31-90 days ago
- ○ 2. One fall in last 30 days
- ○ 3. Two or more falls in last 30 days

2. PROBLEM FREQUENCY

Code for presence in last 3 days

0. Not present
1. Present but not exhibited in last 3 days
2. Exhibited on 1 of last 3 days
3. Exhibited on 2 of last 3 days
4. Exhibited daily in last 3 days

	0	1	2	3	4
BALANCE					
a. **Dizziness**	○	○	○	○	○
b. **Unsteady gait**	○	○	○	○	○
CARDIAC					
c. **Chest pain**	○	○	○	○	○
PSYCHIATRIC					
d. **Abnormal thought process** - e.g., loosening of associations, blocking, flight of ideas, tangentiality, circumstantiality	○	○	○	○	○
e. **Delusions** - Fixed false beliefs	○	○	○	○	○
f. **Hallucinations** - False sensory perceptions	○	○	○	○	○
GI STATUS					
g. **Acid reflux** - regurgitation of acid from stomach to throat	○	○	○	○	○
h. **Constipation** - no bowel movement in 3 days or difficult passage of hard stool	○	○	○	○	○
i. **Diarrhea**	○	○	○	○	○
j. **Vomiting**	○	○	○	○	○
SLEEP PROBLEMS					
k. **Difficulty falling asleep or staying asleep; waking too early; restlessness; non-restful sleep**	○	○	○	○	○
l. **Too much sleep** - Excessive amount of sleep that interferes with person's normal functioning	○	○	○	○	○

3. DYSPNEA (Shortness of breath)

- ○ 0.Absence of symptom
- ○ 1. Absent at rest, but present when performed moderate activities
- ○ 2. Absent at rest, but present when performed normal day-to-day activities
- ○ 3. Present at rest

4. FATIGUE

Inability to complete normal daily activities (e.g., ADLS, IADLS)

- ○ 0. ***None***
- ○ 1. ***Minimal*** - Diminished energy but completes normal day-to-day activities
- ○ 2. ***Moderate*** - Due to diminished energy, unable to FINISH normal day-to-day activities
- ○ 3. ***Severe*** - Due to diminished energy, unable to START SOME normal day-to-day activities
- ○ 4. ***Unable to commence any normal day-to-day activities*** - Due to diminished energy

5. PAIN SYMPTOMS

[Note: Always ask the person about pain frequency, intensity, and control. Observe person and ask others who are in contact with the person]

a. **Frequency with which person complains or shows evidence of pain (including grimacing, teeth clenching, moaning, withdrawal when touched or other non-verbal signs suggesting pain)**

- ○ 0. Not present
- ○ 1. Present but not exhibited in last 3 days
- ○ 2. Exhibited on 1-2 of last 3 days
- ○ 3. Exhibited daily in last 3 days

b. **Intensity of highest level of pain present**

- ○ 0. No pain
- ○ 1. Mild
- ○ 2. Moderate
- ○ 3. Severe
- ○ 4. Times when pain is horrible or excruciating

c. **Consistency of pain**

- ○ 0. No pain
- ○ 1. Single episode during last 3 days
- ○ 2. Intermittent
- ○ 3. Constant

d. **Breakthrough pain (course of pain)** - Times in last 3 days when person experienced sudden, acute flare-ups of pain

- ○ 0. No
- ○ 1. Yes

41766

interRAI Community Health Assessment (CHA) ©

e. **Pain Control**
Adequacy of current therapeutic regimen to control pain (from person's point of view)
- ○ 0. No issue of pain
- ○ 1. Pain intensity acceptable to person; no treatment regimen or change in regimen required
- ○ 2. Controlled adequately by therapeutic regimen
- ○ 3. Controlled when therapeutic regimen followed, but not always followed as ordered
- ○ 4. Therapeutic regimen followed, but pain control not adequate
- ○ 5. No therapeutic regimen being followed for pain; pain not adequately controlled

6. INSTABILITY OF CONDITIONS

	No	Yes
a. **Conditions or diseases make cognitive, ADL, mood or behaviour patterns unstable** (fluctuating, precarious, or deteriorating)	○	○
b. **Experiencing an acute episode or a flare-up of a recurrent or chronic problem**	○	○

7. SELF-REPORTED HEALTH

Ask *"In general, how would you rate your health?"*
- ○ 0. Excellent
- ○ 1. Good
- ○ 2. Fair
- ○ 3. Poor
- ○ 8. Person could not (would not) respond

8. LIFESTYLE

a. **Smokes tobacco daily**
- ○ 0.No
- ○ 1. Not in last 3 days, but is usually a daily smoker
- ○ 2. Yes

b. **Alcohol - Highest number of drinks in any "single setting" in last 14 days**
- ○ 0. None
- ○ 1. 1
- ○ 2. 2-4
- ○ 3. 5 or more

SECTION K. NUTRITIONAL STATUS

1. NUTRITIONAL ISSUES

	No	Yes
a. **Weight loss of 5% or more in last 30 days, or 10% or more in last 180 days.**	○	○
b. **Dehydrated or BUN/Cre ratio > 25**	○	○
c. **Fluid intake less than 1,000 cc per day (less than four 8oz cups/day)**	○	○
d. **Fluid output exceeds input**	○	○

SECTION L. MEDICATIONS

1. LIST OF ALL MEDICATIONS

List all active prescribed medications of the last 3 days, and any non-prescribed (over the counter) medications taken in the **last 3 days**.
[NOTE: Where possible, use computerized records. Hand enter only when absolutely necessary.]
For each drug, record:

a. Name - Record the name of the medication

b. Dose - A number such as 0.5, 5, 150, 300 [NOTE: Never write a zero by itself after a decimal point (X mg). Always use a zero before a decimal point (0.X mg)]

c. Unit

gtts	drops	mcg	microgram	ml	millilitre	%	percentage
gm	gram	mEq	milliequivalent	oz	ounce		units
L	litre	mg	milligram		puffs	OTH	other

d. Route of administration - Code using the following list:

PO	by mouth	IV	intravenous	TOP	topical	ET	enteral tube
SL	sublingual	Sub-Q	subcutaneous	IH	inhalation	TD	transdermal
IM	intramuscular	REC	rectal	NAS	nasal	OTH	other

e. Frequency - Code the number of times per day, week, or month the medication is administered using the following list:

Q1H	every hour	Daily	once daily	Q2D	every other day	5W	5 times weekly
Q2H	every 2 hours	BID	2 times daily	Q3D	every 3 days	6W	6 times weekly
Q3H	every 3 hours		(includes every 12 hours)	Weekly	once every week	1M	monthly
Q4H	every 4 hours	TID	3 times daily	2W	2 times weekly	2M	twice every month
Q6H	every 6 hours	QID	4 times daily	3W	3 times weekly	OTH	other
Q8H	every 8 hours	5D	5 times daily	4W	4 times weekly		

f. PRN - 0. No 1. Yes

g. Computer-entered drug code [Example Canada - DIN]

	a. **Name** (continue on reverse of form if necessary)	b. **Dose**	c. **Unit**	d. **Route**	e. **Freq.**	f. **PRN** No	f. **PRN** Yes	g. **Computer-entered drug code**
1						○	○	
2						○	○	
3						○	○	
4						○	○	
5						○	○	
6						○	○	
7						○	○	
8						○	○	
9						○	○	
10						○	○	
11						○	○	
12						○	○	

[Note: Add additional lines as necessary, for other drugs taken]
[Abbreviations are Country Specific for Unit, Route, Frequency]

interRAI Community Health Assessment (CHA) ©

2. ALLERGY TO ANY DRUG

○ 0. No Known Drug Allergies ○ 1. Yes

SECTION M. TREATMENT AND PROCEDURES

1. PREVENTION

	No	Yes
a. Blood pressure measured in last year	○	○
b. Colonoscopy test in last 5 years	○	○
c. Dental exam in last year	○	○
d. Eye exam in last year	○	○
e. Hearing exam in last 2 years	○	○
f. Influenza vaccine in last year	○	○
g. Mammogram or breast exam in last two years (for women)	○	○
h. Pneumovax vaccination in last 5 years	○	○

2. HOSPITAL USE, EMERGENCY ROOM USE, PHYSICIAN VISIT

Code for number of times during the last 90 days (or since last assessment if within 90 days)

a. Inpatient acute hospital with overnight stay

b. Emergency room visit (not counting overnight stay)

c. Physician visit (or authorized assistant or practitioner)

SECTION N. SOCIAL RELATIONSHIPS

1. STRONG AND SUPPORTIVE RELATIONSHIP WITH FAMILY ○ 0. No ○ 1. Yes

SECTION O. ENVIRONMENTAL ASSESSMENT

1. FINANCES Because of limited funds, during last 30 days made trade-offs among purchasing any of the following: adequate food, shelter, clothing; prescribed medications; sufficient home heat or cooling; necessary health care. ○ 0. No ○ 1. Yes

SECTION P. DISCHARGE

[Note: Complete Section P at discharge only]

1. LAST DAY OF STAY

a) Year: ○ 1 ● 2 — ○ 8 ○ 9 ● 0 — ○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7 ○ 8 ○ 9 ○ 0 — ○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7 ○ 8 ○ 9 ○ 0

b) Month: ○ January ○ February ○ March ○ April ○ May ○ June ○ July ○ August ○ September ○ October ○ November ○ December

c) Day: ○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 — ○ 7 ○ 8 ○ 9 ○ 10 ○ 11 ○ 12 — ○ 13 ○ 14 ○ 15 ○ 16 ○ 17 ○ 18 — ○ 19 ○ 20 ○ 21 ○ 22 ○ 23 ○ 24 — ○ 25 ○ 26 ○ 27 ○ 28 ○ 29 ○ 30 — ○ 31

2. LIVING STATUS AT DISCHARGE

○ 1. Private home/apartment/or rented room
○ 2. Board and care or assisted living
○ 3. Mental health residence - e.g., psychiatric group home
○ 4. Group home for persons with physical disability
○ 5. Setting for persons with intellectual disability
○ 6. Psychiatric hospital or unit
○ 7. Homeless (with or without shelter)
○ 8. Long-term care facility (nursing home)
○ 9. Rehabilitation hospital/unit
○ 10. Hospice facility/Palliative care unit
○ 11. Acute care hospital
○ 12. Correctional facility
○ 13. Other
○ 14. Deceased

SECTION Q. ASSESSMENT INFORMATION

1. SIGNATURE OF PERSON COORDINATING/COMPLETING THE ASSESSMENT

a. Signature (sign in box below)

b. Date assessment signed as complete

a) Year: ○ 1 ● 2 — ○ 8 ○ 9 ● 0 — ○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7 ○ 8 ○ 9 ○ 0 — ○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7 ○ 8 ○ 9 ○ 0

b) Month: ○ January ○ February ○ March ○ April ○ May ○ June ○ July ○ August ○ September ○ October ○ November ○ December

c) Day: ○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 — ○ 7 ○ 8 ○ 9 ○ 10 ○ 11 ○ 12 — ○ 13 ○ 14 ○ 15 ○ 16 ○ 17 ○ 18 — ○ 19 ○ 20 ○ 21 ○ 22 ○ 23 ○ 24 — ○ 25 ○ 26 ○ 27 ○ 28 ○ 29 ○ 30 — ○ 31

9.0 GLOSSARY

Acronyms/ Abbreviations	Meaning
RAI HC	Residential Assessment Instrument –Home Care (MDS HC plus the CAPS)
MDS HC	Minimum Data Set – Home Care
CAPS	Clinical Assessment Protocols (embedded in the RAI HC)
MDS 2.0	Minimum Data Set (Nursing Home instrument from which RAI HC was developed)
interRAI CHA	Residential Assessment Instrument – Community Health Assessment (part of the new suite of interRAI instruments being developed)
CCAC	Community Care Access Centre
OACCAC	Ontario Association of Community Care Access Centres
CSA	Community Support Agency
interRAI	Group of International researchers (www.interrai.org)
CPS	Cognitive Performance Scale
IADL	Instrumental Activities of Daily Living
ADL	Activities of Daily Living
DRS	Depression Rating Scale
SRI	Self-Reliance Index
Maple	Method of Applying Priority Levels (used to define light-care)
CHESS	Changes in Health, End-stage disease and Sign and Symptoms
Informal care	Care provided by family/friends/neighbours
VTE /HTE	Vertical Target Efficiency / Horizontal Target Efficiency
AdHOC	Aged in Home Care Project (Carpenter *et al*., 2004)

10.0 ETHICS APPROVAL

Certificate FormB

UNIVERSITY OF WATERLOO
OFFICE OF RESEARCH ETHICS

Feedback on Ethics Review of Application to Conduct Research with Humans

All research involving human participants at the University of Waterloo must be carried out in compliance with the Office of Research Ethics Guidelines for Research with Human Participants and the Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans.

ORE File #: 12852

Project Title: Home Care in Ontario: Limited resources and the needs of light care clients

Faculty Supervisor: Dr. John P. Hirdes — **Department/School:** Health Studies & Gerontology
Student Investigator: Norma Jutan — **Department/School:** Health Studies & Gerontology

The above research application has undergone ethics review through the Office of Research Ethics and received the following ethics review category:

☑ **Full Ethics Clearance.** The application is considered acceptable on ethical grounds and complies with ORE Guidelines for Research with Human Participants and the Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans. No revisions are required.

☐ **Full Ethics Clearance*.** The application is considered acceptable on ethical grounds and complies with ORE Guidelines for Research with Human Participants and the Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans. *** Minor/editorial revisions are required** as outlined in a transmitted email. Revised materials must be provided for the ORE file.

CONDITIONS ASSOCIATED WITH FULL ETHICS CLEARANCE:
1. Ethics clearance is valid for four years from the date FULL ethics clearance is granted.
2. Projects must be conducted in accordance with the description in the application for which full ethics clearance is granted. All subsequent modifications to the protocol must receive prior ethics clearance through the Office of Research Ethics.
3. An annual progress report (ORE Form 105) must be submitted for ethics review for each year of an ongoing project.
4. Any events, procedures, or unanticipated problems that adversely affect participants must be reported to the ORE using ORE Form 106.

☐ **Provisional Ethics Clearance.** The following revisions and/or additional information must be provided for ethics review and are requested within **10 days**. A study may not begin until it receives FULL ethics clearance.

- ☐ Information Letter was not provided and is required for ethics review.
- ☐ Information Letter provided is incomplete and requires revisions outlined in transmitted email.
- ☐ Information Letter and Consent Form were not provided and are required for ethics review.
- ☐ Information Letter and Consent Form provided are incomplete and require revisions outlined in transmitted email.
- ☐ Copy of interview/survey questions was not provided and is required for ethics review.
- ☐ Other revisions/information are required as outlined in transmitted email.

☐ **No ethics clearance status assigned.** Due to the level and/or number of questions and concerns raised during the ethics review process no ethics clearance status was assigned at this time. Comments are summarized in the attached ethics review feedback. A new application is required.

Susan E. Sykes, Ph.D., C.Psych.
Director, Office of Research Ethics
OR
Susanne Santi, M. Math
Manager, Research Ethics

2/6/06
Date