

INTER-REGIONAL COMPARISONS IN THE PATTERN
OF USE AND NEEDS FOR INSTITUTIONAL CARE

CENTRE FOR NEWFOUNDLAND STUDIES

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**INTER-REGIONAL COMPARISONS IN THE PATTERN OF USE AND NEEDS
FOR INSTITUTIONAL CARE**

by

Susan N. Stuckless

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ABSTRACT

As the percentage of elderly people increases so does the demand for long-term care services. To ensure that the elderly will be properly cared for in the future, the efficiency of resource utilization needs to be maximized. As a result, the current study looked at the appropriateness of client placement and the annual demands for long-term care in both Western and Labrador health care regions of Newfoundland and Labrador. Comparisons were then made to findings in the St. John's region.

The appropriateness of client placement, the efficiency of the single entry system and an estimate of the annual demands for long-term care were determined for both Western and Labrador using study populations of 178 and 51 respectively. A tendency to recommend clients for a higher level of care than they required was consistent with previous findings in the St. John's region. The percentage of clients suffering from impaired cognition was also high and Labrador had long waiting times for placement and a high occupancy rate of acute care beds by clients awaiting placement.

To overcome the issue of inappropriate placement, minimal criteria for placement into supervised care and nursing home care facilities may need to be established. Alternate housing facilities for those with low to modest disability and those suffering from impaired cognition may also reduce the number of inappropriate nursing home placements. To reduce waiting list sizes and time to placement, waiting lists must follow some management scheme, such as placement based on assessed need, and target times for placement must be developed.

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CHAPTER I

Introduction

1.1 Aging

As we move into the next century, the aging of our population will become one of the major issues for our health care system. The most notable social and economic trends of the past century-increases in national wealth, rising real incomes, increasing personal consumption, and substantial investments in health and social welfare programs-have led directly to the growth of the population age 65 and older in advanced industrialized nations. (Clouser 1992) In Newfoundland, as well as in the rest of Canada, seniors represent one of the most rapidly growing segments of our population. In 1998, 11.3% of Newfoundland's population was 65 years of age and older and it is projected that by 2002 this proportion will have increased to 12.1%. For Canada as a whole, it is estimated that seniors will represent 36.8% of the population within the next 40 years.

The aging of the Canadian population combined with population growth and the increasing risk of aging related diseases will have a dramatic impact on the provision of health care, especially on the long-term care (LTC) sector for the frail elderly. (Wigle 1995) This growth in the elderly population will necessitate the development of public policies that will control costs while effective services are developed and extended and alternative models of care are introduced. (Manton 1991)

In Newfoundland, the demographic challenge soon to be posed by aging baby boomers, and the change in age distribution, due to out migration of younger people and

low birth rates, will only serve to increase the strain already being experienced by the LTC sector. The aging baby boomers will mean larger cohorts reaching ages where extensive health care use is high and greater life expectancies, due to advances in medical research, will increase the number of years for which an individual will require this care. These baby boomers will reach old age with a higher level of education than today's elderly population, they will be financially more autonomous, and because of greater life expectancy, they will probably be more demanding in regard to quality of life. (Carriere 1995) Also, as younger people move away and as family sizes decrease, the care of elderly relatives will shift from family to LTC facilities. To meet these increasing demands for LTC, methods must be put in place to ensure that the elderly are receiving appropriate care and are placed in appropriate LTC settings.

The changes in the numbers and proportions of elderly create constraints and pressures upon resources and services and decisions must be made on how much medical intervention to undertake, for whom, using what criteria, at what cost limitations and paid by whom. (Thompson 1990) However, it is not the aging of our population that threatens to precipitate a financial crisis in health care, but a failure to examine and make appropriate changes to our health care system, especially patterns of utilization. The question, therefore, is not how to stop population aging, but how to plan for it. (Grigsby 1991) Any crisis that occurs will result from our failure to address the question of how research, education, patterns of clinical care and the organization of our system are affecting current health care provision for elderly people. (Dalziel 1996) We must ensure that our health care system, especially the LTC sector, is able to handle and accommodate

the increasing demand being placed on it. The needs of elderly individuals must be assessed in order to determine the appropriate use of resources so that the efficiency of resource utilization is maximized.

1.2 Significance of the Study

This study was conducted on behalf of the government of Newfoundland and Labrador and is part of an ongoing project in this province. Three regions of the province have been studied to date and other regions are currently under study with data collected in one of the regions. Government wants to ensure that our elderly population will be adequately cared for and supported in the future. Based on information gained from differing regions of the province, government will be able to plan for the care needs of seniors across the province. Each region of the province requires special attention because the facilities and services required by one region may not be what is needed for other regions. Government will be able to determine the demand for future long-term care and to plan for residential and other long-term care services that regions of the province will require. This provincial outlook will help maximize the efficient utilization of long-term care resources and help provide the necessary information for developing alternatives to the existing long-term care facilities and services.

CHAPTER II

Long-Term Care

2.1 Definition

Continuing or long-term care refers to institutional or community-based care provided for persons with a chronic illness or disability. This care should respond to the recipient's social, recreational, psychological, spiritual and physical needs. Persons are assisted to achieve and maintain their maximum potential levels of health and ability.

Long-term care also refers to a continuum of services, including nursing, medical, social, and personal care, that may be provided over an extended period in a variety of settings.

(Ross 1998)

2.2 Financing of Long-Term Care in Canada

The Canadian Constitution divides powers between the federal and provincial levels of government such that the organization and delivery of health care is a provincial issue. Currently, the federal government provides partial funding, through transfer payments, for provincial health care systems. Before the late 1970's, the federal government paid for approximately fifty percent of all insured health services developed by a province. However, in 1977 the federal contribution to health care funding was changed to "block grants" based on population and other parameters. Under the block grant system, funding was no longer linked exclusively to insured health services, i.e. hospitals and medical care, and provinces could direct funds to extended health care services such as long-term residential and home care. (Hollander 1995, Jacobs 1997)

Responsibility for and funding of long-term care has been fragmented and uneven, even within provinces. (Crichton 1997) In 1994 Saskatchewan developed a population based funding system for hospital, nursing home (NH), home care and public health services. The existing hospital, nursing home, and public health boards were replaced by regional health boards in each region. These boards were responsible for all primary hospital care, provincially provided nursing home care, home care, and public health services. Per-capita rates were based on province wide utilization and costs for each age/sex group and then regional funding was set according to the age and sex structure for each region. The regional boards received the funds and were in charge of allocating the services. (Jacobs 1997)

Alberta and Ontario soon followed Saskatchewan's regional funding system with Ontario regionalizing only home care and Alberta regionalizing all institutional and public health services. British Columbia also implemented a regionalized model for the delivery of a wide range of health services including hospitals, long-term care, home care, mental health, and public health services. (Jacobs 1997) Building on the British Columbia experience, recent trends have been to consider integrated models of care with regional bodies given the responsibility and finances to provide and co-ordinate the full range of medical and social services seniors require. (Bergman 1997)

In Canada, nursing home care has traditionally been provided by a mixture of for-profit and non-profit (voluntary) providers. Clients that enter these facilities are a mixture of self-pay and provincial pay clients. The majority of homes that are for-profit receive funding for the care of persons who are eligible for the provincial long-term care

program under the provincial government and the remaining few house clients who pay the full cost of their care. Since long-term care is not defined as “medically necessary”, provincial pay clients may be charged an accommodation or user fee. The provinces set these rates on a per diem basis and these rates apply to both for-profit and non-profit nursing homes. (Jacobs 1997)

A monthly payment is collected in long-term care facilities in all provinces. In Alberta, accommodation charges for residents are indexed quarterly, based on payments residents receive from their Old Age Security, Guaranteed Income Supplement and the Alberta Assured Income Plan. British Columbia sets its accommodation charge at 85% of the combined total of the Old Age Security and Guaranteed Income Supplement and has an additional rate based on a sliding scale of assessed ability to pay. (Jacobs 1997)

2.3 Financing of Long-Term Care in Newfoundland

In Newfoundland, the provincial government currently estimates that the average cost of care in a nursing home is \$4200.00 per month. This average cost is independent of the care needs of the occupant. Clients in these beds are charged up to \$2800.00 per month again regardless of the level of care required. The remaining balance is paid by provincial subsidy. However, most nursing home residents can only contribute about \$950.00 per month and comes mainly from their Old Age Security and Guaranteed Income Supplements. Therefore, the direct cost to government could be as high as \$3250.00 per month. All nursing homes in the province receive these government subsidies with the exception of one facility in the St. John’s region that is privately owned and operated and cares for clients with high levels of need.

The government contribution for clients in a supervised care bed is dependent upon whether the bed is subsidized and whether the facility meets government approval. Facilities that cater to clients with lower level care needs can apply for approval from the government. If given approval, these facilities must meet certain standards and provide certain services, however, this approval does not imply that beds within the facility will be subsidized.

Before 1994 most approved personal care homes were subsidized. However, some areas of the province, such as Conception Bay South, soon had an excess of available subsidized beds and because of this excess, government put a freeze on the number of subsidized beds allowed for the province. Since then new facilities have been built and older ones have been expanded. These new beds are not subsidized, so owners of personal care homes charge what they feel clients can pay. This charge is based upon the clients combined Old Age Security and Guaranteed Income Supplements and amounts to \$905.30 per month for a single person and \$733.94 per month each for a married couple.

In Newfoundland and Labrador, personal care homes are permitted to charge a resident \$923.00 per month in a subsidized bed, but there is no set charge for non-subsidized beds. Clients in subsidized beds with low income are given a “comfort” allowance of \$125.00 per month and the remainder of their OAS/GIS income is used to pay the personal care home charge. Therefore, the government pays the remaining balance of around \$143.00 per month for most subsidized personal care home residents.

Also, separate from the bed specific subsidy, all approved personal care homes with at least six residents receive a subsidy of \$29,000.00 per year for night security.

2.4 Long-Term Care Options Elsewhere

Due to the relatively recent nature of the continuing care industry and the distinction between insured health and extended health care services, each province and territory of Canada has developed their own unique long-term care system. Provinces and territories therefore differ in the services they provide, the relative distribution of services, the categorization of clients and services, the policies and procedures that are in place, and other matters. (Jacobs 1997)

In Canada, provinces have the constitutional responsibility for the delivery of health care services. British Columbia has developed an efficient, effective and integrated system of health care service delivery for the elderly and disabled that is well regarded within the province, and is recognized both nationally and internationally. This system is called the Continuing Care System and the services are delivered from three programs: the Long-Term Care Program, the Community Home Care Nursing Program, and the Community Rehabilitation Program. Long-term care clients, both residential and community based, are categorized into one of five distinct levels of care: personal care, intermediate care 1, intermediate care 2, intermediate care 3, and extended care. The Continuing Care System provides long-term care-residential services, long-term care-community services, short stay assessment and treatment centres, clinical services and other services. (Hollander 1995)

Long-term care-residential services are provided by Family Care Homes, Continuing Care Facilities and Extended Care Units. Family Care Homes are single, family residences that accommodate one or two Long-Term Care Program clients and are similar to adult foster care. Continuing Care Facilities are Personal and Intermediate Care Facilities and private, non-acute hospitals. These facilities provide care at a variety of levels for those who can no longer live at home due to health and social problems that make independent living unsafe and impractical. Extended Care Units are for persons who are categorized as requiring the extended level of care and who, because of chronic illness and functional disability, require long-term hospitalization, but not all the resources of an acute, rehabilitation, or psychiatric hospital. (Hollander 1995)

Meal Programs, Adult Day Care, Group Homes and Homemaker Services are all provided by long-term care-community services. The Meal Programs are voluntary community services that provide a hot nutritious meal. The client can have the meal delivered to their home by Meals-on-Wheels or they can be driven to a community centre or a care home for a meal by Wheels-to-Meals. Adult Day Care programs provide personal assistance, supervision and an organized program of health, social and recreational activities in a group setting. Group Homes are private, independent residences. They enable a disabled individual to increase their independence through a pooling of group resources. Homemaker services are provided to clients who require non-professional assistance with care needs or housekeeping tasks. (Hollander 1995)

The Assessment and Treatment Centres provide short-term diagnostic and treatment services in a special unit within an acute care hospital. The Clinical Services

are provided through the Community Home Care Nursing Program, which provides comprehensive nursing care to individuals in their home, and by the Community Rehabilitation Program. Other services affiliated with the Continuing Care System are Special Extended Care Units, Discharge Planning Units and Quick Response Teams. (Hollander 1995)

Long-term care assessment and case management, nursing services provided in the home, and rehabilitation services are provided directly by municipal or provincial government employees. All other services are provided by not-for-profit, or for-profit, service provider agencies external to the Ministry of Health. (Hollander 95)

The provincial commitment to long-term care in Manitoba started with the New Democratic Party (NDP) provincial government in 1973-74. This government was elected on a social policy platform that had a strong focus on providing services to the elderly. Over the years, policymakers and providers of care have come to a consensus on the values and governing philosophy of their long-term care system. First, Manitobans concluded that universality and systemization go hand in hand, and that these qualities should govern the long-term care system. Second, Manitobans have concluded that long-term care is essentially social, not medical, care. Finally, the Manitoba long-term care system, while centrally administered, operated on the belief that local communities should have a large part in determining the type of services delivered in their communities, and the programs offered should meet the community needs and resources. (Berdes 1996)

Manitobans are strong believers that social care is of equal value to medical care and thus should have an equal call to available funds. This belief was expressed by Manitoba long-term care researcher Evelyn Shapiro:

If we opened our eyes and looked around, and if professional and medical aspects of aging were not clouding our vision, we would have perceived long ago that the need for long-term institutionalization, as well as the need for long-term care at home, both arise for social reasons. The major difference between the two types of long-term care is that facility care is needed where the individual's housing arrangements and social resources are so minimal or nonexistent for day-to-day living that care at home is not viable. The institution then becomes the most appropriate place both for economic and social reasons, i.e., it is more economical because many more persons can be served by the same allocation of resources, and it is more humane because it offers greater opportunity for socialization and participation to persons who would otherwise be almost completely isolated from others, especially from a community, however small, of peers. If we recognize that people enter a long-term care institution primarily for social reasons (even though these reasons result from their functional disabilities), we would be providing a different environment than we do now in most of our long-term care facilities, and we would be in a better position to extend our resources to serve specific target groups in the community (Shapiro, 1982, p.8).(Berdes 1996)

Manitoba has established two processes that drive the long-term care system: client needs assessment and care coordination. The long-term care system was developed to care for elderly persons who were at *risk*, i.e., those who needed long-term care. The Manitoba Continuing Care Program employed care coordinators who were responsible for assessment of care needs as well as coordination of home care. This assessment of care needs was then used to establish risk for each elderly client. (Berdes 1996)

The Manitoba long-term care system was designed as a multiple entry system. Clients were referred to and accepted by the Continuing Care Program from a variety of sources. However, the Continuing Care Program was solely responsible for referral to a

personal care home, an adult day care, respite care, and several other services. The assessment for care by the care coordinators served as a single entry point to the long-term care system. The coordinators determined if an individual needed long-term care and if so, what long-term care services they required. (Berdes 1996)

The Manitoba long-term care system employed an hierarchial system of four levels of care. The level of care denoted not only the intensity of care required by the patient, but also the amount of long-term care, irrespective of whether it was delivered in an institution or at home. Care was provided by continuing care (home care), day hospital care, personal care home (nursing home), adult day care and respite care, and chronic care hospitals (providing a higher level of care than is available in personal care homes). Many other services both supported and elaborated the system. (Berdes 1996)

2.5 Long-Term Care in Newfoundland

Access to LTC varies not only between the provinces of Canada but also within provinces. In Newfoundland, each region differs with respect to the number of institutional beds available per unit population and also by the subsidies provided for some of these beds. There are three basic options for LTC in Newfoundland: nursing home care, supervised care (personal care homes), and home care. Nursing homes are meant to provide level 2, 3 and 4 care whereas personal care homes (PCH) provide care to level 1's. There are no set criteria for the levels of care, but level 1 corresponds to approximately 1 hour of care per day, level 2 corresponds to 2 hours of care per day, and level 3 and 4 correspond to 3 and 4 hours of care per day.

In Newfoundland, nursing homes provide twenty-four hour supportive and physical care and are staffed by appropriate health care professionals. Personal care homes, on the other hand, provide limited physical care (usually assistance with personal care) and maintenance services (meals, housekeeping, etc.). Personal care homes are intermediate care facilities in that they provide care at a level between nursing homes and home care services. Personal care homes provide institutional care in a facility that promotes greater autonomy and independence and is less restrictive than a nursing home. Finally home care includes community services such as “Meals on Wheels”. The Western region also has a congregate housing facility but such alternatives to institutional long-term care are very rare and are currently being evaluated as viable options for intermediate care.

Institutional care is provided by nursing homes, personal care homes, and congregate housing. All nursing homes are publicly funded and are operated by a mix of public and private non-profit organizations. There is, however, one facility in the St. John’s region which is privately owned and operated and caters to patients with high levels of need. Some PCHs receive government subsidies but the distribution of these subsidies varies from region to region. All PCHs are privately operated and are almost entirely for-profit facilities. Those receiving subsidies are regulated and monitored by Community Health on an ongoing basis, however, those without subsidized beds can voluntarily meet standards but are not regulated to do so. Therefore, adequate care cannot be ensured. The remaining facilities are owned and operated by the private sector.

Home care is provided by both the provincial government and the private sector. Provincially funded home care varies between regions and is most developed in the St. John's area. The private sector offers home care services that are provided by both private for profit and private not-for-profit organizations.

2.6 Single Entry System

Provinces differ in who authorizes entry to the long-term care sector and in the criteria used to determine placement. In some jurisdictions there is a single source of assessment and referral for nursing home care, community care, and home-based long-term care. (Jacobs 1997) This single point of assessment and referral is referred to as a "single-entry system" and it is designed to provide a continuum of care for persons requiring long-term care. A continuum of care can be defined as a means whereby people are enabled to move, when necessary, from one health care locus to another more appropriate place smoothly, expeditiously, and in line with their priority of need. (Shapiro 1993) The single entry system allows for a more accurate assessment of the need for LTC. It is designed to identify the nature and extent of functional abilities, the degree of informal supports available, and the applicant's financial circumstances. A number of provinces have adopted the single-entry system of placement including Manitoba, British Columbia, New Brunswick, and Newfoundland.

Manitoba implemented a province-wide continuing care program in 1974 and a key component of the program was its single-entry system for LTC. The basic policies of the program are as follows: 1) it is a multiple entry program. Persons can apply on their own or be referred by anyone (physician, family, friend, etc.); 2) Eligibility is determined

by a professional assessment of need. The assessment forms are standardized but additional assessments by other professionals may be sought, depending on the circumstances of referred persons and their families; 3) Services are provided on the basis of assessed need. (Shapiro 1993)

If home care is assessed as the most appropriate solution, services are provided to meet the basic, supportive, and remedial needs of individuals and their families. On the other hand, if nursing home care is assessed as the required type of care, then the recommendation must go to a panel. For individuals who appear to need this long-term facility care, three additional steps are added after the assessment of need is completed and before the decision to institutionalize is made. Individuals must first sign a formal, written application, requesting placement and must indicate the facility in which they would prefer to be placed in. Secondly, the individual's physician must complete a one-page, written, clinical assessment form. Finally, a panel, usually consisting of a geriatrician, a senior continuing care nurse, and a social worker, must reassess the situation on the basis of the completed forms and any other additional information that may be provided by the individual's assessment team. (Shapiro 1993)

For each individual, the panel can decide to postpone decision-making to get further clinical, social, or functional information; refuse placement on the grounds that it is unnecessary at this time; or recommend placement, with or without home care services, while the patient is awaiting admission. If placement is recommended, the panel decides the care level required and the degree of urgency involved in placement. Only assessed

need determines admission, and only priority of need, aside from bed availability in the home of choice, determines waiting time to entry. (Shapiro 1993)

One of the key features of British Columbia's Long-Term Care Program was also its single entry system. The single entry system, in which the Long-Term Care Assessors/Case Managers serve as the gatekeepers of the system, ensures that services are provided only to those with appropriate need. The Long-Term Care Assessors/Case Managers serve as an initial point of contact to prospective clients. Clients or their families contact these people and they come and perform their initial assessment of the client. They determine the client's level of care and then develop a care plan and ensure that needed care services are obtained. (Hollander 1995)

The client is placed, or provided care in any of the components of the service delivery system, whether these services are provided in institutions, the community or the clients home. In addition, the Long-Term Care Assessors/Case Managers maintain the waiting lists and notify facilities of the next available client. Clients can have their names placed on two waiting lists, a preferred (first) choice, and an alternate (second) choice. Clients who are placed in an alternate choice can keep their position on the waiting list for their preferred choice and be transferred when their name reaches the top of the list. Since facilities are notified of the next available client, the potential practice of facilities selecting clients who are the easiest to manage, or those who need comparatively fewer services is prevented. Also, the waitlists are constructed on a chronological basis and no distinction is made regarding where the client is residing at the time of the assessment.

This policy ensures that clients are treated on an equal basis, however, if the needs of the client are of an emergency nature the client may be placed more rapidly. (Hollander 1995)

The single entry system increases the overall efficiency of the Long-Term Care Program because it minimizes the probability that unnecessary care may be provided. It also provides a single focal point for “one stop shopping” which means that individuals do not have to speak to multiple sources to find out what services are available and how they may be assessed. (Hollander 1995)

In 1995, Newfoundland adopted a “Single Entry System” so that the need for LTC could be accurately assessed. Prior to this, clients could apply separately to any number of facilities and each facility in turn would do their own independent assessment to determine whether a client would be placed on their waiting list. Therefore, a client could have been on more than one waiting list, leading to an incorrect assumption about the demand for LTC and the size of the current waitlist.

All clients who feel the need to enter a LTC facility must first apply to the single entry system. After applying, clients are assessed by a placement committee panel. It should be noted that the panel does not deny placement to an applicant who is seeking institutional care. In other words, the type of placement requested by the client, whether it is NH care or SC, is the only option assessed by the committee. They do not seek any alternatives for long-term care. Clients may also express a preference for a particular facility and may not be required to accept earlier placement in another facility if their facility of choice is not currently available. There has been one exception to this since August 1999 in the St. John’s region. Clients who are now waiting for institutional long-

term care from an acute care bed are transferred to a transitional unit in St. John's and are then placed in the first available facility that can provide the necessary care. If this facility is not their facility of choice then they may be put on the waitlist for that facility.

Manitoba, unlike Newfoundland and Labrador, will refuse placement if it is felt that institutional placement is unnecessary. Also, in Manitoba, placement is determined on the basis of assessed need. The client and panel determine, in conjunction with each other, the type of care required, whether it is home care or institutional care. In Newfoundland and Labrador, however, placement is determined by the type of placement requested by the client, no other alternative options are assessed. Therefore, in Newfoundland and Labrador, client preference determines admission and bed availability determines waiting time to entry. In British Columbia, however, client placement is determined based on both assessed need and waitlist position. Admission is determined by assessed need and waiting time to entry is determined by their position on the waitlist not their priority of need.

CHAPTER III

Review of Literature

3.1 Methods Used for Assessment of Need

In any health care system, strategies for targeting limited resources are required to maximize the benefits from those resources. (Quartararo 1995) Maximizing resource utilization in the long-term care sector requires improvement of how placement decisions are made for clients. Before a client enters a long-term care facility, his/her appropriate level of care needs should be determined, and then, based on the individual's care needs, placement should be assigned. Presently, these determinations are usually made implicitly, using fairly broad guidelines. Appropriate level of care and placement decisions could be greatly improved upon if the decisions could be made in an objective and reproducible manner, based on data easily collected from client assessments and supporting documentation. (Kane 1981)

Broadly speaking, client assessment is a procedure which has developed during the past twenty years with the purpose of making more objective the process of determining the proper placement of clients and/or determining the needs of clients for care and services. (Becker 1982) Decision-making in LTC is influenced by assessments in several areas of functional ability including physical, cognitive and social dimensions.

There are an abundance of measures of functional ability in the elderly that are published in the scientific literature. Most of this work has been stimulated and refined based on work performed by Katz and colleagues in the 1960's.(O'Reilly 1998) Most of

these assessment instruments measure either activities of daily living (ADLs), mobility, or selected nursing care needs and services.(Hawes 1995) The vast majority rate an elderly persons' ability to perform ADLs which include activities such as bathing, dressing, grooming, transferring, toileting and eating. Some of the newer assessment tools now collect data on more complex activities, such as doing housework and managing finances. These activities are referred to as instrumental activities of daily living (IADLs).

The need for uniform assessment in LTC has been recognized as being central to maximizing the physical functioning and quality of life of residents in LTC. (Hawes 1995, Morris 1990) The Institute of Medicine recognized this need for resident assessment and noted the following:

Providing high quality of care requires careful assessment of each resident's functional, medical, mental and psychosocial status upon admission, and reassessment periodically thereafter, with change in status noted [The] development of individual plans of care clearly depend on resident assessments (1986).(Morris 1990)

The objective of any assessment instrument should be to indicate the need for nursing home care and to identify those who may benefit from a more detailed assessment and/or other care facilities and services. (Quartararo 1995)

In 1988, the Health Care Financing Administration (HCFA) contracted with the Research Triangle Institute, Hebrew Rehabilitation Center for Aged, Brown University and the University of Michigan to develop and evaluate a uniform resident assessment instrument. This led to the development of a resident assessment instrument that

consisted of two interrelated components. The first component, the Minimum Data Set (MDS), contained the necessary items for a comprehensive assessment of nursing facility residents. Individual items or combinations of MDS elements were then used to identify residents for whom specific Resident Assessment Protocols (RAPs), the second part of the system, were completed. RAPs were then used to inform the care planning process. (Morris 1990)

The MDS was developed based on four fundamental goals. The first required that the MDS replace the non-uniform and cursory assessment. The second required that it stimulated learning, changed the ways in which many nursing homes used resident-specific information, and that it facilitated integration of the assessment and care planning information. The third required that it enhanced quality of life through improved care planning and provision. Finally, the model should be developed in such a way that it could be continually updated in the future. To accomplish these goals the MDS had to incorporate measures of physical health, functional status, psychosocial well being, dietary status, comprehension, vision, hearing, communication skills, activity preferences, potential for self-care improvement, and indicators of quality of life. (Morris 1990)

Since its initial stages, an extensive process of developing and reviewing multiple drafts of the MDS has been undertaken. The current MDS that is used by HCFA as the national resident assessment instrument contains 18 sections comprising multiple items that address a particular area or domain of function. It includes more than 300 items that address key elements of a nursing home residents' functional status, health conditions, services received, demographics, and certain important programmatic items such as

payer, presence of advanced directives, and family participation in the assessment. Not only does the MDS focus on function but it also addresses the residents' preferences and customary routines and captures strengths as well as care needs. (Hawes 1995)

Patient classification systems have been used for several decades in acute care hospitals to assist in determining the nurse staffing requirements. However, it has only been more recently that patient classification systems have been developed for long-term care. In 1986, the province of Alberta began the development of such a system and in 1988 they introduced the patient (now called resident) classification system (RCS). The objectives of the RCS were (1) to measure the care requirements of long-term care residents and to provide a means of grouping these residents, and (2) provide case-mix information that could be used as a basis for funding resident care services. (Armstrong 1994, Charles 1992)

Prior to the development of the Alberta Resident Classification System, there were other provinces in Canada that had implemented some type of resident classification system such as Quebec, Manitoba and British Columbia. Quebec's system was in the early stages of development and was not evaluated, however, the other two systems were reviewed and one was even pilot tested in Alberta but the decision was made to develop and test a new classification system for several reasons. First, it was recognized that the existing systems were not adequate for capturing residents' psychosocial and rehabilitation care requirements. Second, they wanted a system that could be subjected to statistical testing prior to its implementation. Finally, the government of Alberta wanted a system which not only measured the proportion of clients in a given category of care in

any facility, but also the overall care requirements of each facility relative to other facilities and the system average. (Charles 1992)

Initially, the first version of the ARCS contained five domains: activities of daily living (ADLs), behaviors of daily living (BDLs), continuing care requirements, therapeutic interventions and programs, and external demand or family participation in care. A study was then undertaken in which both classification data and resource use data were collected and measured. (Charles 1992) Criteria were also developed to determine which indicators in each domain should be retained in the final version of the classification system. The indicators had to reflect the services required not services provided, capture the variation among residents on that specific variable, predict the nursing resource use, be stable over time assuming the patient's condition was unchanged, minimize the negative impact on the resident, not be redundant and not easily manipulated by the providers. (Armstrong 1994, Charles 1992)

From the study, four indicators in the ADL domain were retained. They included the need for assistance with eating, toileting, dressing and transferring. Two indicators in the BDL domain were also retained and they dealt with the frequency of nursing intervention required for (1) residents with difficulty coping with problems of everyday living, and (2) resident behaviors that put the resident and others at risk for injury. Also included in the final version of the ARCS were two indicators in the continence level of care (CCLs) domain, namely, the level of assistance required for urinary incontinence and bowel incontinence. (Armstrong 1994, Charles 1992)

Residents are classified into one of seven categories, A to G, which are rank ordered from low to high in terms of nursing care requirements and a measure of nursing resource use. These categories are derived from the interrelationships among ADL, BDL and incontinence levels of care. (Armstrong 1994) This classification system provides data from which information regarding classification indicators, levels of care, and categories of care at the individual, facility, long-term sector, and total long-term care facility system level of analysis. (Charles 1992) The RCS was not developed for policy and planning purposes but it is believed that the classification data obtained by this system may be useful to serve these two purposes. (O'Reilly 1997) However, others feel that the Alberta system does not differentiate between patients with differing levels of clinical complexity, is sensitive to assumptions in the grouping algorithm, and does not provide groupings that are homogeneous to resource requirements. (Hirdes 1996)

In 1991, after the implementation of the Alberta Resident Classification System (ARCS), the Alberta government developed the Home Care Client Classification (HCCC) System to measure the home care needs of long-term care clients in the province. The classification process is integrated with the assessment process and is based upon indicators of assessed need in two key areas: functional need and adequacy of informal support. (Health and Welfare Canada 1992)

The HCCC System is derived directly from information that is collected on the Alberta Assessment and Placement Instrument (AAPPI). This placement instrument is completed for all potential long-term care clients in Alberta. The HCCC System consists of two components: classification of client need and classification of the client's informal

support system. Classification of home care client need is determined by the same indicators used by the RCS to determine resident need: activities of daily living, behaviors of daily living, and incontinence levels of care. Also, both systems classify client need by the letters A to G, with A representing the lowest category of need and G the highest. (Health and Welfare Canada 1992)

Classification of the client's informal support system is determined based upon indicators in the following three domains: availability of the primary caregiver, capacity of the primary caregiver, and availability of other informal supporters. The degree of informal support available to the client is described by the numbers 1 to 4, with 1 representing the highest level of informal support available and 4 the lowest. If a client has no primary caregiver they are automatically assigned a classification of "4". (Health and Welfare Canada 1992)

Overall, a client's classification is determined by the combination of a letter (A-G) reflecting the client's need, and a number (1-4) reflecting the client's informal support. The HCCC System determines client classification through the following *Home Care Formula*, which is applied during the assessment process:

$$\begin{array}{l} \text{Functional} \\ \text{Needs} \\ \text{Of Client} \end{array} - \begin{array}{l} \text{Adequacy of the} \\ \text{Client's Informal} \\ \text{Support} \end{array} = \begin{array}{l} \text{Need for} \\ \text{Home Care} \\ \text{Intervention} \end{array}$$

The relationship between these two variables determines the degree and intensity of home care intervention that is required. Measurement of one variable alone is not sufficient in

classifying client need. The HCCC System determines client classification. (Health and Welfare Canada 1992)

In 1985, Fries and Cooney, conducted a study of 1,469 patients in Connecticut nursing homes in order to determine a classification system for long-term care patients. The classification system related resident characteristics to resource use and measured the variation in day-to-day resource use of elderly people based on these clinical characteristics. This measurement allowed for reimbursement policies that could be linked to case-mix classification systems. It also allowed for the first time, the use of patient characteristics to determine the relative care needs of groups of patients. (Fries 1985) This classification system grouped nursing home residents into nine Resource Utilization Groups, each of which contained patients relatively homogeneous in the amount of time required for their care, particularly nursing care time. (Cooney 1985)

The latest version of Resource Utilization Groups, RUGs-III, was designed to provide superior discrimination in classifying low-volume/high-cost/high acuity patients by taking medical conditions, treatments/services and psychosocial factors into account in addition to ADL's and BDL's. (Botz 1993) It was developed to identify the unique combination of resident characteristics that result in differential patterns of resource utilization. (Hirdes 1997) Data of two types were involved: *measures of resource use and of resident characteristics*. (Clouser 1992) A major advantage of the RUGs-III is that it is based primarily on data elements available in the MDS. (O'Reilly 1998)

The RUGs-III system classifies nursing home residents into 44 distinct groups, constructed to explain resource use. (Ikegami 1994) The 44 RUGs-III categories are

derived from over 65 MDS variables including diagnosis, health conditions, medical treatments, special services, cognition, behavior problems, mood, activities of daily living, rehabilitation and psychiatric disorders. (Hirdes 1996) The RUGs-III system incorporates up to three dimensions in describing a resident. The first dimension indicates one of seven main clinical groups devised as hierarchy, ranked by cost (Special Rehabilitation; Extensive Services; Special Care; Clinically Complex; Impaired Cognition; Behavioral Problems; Reduced Physical Function). The second dimension is an ADL index, a summary measure of functional capability, produced by combining four ADL measures (toileting, eating, bed-to-chair transfer, and bed mobility). The final dimension describes particular services (such as nursing rehabilitation) or problems (such as resident depression). (Clauser 1992)

The assessment tools mentioned previously align a client's placement with his/her current service needs. These assessments are necessary but there may also be benefits in providing more comprehensive assessments that may identify treatable and reversible conditions that do not require the need for long-term care placement. Changes in care requirements and transitions between levels of care have been well established in the literature. One study found that shortly after admission, several areas of functional status (hygiene, grooming, dressing and transferring) improved, as did tired and depressed mood adjectives. (Engle 1993) Another study of over 9,500 elderly clients, found that while stability was the predominant pattern during the first ninety days after nursing home admission, 51.5% of residents experienced a change in function. This change in function usually represented an improvement rather than a decline and over 37% of these elderly

residents returned home. (Gillen 1996) Determination of these factors and conditions that lead to improvement over time may reduce the number of NH admissions and allow the elderly to live in the community for longer periods of time.

3.2 Factors Associated with Long-Term Care Placement

The aging of the population will be one of the most influential factors in the increased use of health care services in the coming years. It will undoubtedly have a dramatic impact on the number of elderly persons residing in institutions. The magnitude of this impact will depend upon the evolution of those socio-economic characteristics influencing the risk of institutionalization and the alternatives presented to the elderly population through the health care system. (Carriere 1995) Demographic, economic and humanitarian considerations are creating a growing demand for the development of alternatives to what is believed, at least in part, to be unnecessary, long-term care institutionalization. (Young 1994)

As their physical and mental faculties decline, many elderly persons have to give up their independent living arrangements in the community to move into institutions. (Kraus 1976, Glazebrook 1994) Due to the increase in expenditures related to the institutionalization of elderly persons, researchers have been trying to identify individual characteristics influencing the risk of nursing home entry. (Carriere 1995) Awareness of factors associated with institutionalization allows professionals to identify, assess, and monitor elderly persons whose characteristics place them at a higher risk for institutionalization. (Young 1994) There are many factors, both medical and social, which increase the risk of entering a long-term care institution. (Rockwood 1996)

Young et al. examined the association between disability and long-term institutionalization of the elderly. They found that none of the factors studied by others were associated consistently with institutionalization. However, while the results were not wholly consistent, impaired mental functioning and disabilities affecting activities of daily living most frequently distinguished the institutionalized from the non-institutionalized. For their own study, they used data from the 1986/87 Health and Limitation Survey (HALS) conducted by Statistics Canada. HALS consisted of two surveys, a household survey and an institutional survey. This led to a sample of 132,337 community dwelling subjects and 18,100 institutional subjects.

HALS is a cross-sectional study and does not provide evidence on the causes of institutionalization. It focuses on identifying factors associated with institutionalization. They found that persons having disabilities regarding agility, mental functioning or speech had a higher odds of institutionalization, and that a greater rate of institutionalization was associated with increasing age and being female. (Young 1994)

Several studies have examined the risks of institutionalization but only a few of them have had fully specified models using standard assessment instruments and others have used highly selected populations, therefore making their generalizability uncertain. The Canadian Study of Health and Aging (CSHA) provided an opportunity to examine large numbers of subjects using standard assessment instruments. Glazebrook et al. (1994) took advantage of this and conducted a case-control study to examine the risks of institutionalization in elderly people in Nova Scotia. The study consisted of 108

institutional-dwelling subjects and 533 community-living elderly from the Nova Scotia portion of the CSHA.

Glazebrook et al. (1994) used seventeen variables found in other studies to be important predictors of institutionalization to examine the relationship between socio-demographic and health characteristics and the risk of institutionalization. They also collected data on physical activity. They found, through multivariate analysis, that functional impairment in ADLs and IADLs, dementia, absence of a caregiver, poor self-rated health and recent hospitalizations were all associated with an increased level of institutionalization.

Earlier studies also found cognitive impairment to be an important predictor of entrance into a long-term care institution. This was again verified by the results of this study as dementia was found to be a highly significant predictor of institutionalization. These findings suggest that long-term care institutions should be prepared to deal with dementia and its concomitants, such as incontinence, functional dependence, and disturbed behavior. (Glazebrook 1994)

Carriere and Pelletier (1995) conducted a study to estimate the relationship between socio-demographic characteristics and the institutionalization of elderly persons in Canada. A previous study described the socio-demographic profile of the Canadian elderly population residing in institutions at that time. This univariate analysis revealed that age, sex, marital status, family income, and poor health could affect the likelihood of residing in an institution. Carriere and Pelletier further examined these variables through a multivariate model. They used cross-sectional data from the Survey of Old Age

Security and Canadian Pension Plan Retirement Recipients conducted in 1987 to evaluate the risk factors associated with institutionalization of elderly persons. They also used region of residence in their model to serve as a proxy for system effects. The study consisted of 5,681 subjects and included both elderly persons living in institutions and a representative sample of Canada's elderly population.

The multivariate technique used was logistic regression. It showed that age, marital status, health, family income, and region of residence all had a significant effect on institutionalization of the elderly. The results show that there does seem to be a significant difference between the various regions of Canada, regarding the likelihood of institutionalization. To explain this finding they looked at the specific policies and programs developed by the different provinces. (Carriere 1995)

Most provinces considered criteria of functional status and availability of informal support when making assessments for entry into a nursing home. However, that was where the similarities ended. They found that provinces differed in their criteria for entry into a nursing home, the availability and effectiveness of alternative solutions, the financial support for establishments, and particularly the bed supply. These system factors, therefore, seem to have an impact on the likelihood of institutionalization of elderly in different provinces. (Carriere 1995)

Another study conducted in Canada, by Rockwood et al. (1996), also examined factors associated with the institutionalization of older people. They felt that many prior studies did not include a comprehensive assessment of both medical and social risks nor

did they use samples that were generalizable to the elderly population as a whole. This study was the first phase of the Canadian Study of Health and Aging (CSHA).

Data were collected on 1258 older people residing in nursing homes and on 9413 community-living older people. Subjects were selected from across the country.

Through multiple logistic regression, Rockwood et al., found that female gender, being unmarried, absence of a caregiver, presence of cognitive impairment (including all types of dementia), functional impairment, diabetes mellitus, stroke, and Parkinson's disease were all independently associated with institutionalization.

Tsuji and others (1995) conducted a study to identify predictors for nursing home placement among a group of frail older patients receiving formal home care services coordinated by the Elder Housecall Program (EHP) at the Johns Hopkins Bayview Medical Center. They examined the relationship between a number of characteristics at entry into the program and the risk of subsequent entry into a nursing home.

Data were collected on 334 elderly individuals. Tsuji and others used Cox proportional hazards models to estimate the risk for nursing home placement associated with each study variable. Through multivariate analysis they found that the significant predictors were diabetes mellitus, bowel incontinence, and three caregiver characteristics: living separate from the patient, having time conflicts because of a job, and being stressed by caregiving.

This study indicates that the variables identified as significant predictors for institutionalization are highly dependent upon the nature of the study population. Among the general population, several studies have consistently shown that physical and/or

mental disabilities are the primary predictors for institutionalization. However, among selected frail older people, studies have shown that the relative importance of functional limitations was lessened or even insignificant if caregiving conditions were taken into account. (Tsuji 1995) The study by Tsuji and others was consistent with these findings and showed that the effect of disability became weaker and that of the caregiver's conditions became stronger as the study populations were more physically and mentally disabled.

Many of the previously mentioned studies were cross-sectional in design and were case-control. Therefore the results must be interpreted with care. It can be difficult to know the extent to which factors increase the risk of long-term care entry admission, or arise as a consequence of institutionalization. (Rockwood 1996) There is also the tendency to overestimate the risk conferred by the factors under study. (Glazebrook 1994) These studies do not provide evidence on determinants or causes of institutionalization, but focus on identifying factors associated with institutionalization. (Young 1994) Several of these factors have been consistent from study to study and therefore are not likely due to chance alone. They can therefore be used to explain the association between medical and social factors and institutionalization.

3.3 Decision Making in Long-Term Care

Studies have shown that many factors such as age, sex, functional impairment, and dementia, are associated with long-term institutionalization of the elderly. The problem is that these factors are associated with, and not necessarily causes of

institutionalization. Therefore, there are no clearly defined guidelines or methods for placing clients within the long-term care sector.

There are several factors besides clinical need, which affect the number of light-care residents who end up in nursing homes. First, there is no consensus on the best setting for any given clinical presentation. Also, disabled persons, their families, and their physicians may be ignorant of the full range of available care options. Second, many states regulate alternative settings, effectively reducing viable options. Third, public financing of long-term care currently favors nursing homes over other alternatives. Many areas fund nursing home care but limit support for care in lower-level settings. Moreover, eligibility requirements for nursing home care are often not as strict as those applied to home and community based care. Finally, the reimbursement systems and lack of adjustments for differences in case-mix create incentives to admit less impaired, lower cost residents. (Spector 1996)

Even though numerous changes have been made in the long-term care markets, there are still many individuals who are being inappropriately placed in nursing homes. In order to reduce unnecessary nursing home placement there are several considerations that must be taken into account before judgments about appropriate care settings can be made. First, the size of the population being inappropriately placed must be identified through clinical criteria. This is very difficult because there is no “gold standard” for nursing home placement. Second, the availability of alternative care settings and their ability to provide services must be determined. Third, the consumer preferences for the

non-clinical benefits of less restrictive settings must be taken into account. Finally, the issue of relative cost must be addressed. (Spector 1996)

As was previously stated, there is currently no gold standard for determining nursing home placement. Therefore decision-making in long-term care is very difficult. As in any health care system, strategies for targeting limited resources are required to maximize the benefits from those resources. For the long-term care sector, prevention of inappropriate nursing home admissions would maximize resource use. (Quartararo 1995) Therefore, researchers and planners have attempted to develop classification tools which will help assess the need for nursing home care and to identify those who may benefit from other care facilities and services. (O'Reilly 1997)

Quartararo and others (1995) conducted a study to develop a classification tool for predicting the need for nursing home care in a population of nursing home applicants. The baseline data for the 296 study subjects were collected as part of the Assessment for Admission to a Nursing Home Project. These data were used to construct several classification trees for decision-making in long-term care. The resultant trees were compared according to several criteria including complexity, sensitivity, and specificity.

The best performing tree was based on the Barthel and Mini-Mental State scores using a cutoff score of 65 for the former and 13 for the latter. A low Barthel score, that is high level of physical dependence, was sufficient to classify subjects for nursing home care whether or not dementia or cognitive impairment was also present. In the case of high Barthel scores, however, the decision was dependent on this information. (Quartararo 1995)

The combination used in the tree's construction is important for determining a requirement for nursing home care. Since the objective of the classification tool is to guide decision-making in long-term care, they should not be rigidly applied to individual clinical situations. A classification tree provides a logical predictive structure for a decision, is simple to follow, and could provide a useful clinical and screening tool but it should not be used to replace professional judgment. (Quartararo 1995)

Long-term care decisions are dependent on the range of care available, which is determined by changing government policy and private sector initiatives. (Quartararo 1995) The other important considerations needed for making placement decisions are the non-clinical benefits that lower levels of care provide (e.g., a more homelike environment). Long-term care facilities offer not only access to personal and medical care, but also a range of residential, social, and other services that contribute to quality of life. Therefore, persons with identical disabilities may value quality of care and quality of life differently, leading them to choose different care settings. (Spector 1996)

3.4 Summary

The anticipated growth of the elderly population over the course of the next decades, combined with an increasing number of elderly persons living alone and with life expectancy gains that may yield more years of disability, will create strong demand for institutional long-term care services. (Carriere 1995) Currently there are no clearly defined guidelines or methods for placing clients within the long-term care sector. There are many functional assessment tools available but none are adequate at defining what patient characteristics relate to the different care levels available. The ability to identify

patients who are at high risk for entering a nursing home could lead to an overall reduction in long-term care costs. Better “targeting” of clients might lead to better “economic success”. (Tsuji 1995)

Long-term care placement decisions are dependent upon the range of care available and require a thorough medical, nursing, and social evaluation. Many studies have shown that functional impairment and dementia are associated with institutionalization of the elderly. Therefore, future programs that are seeking to provide alternatives to institutionalization will need to be able to provide care to the very dependent elderly. Also, the importance of developing a strong network of informal support should be stressed to enable elderly persons to remain autonomous for as long as possible. Institutionalization of elderly persons should be a last resort solution, especially for those who are very dependent and near the end of their lives. (Carriere 1995)

CHAPTER IV

Study Design and Methods

4.1 Introduction

At the request of the provincial Department of Health and Community Services, studies were conducted to determine the pattern of use and demand for long-term institutional care in several regions of the province. O'Reilly et al conducted the first study in 1995-96 in the St. John's region. They studied an inception cohort of new clients applying for care in the St. John's region and also a cohort of clients on a waitlist on a single day. This study period began with the introduction of the "single-entry" panel assessment system in the region.

A second study was performed in 1997 and it looked at prevalent residents of long-term care institutions in the St. John's region. Both studies classified clients using the Alberta Resident Classification System (ARCS) and the RUGs-III system. The purpose of the 1995-96 study was to forecast annual demands for institutional long-term care in the St. John's region and the purpose of the 1997 study was to suggest the current required number of supervised care and nursing home beds for the St. John's region based on observed need.

In 1998 similar data were collected in the Western region and in 1999 data were collected in the Labrador region. These studies will be analyzed in the following chapters and compared to findings reported for the St. John's region. These three study regions make up close to 55% of the province's total population and the remaining 45% is found

in the other three Community Health Regions (Eastern, Central and Grenfell). The reasoning behind performing similar studies in other regions of the province were as follows:

- differences in institutional LTC exist between regions;**
- the availability of various types of LTC beds vary between regions;**
- the age distribution of each regions population may differ due to out-migration and low birth rates;**
- the social structure of non-urban parts of the province may differ quite dramatically from that in the St. John's region.**

The purpose of these studies was to aid future planning for the LTC sector, given problems with long waiting times and the probable mismatch between available services and demands. Future planning for LTC requires knowledge of annual client need determined by the annual incidence of new LTC clients, their expected resource utilization, and also by their clinical course. It also requires knowledge of the needs of current residents, assessed by their resource utilization and clinical course. Along with these issues, future planning also requires an adequate prediction of demographic change.

Included in this chapter are overview sections on the research design, study populations, classification systems, decision tree, ethical issues and statistical analysis.

4.2 Research Design

This study was conducted to examine the annual demands for institutional long-term care and to determine the efficiency of institutional long-term care placement in different regions of the province. It addresses the following issues:

- the characteristics of clients already in the LTC sector;
- the annual incidence of new clients entering the LTC sector;
- the predicted resource use of clients entering the LTC sector as determined by RUGs-III and ARCS classification;
- the appropriateness of client placement by comparing the decisions made by the research team using objective criteria and the actual placement determined by the single entry panel;
- the proportion of acute care beds occupied by clients awaiting LTC placement;
- the time to placement; and
- the characteristics of clients currently on the waitlist.

4.2.1 Sample Selection

This study included an inception cohort of new clients and a cross-sectional group of clients on the waiting list for LTC. Also included for study were current NH residents on a particular date. The inception cohort had contacted their respective Community Health Region Single Entry System for institutional placement and all were reviewed by the research panel during the year 1997-98 for Western and during the year 1998-99 for

Labrador. Similarly, all applicants on the waitlist as of November 12, 1998 in the Western region and as of March 15, 1999 in the Labrador region were reviewed.

4.2.2 Inclusion/Exclusion Criteria

For inclusion in the study, all clients must have been assessed by their respective Community Health Boards after requesting institutional placement. Clients were excluded from study if their applications were precautionary, they were transferred from one long-term care institution to another, their charts had missing data or they were classified as occupying a Department of Veterans Affairs (DVA) bed or respite care bed.

4.2.3 Data Collection Instrument

All clients were assessed by Community Health in their region using the Newfoundland and Labrador Continuing Care Assessment for Adult Long-Term Care. This assessment instrument gathers information on home supports, activities of daily living, degree of disability and various other clinical problems. The research team abstracted the data necessary to determine 1) the Alberta's HCCC System score; 2) the ARCS score; and 3) the RUGs-III category for each client. (Appendix A)

4.3 Study Populations

4.3.1 Annual Incidence Cohort

A list of clients seeking institutional placement in the long-term care sector was obtained for both the Western and Labrador regions. All clients who were seeking placement between April 1, 1997 and March 31, 1998 were included on the list for Western and all clients seeking placement between April 1, 1998 and March 31, 1999 were included on the list for Labrador. The total number of cases on the register for

Western was 227 and 78% (178) were included in the final analysis. The remainder were excluded for a variety of reasons (**Figure 4.1**). For Labrador, 51 out of 57 clients were included in the final analysis (**Figure 4.2**).

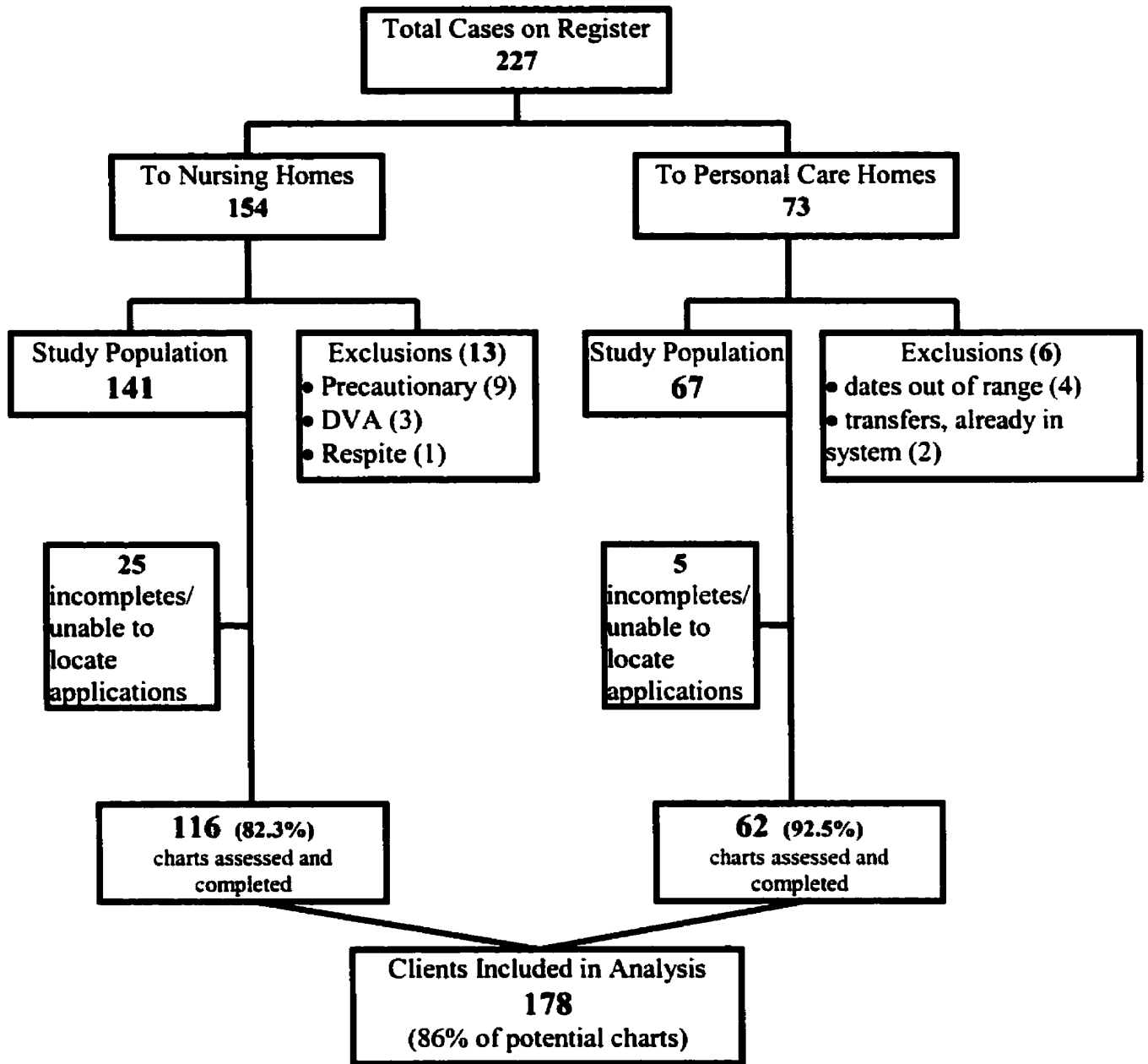


Figure 4.1 Annual Incidence Cohort Study Population-Western (n=178)

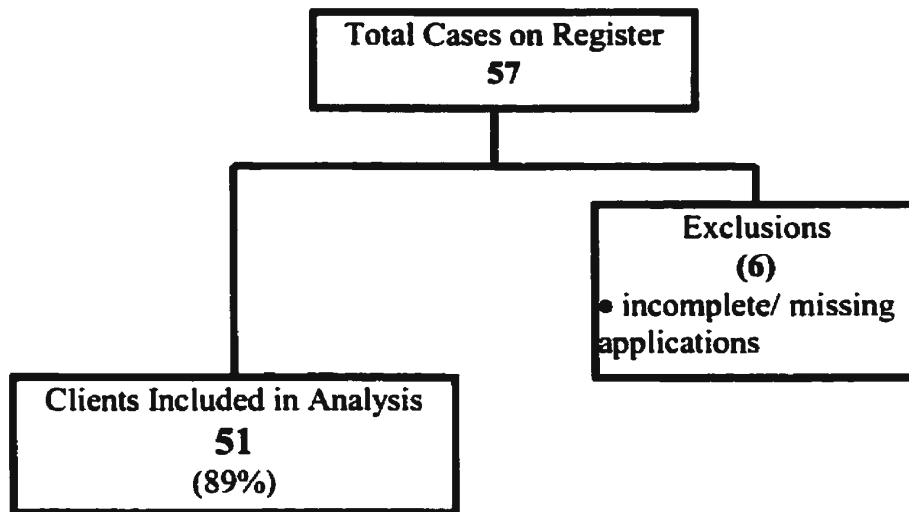


Figure 4.2 Annual Placement Cohort Study Population- Labrador (n=51)

4.3.2 Waitlist Cohort

A register was obtained from both the Western and Labrador Community Health regions of all the clients on the waitlist for long-term care placement. Clients on the waitlist as of November 12, 1998 were included on the list for Western and clients on the waitlist as of March 15, 1999 were included on the list for Labrador. The total number of cases on the register for Western was 86 and only 36 were included in the final analysis (**Figure 4.3**). There were 13 clients on the waitlist for Labrador and all were analyzed.

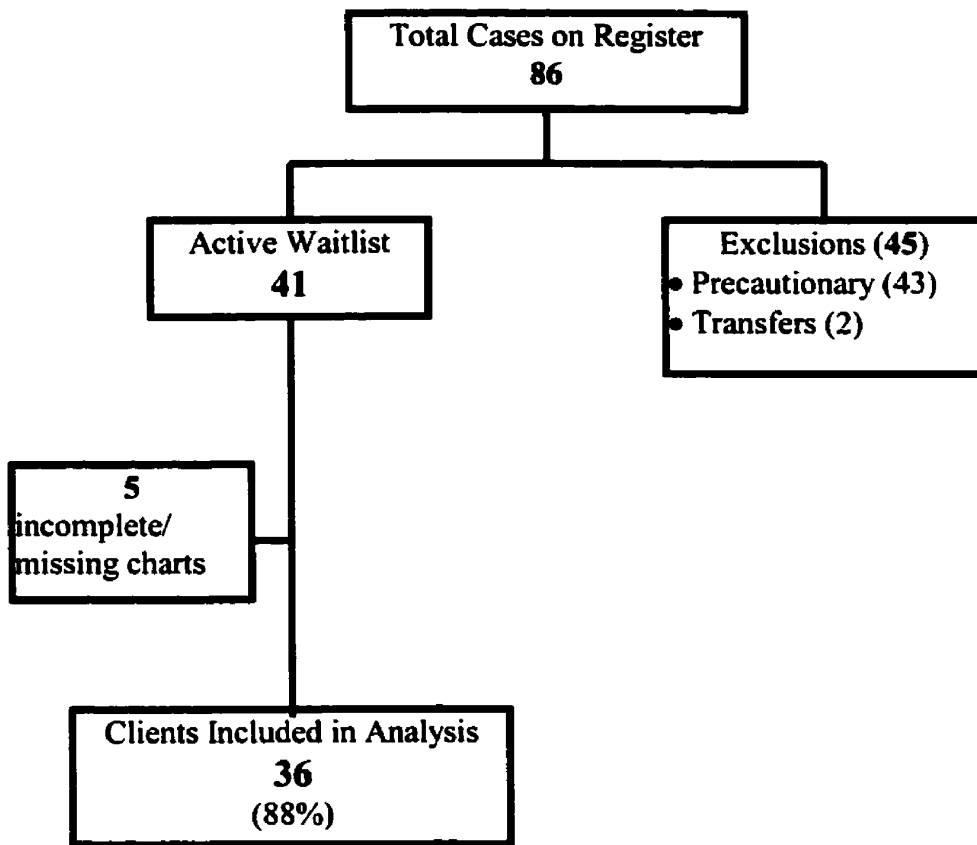


Figure 4.3 Waitlist Cohort Study Population-Western (n=36)

4.3.3 Nursing Home Cohort

A list of clients residing in nursing homes in both the Western and Labrador regions was obtained. For Western, 377 of the 452 beds allocated for nursing home care were assessed and analyzed (**Figure 4.4**). For Labrador, 92% of the beds allocated for nursing home care were included in the final analysis (**Figure 4.5**).

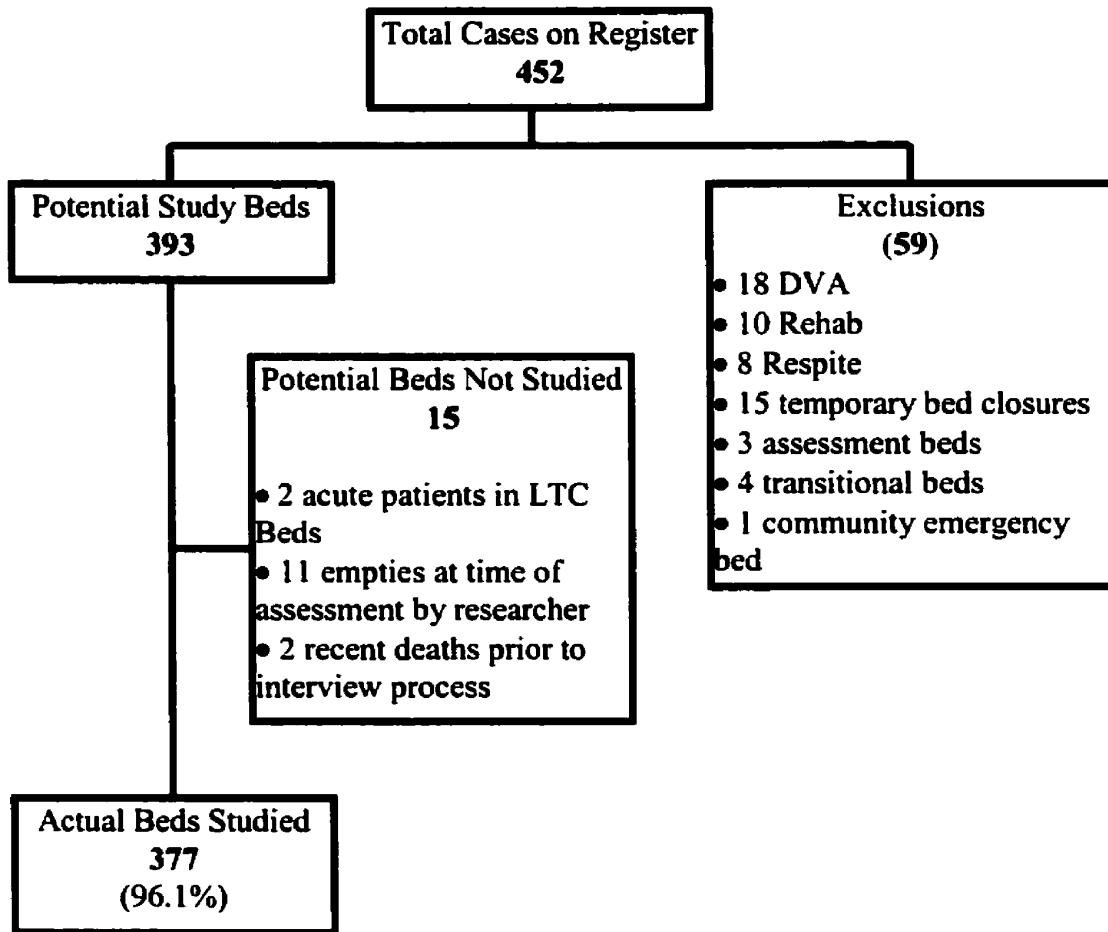


Figure 4.4 Nursing Home Cohort Study Population-Western (n=377)

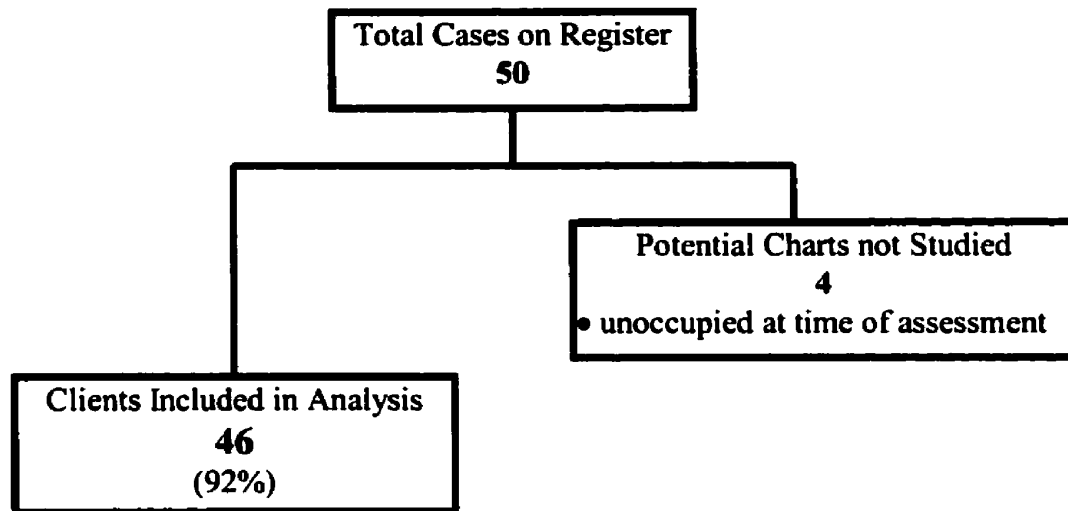


Figure 4.5 Nursing Home Cohort Study Population-Labrador (n=46)

4.4 Classification Systems

For this study, client assessment and determination of need for care was made using a combination of three classification systems.

4.4.1 Alberta’s Home Care Client Classification (HCCC)-Functional Need

Score

Alberta has developed the Home Care Client Classification System that consists of two components: classification of client need and classification of the client’s informal support system. Client need is indicated by a functional need score (FNS) that ranges from 0 to 5 with 0 being no need. The informal support component could not be used in the current study because the information needed to score this component was not available in the client’s chart. (Appendix B)

4.4.2 Alberta's Resident Classification System (ARCS)

The Alberta Resident Classification System was developed to assign nursing home residents a level of care based on the degree of disability using scales that integrate problems with activities of daily living, behaviors of daily living, and incontinence levels of care. Each level is associated with increased resource utilization and is measured by nursing time equivalent per day. (Appendix C)

4.4.3 Resource Utilization Groups Version III (RUGs-III)

As mentioned previously, Resource Utilization Groups, Version-III, is a classification system that attempts to explain the variation in nursing home resource use of elderly residents each day based on their clinical characteristics. The residents clinical characteristics are determined and assessed and then are used to define the appropriate level of care that the resident should receive. Each resident is classified into one of seven hierarchical groups and it assumes that these groups require the professional skills available in a nursing home. (Appendix D)

4.5 Decision Tree (Procedure)

All clients in the respective incidence cohorts for both Western and Labrador were assessed by the research team and classified into one of the following long-term care need categories: (1) care at home, (2) supervised care, or (3) nursing home care. To determine which category a client fell into, the following decision tree was used (Figure 4.6):

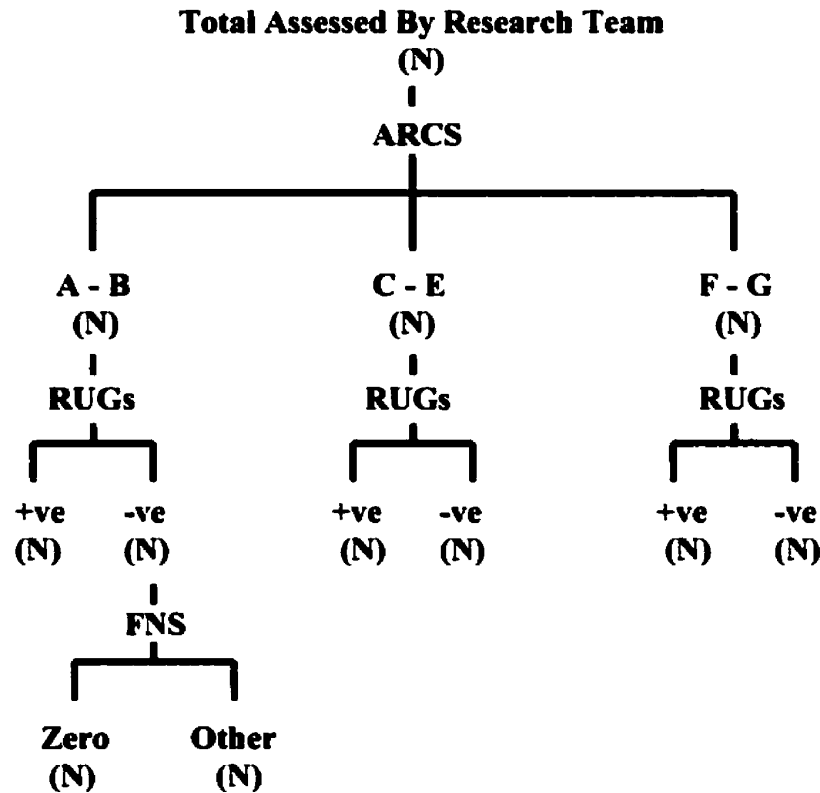


Figure 4.6 Decision Tree Used by Research Team

1. Alberta Resident Classification Scores (ARCS) were calculated for each client and clients were placed into one of three groups, ARCS of A-B, ARCS of C-E, and ARCS of F-G.
2. Clients in each of these groups were then checked to see if they fit into one of seven Resource Utilization Groups-Version III (RUGs-III) categories. The presence or absence of these clinical indicators was used to determine the appropriate placement.
3. Clients with low disability (A-B) and no RUGs were allocated to either “care at home” or “supervised care” based upon their functional need score (FNS). Those with a score of

zero were allocated to “care at home (no disability)” and the remainder were allocated to “supervised care”.

4. Those with modest disability (ARCS C-E) and no RUGs clinical indicators were allocated to “supervised care”. Those with high disability (ARCS F-G), regardless of having a RUGs clinical indicator or not, were allocated to “nursing home care”.

5. Finally, those with low to modest disability and RUGs clinical indicators were allocated to either “supervised care” or “nursing home care” based upon the type of indicator they had and the research team’s decision about whether these indicators actually required professional nursing care.

The research team consisted of Jackie McDonald, a Research Nurse Coordinator with experience in the long-term care sector and the assessment tools used, Dr. Brendan Barrett, a member of my supervisory committee and Associate Professor of Medicine, Dr. Patrick Parfrey, also a member of my supervisory committee and University Research Professor, and myself. The placement decisions were made by the research team based upon explicit criteria and comparisons were made between these decisions and those made by the placement committee.

4.6 Ethics

The study protocol was approved by the Human Investigations Committee of the Medical School at Memorial University of Newfoundland. Data was collected through chart abstractions and nurse observations and not client participation. Therefore, informed consent of the clients was not required. However, confidentiality was maintained by not using client identifiers on any study documents or reports.

4.7 Statistical Analysis

Data were analyzed using the Statistical Package for Social Sciences (SPSS). Descriptive statistics and graphs were used to summarize and illustrate the sample data. Cross tabulations were used to determine the appropriateness of the LTC placements by comparing the decisions made by the research team and the placement committee.

CHAPTER V

Results

This chapter is divided into five major sections, with each section containing data on both the Western and Labrador regions. The first section describes the type and rate of care provided by both regions at the time of the assessment.

The second section describes the characteristics of the three study populations for both Western and Labrador. Demographic information is given for the annual incidence cohorts, the waitlist cohorts, and the prevalent nursing home cohorts.

The third section of this chapter addresses the issue of appropriateness of client placement. Here a comparison will be made between the placement decisions made by the research team using objective criteria and the decisions made by the placement committee.

The fourth section deals with the efficiency of the single entry system to place clients in the long-term care sector. Factors such as waiting time to institutional placement, size of the waitlist, and occupancy of acute care beds are addressed.

The final section provides an estimate of the annual demands placed on the long-term care sector in both Western and Labrador. The annual demands for both supervised care and nursing home care are provided for both regions and are based on objective criteria.

5.1 Delivery and Rate of Long-Term Care

5.1.1 Long-Term Care in Western Newfoundland

As of 1998, the Western Community Health Region had a population of approximately 89,000, 4230 of whom were ≥ 75 years of age. Long-term care was provided by seven nursing homes, one hospital and twelve personal care homes. These long-term care facilities were distributed throughout the region with some areas of the region having either a nursing home or a personal care home, but not both.

The Western region currently has 424 beds allocated to nursing home care and 355 beds in personal care homes. Of these 355 beds, only 88 are subsidized. The rate of nursing home care per 1000 population ≥ 75 years of age is 100.2 and the rate for supervised care is 83.9 assuming 4230 people aged 75 years and older in the region. The rates of subsidized and non-subsidized care beds per 1000 population ≥ 75 years of age are 20.8 and 63.1 respectively.

5.1.2 Long-Term Care in Labrador

The Labrador Community Health Region currently has a population of approximately 25,000. Of this 25,000 only 270 are 75 years of age or older. Institutional long-term care is provided by one nursing home and one personal care home. Also, many long-term care clients are receiving care in protective care facilities. These facilities cater to individuals that cannot be adequately cared for in a nursing home or other institution due to impaired cognition and behavior problems

There are 53 beds allocated for nursing home care and 30 beds in a personal care home that provides supervised care. Of these 30 supervised care beds 20 are subsidized. The rate of nursing home care per 1000 population \geq 75 years is 196.3 and the rate for supervised care is 111.1. The rates for subsidized and non-subsidized care beds in the region are 74.1 and 37.0, respectively, per 1000 population \geq 75 years of age.

5.2 **Client Characteristics**

5.2.1 Annual Incidence Cohort

5.2.1a *Western Region*

One hundred and seventy-eight (86%) of the potential study population of 208 seeking institutional placement between April 1, 1997 and March 31, 1998 were studied. The large majority (87%) were from the Western region with less than half (44%) residing in their own homes while awaiting placement. Of those 178, 62 were recommended as requiring supervised care by the single entry system and the remainder were recommended for nursing home care. (Table 5.1)

The mean age, sex and area of residence were quite similar for those recommended for supervised care and nursing home care by the placement committee. Sixty-six percent of those recommended for supervised care were awaiting placement from the community at time of application compared to only 32% of those recommended for nursing home care. Of those recommended for supervised care by the placement committee, 94% had an Alberta Resident Classification Score of A-B, whereas 70% of those recommended for nursing home care had a score of C-G. (Table 5.2) Sixty-nine percent of those recommended for supervised care had no RUGs-III clinical indicators and 23% were classified as either having impaired cognition or behavior problems. Of those recommended for nursing home care 20% had no RUGs-III clinical indicators and over 26% suffered from either impaired cognition or behavior problems. (Table 5.3)

Table 5.1 Characteristics of the Western Annual Placement Cohort (n=178)

Mean age, yr. (range)	80.28 (37-96)	
	<u>n</u>	<u>%</u>
Female	93	52.2
<i>Area of Residence</i>		
Central	7	3.9
Western	155	87.1
Grenfell	13	7.3
Other	3	1.7
<i>Location at Application</i>		
Community	78	43.8
Acute Care Hospital	77	43.2
Chronic Care Hospital	17	9.6
Personal Care Home (PCH)	6	3.4
Type of Placement Recommended By Single Entry System		
Supervised Care	62	34.8
Nursing Home	116	65.2
Level I	1	0.6
Level II	60	33.7
Level III & IV	55	30.9

Table 5.2 Characteristics of Residents Recommended for Supervised Care and Nursing Home Care by Single Entry (Western)

	<i>SC</i> <i>(n=62)</i>	<i>NH</i> <i>(n=116)</i>
Mean age, yr. (range)	78 (37-93)	82 (53-96)
	<u>%</u>	<u>%</u>
Female	52	53
<i>Area of Residence</i>		
Central	3.2	4.3
Western	88.7	86.2
Other	8.1	9.5
<i>Location at Application</i>		
Community	66.1	31.9
Acute Care Hospital	32.3	49.1
Chronic Care Hospital	-	14.7
Personal Care Home (PCH)	1.6	4.3
<i>Nursing Home Resident Classification Score Group</i>		
A-B	93.5	30.2
C-E	6.5	37.1
F-G	-	32.8
<i>Level Of Care Recommended by Single Entry</i>		
1	88.7	0.9
2	11.3	51.7
3	-	47.4

Table 5.3 Comparison of RUGs-III Clinical Indicators for Clients Recommended for Supervised Care and Nursing Home Care by Single Entry (Western)

Clinical Indicators	SC (n=62) %	NH (n=116) %
- <i>Special Rehabilitation</i>	-	-
- <i>Extensive services</i>	-	-
- <i>Special Care</i>	-	-
- <i>Clinically Complex:</i>	8.0	27.8
Hemiplegia/Aphasia	-	16.4
UTI's	4.8	0.9
Resp/Oxygen Therapy	-	5.2
Dialysis	3.2	0.9
Wound Care	-	1.7
Pneumonia	-	0.9
Ventilator (<7 RUG's ADL)	-	0.9
Terminal Illness	-	0.9
- <i>Impaired cognition</i>	9.7	25.0
- <i>Behavior Problems</i>	12.9	1.7
- <i>Reduced Physical Function</i>	-	25.9
- <i>No Clinical Indicators</i>	69.4	19.8

5.2.1b Labrador Region

Eighty-nine percent, 51 out of 57, of the potential study population seeking institutional placement between April 1, 1998 and March 31, 1999 were included for analysis. The mean age was 76 with fifty-nine percent of those being male. Seventy-one percent of those recommended for placement were from the Labrador region and only 47% were awaiting placement from the community at the time of the assessment. The single entry system recommended 11 clients for supervised care and 40 clients for nursing home care. (Table 5.4)

Those recommended for supervised care were generally younger than those recommended for nursing home care. Ninety-one percent of those recommended for placement in supervised care were from the Labrador region compared to only 65% of those recommended for nursing home care. The large majority (82%) of those recommended for supervised care were awaiting placement from the community whereas over 60% of those recommended for nursing home care were awaiting from either an acute care or chronic care hospital. Over 90% of those recommended for supervised care had an Alberta Resident Classification Score of A-B compared to only 43% of those recommended for nursing home care. (Table 5.5) Sixty-four percent of those recommended for supervised care had no RUGs-III clinical indicators and the remaining 36% were classified as having behavior problems. The large majority of those recommended for nursing home care were classified as having impaired cognition or behavior problems and only 3% had no RUGs-III clinical indicators. (Table 5.6)

Table 5.4 Characteristics of the Labrador Annual Placement Cohort (n=51)

Mean Age, yr. (range)	75.6	(35-102)
	<u>n</u>	<u>%</u>
Male	30	59
<i>Area of Residence</i>		
Labrador	36	71
Northern	14	27
Other	1	2
<i>Location at Application</i>		
Community	24	47
Acute Care Hospital	24	47
Chronic Care Hospital (PCH, LAMC)	3	6
<i>Type of Placement Recommended by Single Entry System</i>		
Supervised Care	11	22
Level I NH	1	2
Level II NH	14	27
Level III & IV NH	25	49

Table 5.5 Characteristics of Residents Recommended for Supervised Care and Nursing Home Care by Single Entry (Labrador)

	<i>SC</i> <i>(n=11)</i>	<i>NH</i> <i>(n=40)</i>
Mean Age, yr. (range)	70 (35-88)	77 (41-102)
	<u>%</u>	<u>%</u>
Male	64	58
<i>Area of Residence</i>		
Labrador	91	65
Northern	9	32.5
Other	-	2.5
<i>Location at Application</i>		
Community	82	37.5
Acute Care Hospital	18	55
Chronic Care Hospital (PCH or LAMC)	-	7.5
<i>Nursing Home Resident Classification Score</i>		
A-B	91	42.5
C-E	9	32.5
F-G		25
<i>Level of Care Recommended by Single Entry</i>		
1	91	5
2	9	32.5
3	-	62.5

Table 5.6 Comparison of RUGs-III Clinical Indicators for Clients Recommended for Supervised Care and Nursing Home Care by Single Entry (Labrador)

<i>RUGs Clinical Indicators</i>	<i>SC (n=11)</i>	<i>NH (n=40)</i>
	<i>%</i>	<i>%</i>
<i>Special Rehabilitation</i>	-	2.5
<i>Extensive services</i>	-	2.5
<i>Special Care</i>	-	-
<i>Clinically Complex</i>	-	12.5
Hemiplegia/Aphasia		10.0
Terminal Illness		2.5
<i>Impaired Cognition</i>	-	55.0
<i>Behavior Problems</i>	36	2.5
<i>Reduced Physical Function</i>	-	22.5
<i>No Clinical Indicators</i>	64	2.5

5.2.2 Waitlist Cohort

5.2.2a *Western Region*

The clients on the waitlist at the time of the assessment, November 12, 1998, were similar to those in the annual placement cohort. The size of the waitlist at that time was 36. Fifty-three percent were female and the mean age was 77.6. The large majority (75%) were from the Western region with only 33% of the waitlist cohort awaiting placement from the community. All clients on the waitlist were recommended for nursing home care. Sixty-one percent were considered level 3 or 4, 36% were considered level 2 and one person was considered level 1. Approximately 28% had an ARCS score of A-B and 25% had an ARCS of F-G. (Table 5.7) Nineteen percent had no RUGs-III clinical indicators and 36% were classified as having impaired cognition. (Table 5.8)

5.2.2b *Labrador Region*

There were 13 clients on the waitlist as of March 15, 1999. Sixty-one percent were female and the mean age was 71 with 46% less than 75 years. Sixty-two percent of those awaiting placement were from the Labrador region with only 54% of the waitlist cohort awaiting placement from the community. Eleven clients were awaiting placement to a nursing home and the remainder were awaiting placement to a personal care home. The panel had identified 6 as level 3, 6 as level 2, and 1 as level 1. Five had a low ARCS score of A-B and 3 had high scores of F-G. (Table 5.9) Three had no RUGs-III clinical indicators and eight were classified as having impaired cognition. (Table 5.10)

Table 5.7 Characteristics of the Western Waitlist Cohort (n=36)

Mean age, yr. (range)	77.6 (51-89)	
	<u>n</u>	<u>%</u>
Female	19	52.8
<i>Area of Residence</i>		
Central	2	5.6
Western	27	75.0
Grenfell	7	19.4
<i>Location at Application</i>		
Community	12	33.3
Acute Care Hospital	10	27.8
Chronic Care Hospital	12	33.3
Personal Care Home (PCH)	2	5.6
<i>Nursing Home Resident Classification Score</i>		
A-B	10	27.8
C-E	17	47.2
F-G	9	25.0
<i>Level of Care Deemed by Panel</i>		
Level I	1	2.8
Level II	13	36.1
Level III & IV	22	61.1

Table 5.8 Resource Utilization Groups (RUGs-III) of Western Waitlist Cohort (n=36)

RUGs-III Indicators	<i>N</i>	<i>%</i>
Special Rehabilitation	-	-
Extensive services	-	-
Special Care	2	5.6
Tube Feeding	1	2.8
Hickman Cath.	1	2.8
Complex Care	6	16.7
Hemiplegia	4	11.1
Urinary Tract Infection	1	2.8
Vent/Resp & < 7 RUG	1	2.8
Impaired Cognition	13	36.1
Behavior Problems	-	-
Reduced Physical Function	8	22.2
No Clinical Indicators	7	19.4

Table 5.9 Characteristics of the Labrador Waitlist Cohort (n=13)

Mean Age, yr. (range)	77 (65-94)	
	<u>n</u>	<u>%</u>
Male	5	38.5
<i>Area of Residence</i>		
Labrador	8	61.5
Northern	5	38.5
<i>Location at Application</i>		
Community	7	53.8
Acute Care Hospital	5	38.5
Respite Care	1	7.7
<i>Nursing Home Resident Classification Score</i>		
A-B	5	38.5
C-E	5	38.5
F-G	3	23.0
<i>Level of Care Deemed by Panel</i>		
Level I	1	7.7
Level II	6	46.2
Level III	6	46.2

Table 5.10 RUGs-III Clinical Indicators for the Labrador Waitlist Cohort (n=13)

<i>RUGs Clinical Indicators</i>	<i>N</i>	<i>%</i>
Special Rehabilitation	-	-
Extensive Services	-	-
Special Care	-	-
Clinically Complex	<i>1</i>	<i>7.7</i>
Hemiplegia	<i>1</i>	<i>7.7</i>
Impaired Cognition	8	61.5
Behavior Problems	-	-
Reduced Physical Function	<i>1</i>	<i>7.7</i>
<i>No Clinical Indicators</i>	3	23.1

5.2.3 Prevalent Nursing Home Cohort

5.2.3a *Western Region*

Three hundred and seventy-seven (96%) of the potential study beds were included in the analysis. Sixty-nine percent of the nursing home residents were female and the mean age was 82. Ninety-six percent of the residents residing in the nursing homes were from the Western region. Thirty-four percent were classified as having low (A-B) ARCS. The panel had deemed approximately 1% of the nursing home residents as level 1, 19% as level 2, and 80% as level 3 to 4. The median time in institution was found to be approximately 1.9 years with a range of 1 day to 21.7 years. (Table 5.11) Approximately fifteen percent of the residents had no RUGs-III clinical indicators and the majority fell into one of three RUGs-III categories: complex care; impaired cognition; or reduced physical function. (Table 5.12)

5.2.3b *Labrador Region*

Ninety-two percent (46 out of 50) of the potential study beds were analyzed. The mean age of the nursing home residents was 78.5 and 46% were male. Ninety-four percent of those residing in the nursing home were from the Labrador region. Twenty-eight percent had a low ARCS score of A-B. Two percent were paneled as requiring level 1 care, 13% were paneled as requiring level 2 care, and 85% were paneled as requiring level 3 care. The median time residents spent in a nursing home was 2.7 years with a range of 21 days to 17.7 years. (Table 5.13) The majority of nursing home residents were classified as being either clinically complex or having reduced physical function and 9% had no RUGs-III clinical indicators. (Table 5.14)

Table 5.11 Characteristics of the Nursing Home Residents Within the Western Region (n=377)

Characteristic	#	%
Sex (female)	261	69.2
Mean Age, yr. (range)	81.5	(38-105)
Health Regions		
Central	4	1.1
Western	361	95.8
Grenfell	5	1.3
Other	7	1.9
ARCS Score Group		
A-B	89	23.6
C-E	69	18.3
F-G	219	58.1
Level of Care*		
Level I	6	1.6
Level II	69	18.7
Level III	284	77.0
Level IV	10	2.7
• 8 with LOC missing		
Median Time in Institution	1.9 yrs	(1 day-21.7 yrs)

Table 5.12 Resource Utilization Groups (RUGs-III) of Nursing Home Cohort (Western)

<i>Resource Utilization Groups</i>	<i>N</i>	<i>%</i>
Special Rehabilitation	<i>15</i>	<i>4.0</i>
Extensive services	<i>5</i>	<i>1.3</i>
Special Care	<i>19</i>	<i>5.0</i>
Complex Care	<i>103</i>	<i>27.3</i>
Impaired Cognition	<i>71</i>	<i>18.8</i>
Behavior Problems	<i>2</i>	<i>0.5</i>
Reduced Physical Function	<i>104</i>	<i>27.6</i>
No Clinical Indicators	<i>58</i>	<i>15.4</i>

Table 5.13 Characteristics of the Nursing Home Residents Within the Labrador Region (n=46)

<i>Characteristic</i>	<i>n</i>	<i>%</i>
Mean Age, yr. (range)	78.5	(41-102)
Sex (Female)	25	54
Health Region		
Labrador	43	93.5
Northern	3	6.5
ARCS Score Group		
A-B	13	28
C-E	9	20
F-G	24	52
Level of Care		
Level I	1	2.2
Level II	6	13.0
Level III	39	84.8
Median Time in Institution	2.7 yrs	(21 days-17.7 yrs)

Table 5.14 RUGs-III Clinical Indicators for Nursing Home Cohort (Labrador)

<i>RUGs Clinical Indicators</i>	<i>N</i>	<i>%</i>
Special Rehabilitation	-	-
Extensive Services	-	-
Special Care	2	4.3
Quadraplegia	2	4.3
Clinically Complex	18	39.1
Hemiplegia/Aphasia	10	21.7
Physician Visits > 4 per month	4	8.7
Respiratory/Oxygen Therapy	3	6.5
Cerebral Palsy	1	2.1
Impaired Cognition	8	17.4
Behavior Problems	-	-
Reduced Physical Function	14	30.4
<i>No Clinical Indicators</i>	4	8.7

5.3 Appropriateness of Client Placement

The appropriateness of client placement was determined using the decision tree constructed by the research team. **(Figure 4.6)** The decisions were made using objective criteria and were based upon the Alberta Resident Classification System scores and the Resource Utilization Groups-Version III.

Using the decision tree, the research team concluded that 5% (n=9) of clients recommended for institutional placement in the Western region had no demonstrable need for such placement. The research team also concluded that 55% (n=98) could be cared for in a supervised care environment and that the percentage requiring nursing home care was 40% (n=71). **(Table 5.15)** Of the 98 recommended for supervised care, 41 had low to moderate disability and impaired cognition. Twenty-seven of those clients were recommended for a NH due to lack of appropriate facilities not need. Also, of the 71 recommended for NH care, 33 had low to moderate disability with clinical problems that may or may not have required NH care depending upon the type and severity of the clinical problem. The SES had requested placement for 5 of these in a SC facility and 28 in a NH. Therefore, the percentage definitely requiring NH care could be as low as 21% (n=38).

This table also illustrates the difference in placement decisions made by the research team and single entry panel for the Western region. Of the 62 recommended for supervised care by the single entry panel, the research team concluded that 15% (n=9) could have been adequately cared for at home. Also, of the 116 clients recommended for nursing home care by the single entry panel, the research team decided that 43% (n=50)

could definitely have been cared for in a supervised care environment and that depending upon the clinical problems experienced by those with low to modest disability (n=28), this percentage could have been as high as 67%.

In the Labrador region, the research team concluded that all clients recommended for institutional placement required some type of institutional long-term care. The research team decided that 67% (n=34) could be cared for in a supervised care environment and that 33% (n=17) required the professional care provided in a nursing home. (Table 5.16) Of the 34 recommended for SC, 26 suffered from impaired cognition and low to modest disability. Twenty-two of these clients were recommended for NH placement due again to a lack of appropriate facilities. Seven of the clients recommended for NH care had low to modest disability and could possibly have been cared for in a SC facility depending upon the type and severity of clinical problems they suffered from.

Table 5.15 Comparison of Placement Decisions for the Annual Placement Cohort (Western)

<i>SES Decision</i>	<i>Research Team Decision</i>			<i>Total n(%)</i>
	<i>Home n(%) (no disability)</i>	<i>SC n(%) (low to moderate disability with no RUGs; low to moderate disability with impaired cognition)</i>	<i>NH n(%) (low to moderate disability with other clinical problems; high disability)</i>	
<i>SC</i>	<i>9 (14.5)</i>	<i>48 (77.4)</i>	<i>5 (8.1)</i>	<i>62 (34.8)</i>
<i>NH</i>	<i>-</i>	<i>50 (43.1)</i>	<i>66 (56.9)</i>	<i>116 (65.2)</i>
<i>Total</i>	<i>9 (5.1)</i>	<i>98 (55.0)</i>	<i>71 (39.9)</i>	<i>178 (100)</i>

Table 5.16 Comparison of Placement Decisions for the Annual Placement Cohort (Labrador)

<i>SES Decision</i>	<i>Research Team Decision</i>		
	SC n(%) (low to moderate disability with no RUGs; low to moderate disability with impaired cognition)	NH n(%) (low to moderate disability with other clinical problems; high disability)	Total n(%)
SC	<i>11 (100)</i>	-	<i>11 (21.6)</i>
NH	<i>23 (57.5)</i>	<i>17 (42.5)</i>	<i>40 (78.4)</i>
Total	<i>34 (66.7)</i>	<i>17 (33.3)</i>	<i>51 (100)</i>

From this table we see that the research team and the single entry system were in 100% agreement for those 11 recommended for supervised care by the single entry panel. However, of the 40 recommended for nursing home care by the single entry panel, 23 (58%) could have been cared for in a supervised care. A further 7 may also have required a SC environment depending upon the clinical problems they experienced. Therefore, the percentage of clients definitely requiring NH care could have been as low as 20% (n=10).

5.4 Efficiency of the Single Entry System

The efficiency of the SES can be determined by assessing the waiting times to institutional placement, the size of the waitlist and the proportion of acute care beds occupied by clients awaiting LTC placement.

5.4.1 Waiting Time to Institutional Placement

In Western the median time to placement in a supervised care bed was 12 days and for nursing home care it was 18.5 days. For an applicant seeking placement from the community, the median time to placement was 14 days. The median time to placement for those awaiting from an acute care hospital was 19 days and for those awaiting from a chronic care hospital it was 14 days. (Table 5.17)

For the Labrador region, the median time to placement for supervised care was 205 days and the median time to placement for nursing home care was 251 days. The median time to placement for an applicant seeking placement from the community was 218 days and for those seeking placement from a chronic care hospital it was 49 days. For an applicant seeking placement from an acute care hospital, the average waiting time was 237 days. (Table 5.18)

Table 5.17 Median Time to Placement in Supervised Care or Nursing Home Care by Place of Residence when Assessed (Western)

	<i>N</i>	<i>Days to Placement</i>
<i>Overall:</i>		
Supervised Care	<i>55</i>	<i>12</i>
Nursing Home Care	<i>106</i>	<i>18.5</i>
<i>Residence when Assessed:</i>		
Community	<i>69</i>	<i>14</i>
Acute Care Hospital	<i>73</i>	<i>19</i>
Chronic Care Hospital	<i>19</i>	<i>14</i>

Table 5.18 Median time to Placement in Supervised Care or Nursing Home Care by Place of Residence when Assessed (Labrador)

	<i>N</i>	<i>Days to Placement</i>
Overall:		
Supervised Care	11	205
Nursing Home Care	40	251
Residence when Assessed:		
Community	24	218
Acute Care Hospital	24	237* (mean)
Chronic Care Hospital	3	49

*Time to placement limited to 365 days, 50% of clients from acute care were not placed at one year.

5.4.2 Size of Waitlist

In the Western region, the size of the waitlist is only an issue for nursing home placement and not supervised care placement. All people recommended for supervised care are placed without having to be waitlisted. In both May of 1998 and May of 1999 there was no one on the waitlist for supervised care. There is, however, a waitlist for nursing home care. In November of 1998 there were 41 people on the waitlist and in May of 1999 this number was 40. The size of the waitlist was therefore stable for that year.

There are approximately 17-21 clients on the waitlist registered for institutional placement at any one time in the Labrador region. The large majority of clients on the waitlist for supervised care are placed within one year. In March of 1999 there was only one person on the waitlist for supervised care. There is, however, a larger waitlist for nursing home care and in March of 1999 there were 11 people on the waitlist for this level of care.

5.4.3 Occupancy of Acute Care Beds

Of the 178 clients in the Western region recommended for institutional care in 1997-98, 77 (43%) were awaiting placement from an acute care bed. With an average time to placement of roughly 34 days, the number of acute care beds occupied in one year by LTC clients awaiting placement was approximately 7.2, amounting to 2.5% of acute medical/surgical beds in the region. On November 18, 1998 (date of waitlist assessment), 10 (3.4%) acute care beds were occupied by clients awaiting placement, and in May of 1999 there were 14 beds occupied by clients on the waitlist from acute care.(Table 5.19)

In the Labrador region, 24 (47%) of the 51 clients recommended for institutional care were awaiting from an acute care hospital. With an average time to placement of approximately 237 days, the number of acute care beds occupied in one year by clients awaiting long-term care placement was roughly 15.6, amounting to 70.9% of acute medical/surgical beds in the region. In March of 1999, 5 acute care beds were occupied by clients awaiting long-term care placement and this amounted to 22.7% of the acute care beds in the region. (Table 5.20)

Table 5.19 Occupancy of Acute Care Beds in Western

A.	
Total Medical/Surgical Beds	290
Beds Occupied by Clients Awaiting LTC Placement	10
% Beds Occupied By Clients Awaiting Placement	3.4%
B.	
Total Number Seeking Placement from Acute Care Hospital	77
Total Days in Hospital After Panned by Single Entry	2618 (77×34)
Number of Beds Occupied in One Year by LTC Clients Awaiting Placement	7.2 (2618/365)
% Beds Occupied	2.5% (7.2/290)

Table 5.20 Occupancy of Acute Care Beds in Labrador

A.	
Total Medical/Surgical Beds	22
Beds Occupied by Clients Awaiting LTC Placement	5
% Beds Occupied By Clients Awaiting Placement	22.7%
B.	
Total Number Seeking Placement from Acute Care Hospital	24
Total Days in Hospital After Panned by Single Entry	5688 (24×237)
Number of Beds Occupied in One Year by LTC Clients Awaiting Placement	15.6 (5688/365)
% Beds Occupied	70.8% (15.6/22)

5.5 Annual Demand for Long-Term Care

Annual demand for LTC can be estimated by the number of clients actually placed within the LTC sector during a 12 month period. If we know the number of clients recommended for long-term institutional care by both the single entry panel and the research team in each region, we can extrapolate these numbers to the entire population presenting to the regional single entry systems and approximate the number of people who require long-term care within these regions.

5.5.1 Supervised Care

In Western, sixty-two of sixty seven clients recommended for supervised care by the single entry system had their charts assessed and were included in the study. **(Figure 4.1)** Using these 62 clients and the entire study population of 208 in the Western region, we found through extrapolation, that the number of people who required supervised care during the year was approximately 72 based upon the decisions made by the single entry system. **(Figure 5.1)** However, based upon the decision tree used by the research team, the number of people requiring supervised care was found to be 98. **(Table 5.15)** Therefore, the number of people who require supervised care each year could be 115. **(Figure 5.2)**

During 1997-98, 67 clients were recommended for supervised care and all were placed within one year. Thus, the annual rate of placement in supervised care was 15.8 per 1000 population ≥ 75 years of age. **(Table 5.21)** If we also take into account that only 89% of clients recommended for supervised care are from the Western region, then the rate of actual placement for supervised care in the Western region is 14.0/1000 population

≥75 years. All clients seeking placement in supervised care are assessed and are placed without having to be waitlisted.

Eleven people in the Labrador region were recommended for supervised care by the single entry panel. **(Table 5.4)** By using these eleven clients and the entire study population of 57 (also the number of cases on the register) in Labrador, we found through extrapolation, that approximately 12 people, according to the single entry system, required supervised care for that year. **(Figure 5.3)** According to the research team, however, the number of people who require supervised care each year is a lot higher and could be as large as 38. **(Figure 5.4)**

In 1998-99, ten people were placed in supervised care in the Labrador region. This amounted to an annual rate of placement of 37 per 1000 population ≥ 75 years of age. **(Table 5.22)** If we also take into account that 91% of clients recommended for supervised care in the Labrador region are from within the region itself then the rate of placement could be 33.7/1000 population ≥ 75 years.

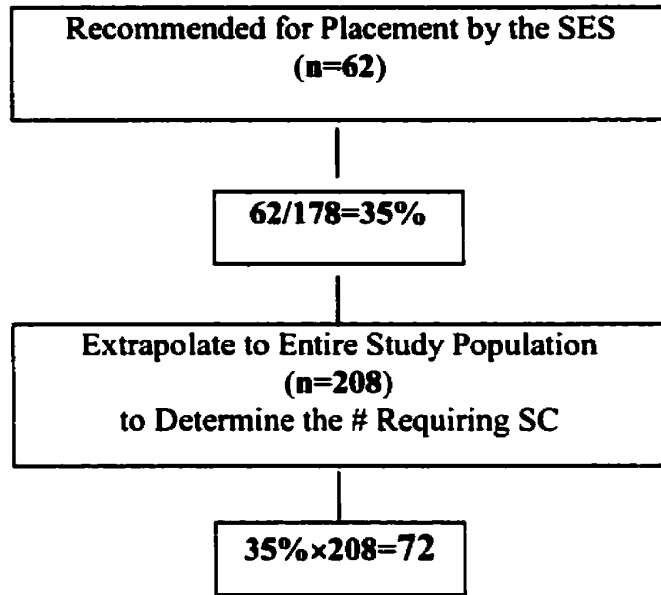


Figure 5.1 Estimate of Annual Demand for SC in Western based on SES Decisions

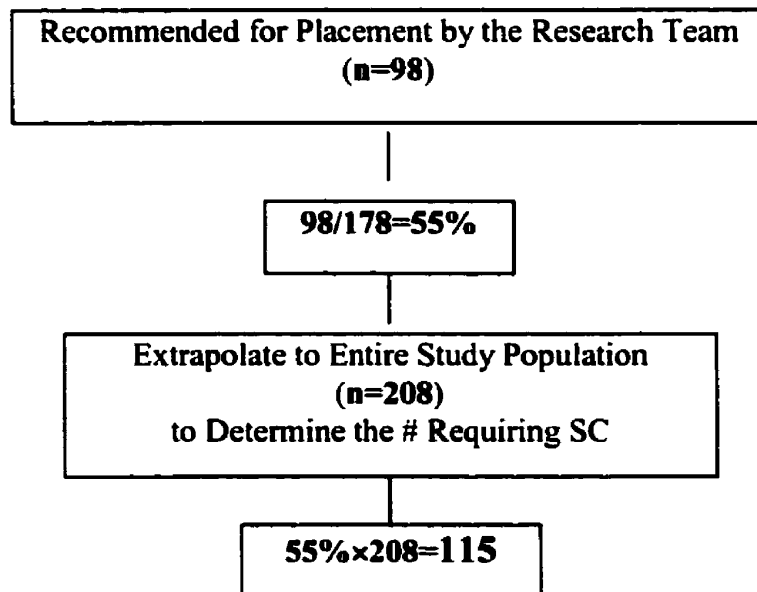


Figure 5.2 Estimate of Annual Demand for SC in Western based on Research Team Decisions

Table 5.21 Annual Demands for Institutional Long-Term Care in the Western Region

	<i>N</i>	<i>n/1000 population ≥ 75 years of age</i>
<i>Supervised Care</i>		
Beds	355	83.9
Placed in 1 Year	67	15.8
On Waiting List (May 99)	0	0
<i>Nursing Home Care</i>		
Beds	424	100.2
Placed in 1 Year	135	31.9
On Waiting List (May 99)	40	9.4

Population ≥ 75 yrs of age in 1998-99 = 4230

Proportion of Clients from the western region = (155/178) × 100 = 87.1

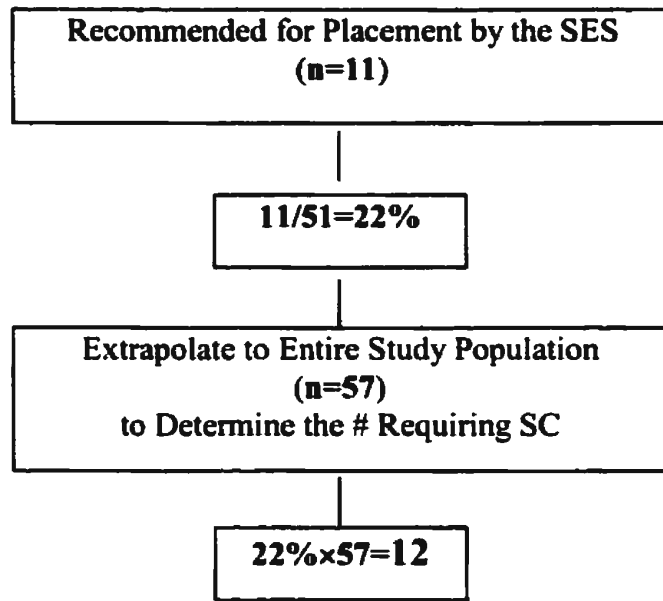


Figure 5.3 Estimate of Annual Demand for SC in Labrador based on SES Decisions

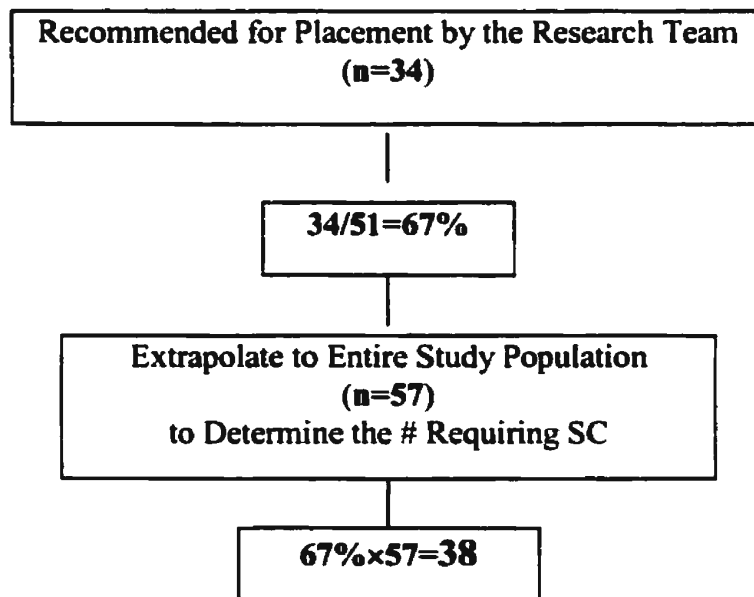


Figure 5.4 Estimate of Annual Demand for SC in Labrador based on Research Team Decisions

Table 5.22 Annual Demands for Institutional Long-Term Care in Labrador

	<i>n</i>	<i>n/1000 population ≥ 75 years of age</i>
<i>Supervised Care</i>		
Beds	30	111.1
Placed in 1 Year	10	37.0
On Waiting List	1	3.7
<i>Nursing Home Care</i>		
Beds	53	196.3
Placed in 1 Year	21	77.8
On Waiting List	11	40.7

Population ≥ 75 yrs of age in 1998-99 = 270

Proportion of Clients from the Labrador Region = (36/51) × 100 = 70.6

5.5.2 Nursing Home Care

One hundred and sixteen of the clients recommended for nursing home care by the Western single entry system had their charts assessed by the research team. (Figure 4.1) Through extrapolation to the entire study population in the Western region, we found that the number of people who required nursing home care during that year was approximately 136 according to the single entry system. (Figure 5.5) The research team, however, concluded that only 71 people required the professional skill of a nursing home. (Table 5.15) Thus, the number of people who require nursing home care each year could be as low as 83. (Figure 5.6)

The number of clients actually placed within a nursing home in the Western region during 1997-98 was found to be 135. Therefore, the annual rate of placement in a nursing home was 31.9 per 1000 population ≥ 75 years of age. (Table 5.21) Also, because only 86% of clients recommended for this level of care were from the Western region, the rate of actual placement for nursing home care in the region was 27.5/1000 population ≥ 75 years.

In the Labrador region, the single entry panel recommended 40 people for nursing home care. (Table 5.4) Therefore, through extrapolation to the entire study population in the Labrador region, we found that, according to the single entry system, approximately 45 people required nursing home care that year. (Figure 5.7) However, the research team felt that only 17 people required nursing home care. Therefore, the research team

concluded that the number of people requiring the professional skill provided in a nursing home could be as low as 19. (Figure 5.8)

During 1998-99, 21 of the clients recommended for nursing home placement in the Labrador region were actually placed. Therefore, the annual rate of placement for nursing home care was 77.8/1000 population \geq 75 years of age. (Table 5.22) Since only 65% of clients recommended for this level of care were from the Labrador region, the actual rate of placement for nursing home care in this region is 50.6 per 1000 population \geq 75 years of age.

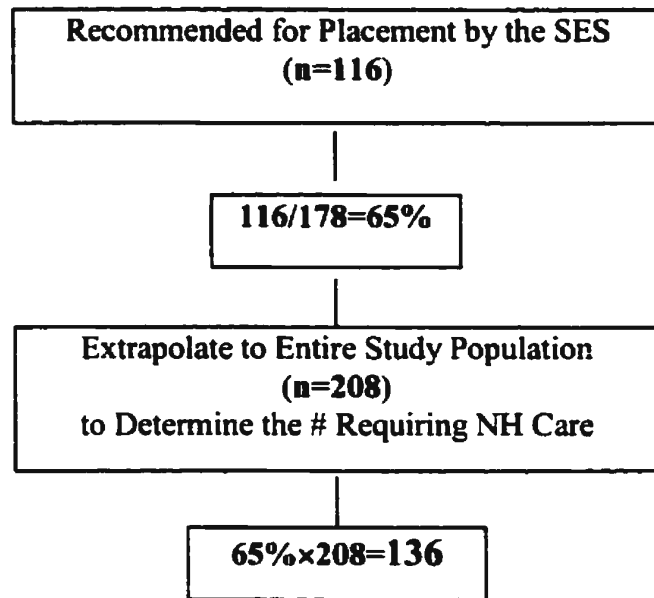


Figure 5.5 Estimate of Annual Demand for NH Care in Western based on SES Decisions

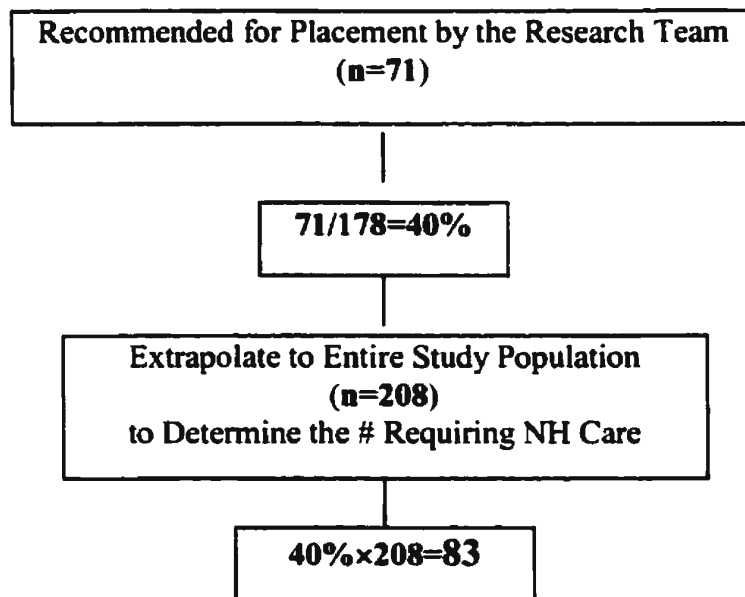


Figure 5.6 Estimate of Annual Demand for NH Care in Western based on Research Team Decisions

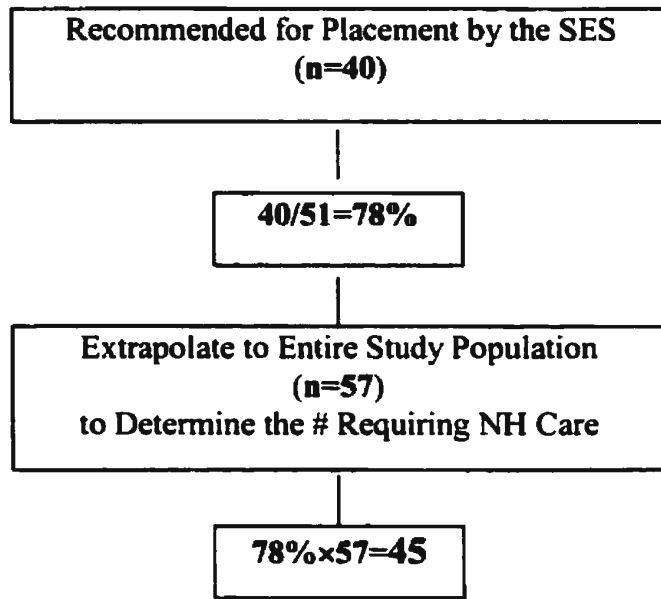


Figure 5.7 Estimate of Annual Demand for NH Care in Labrador based on SES Decisions

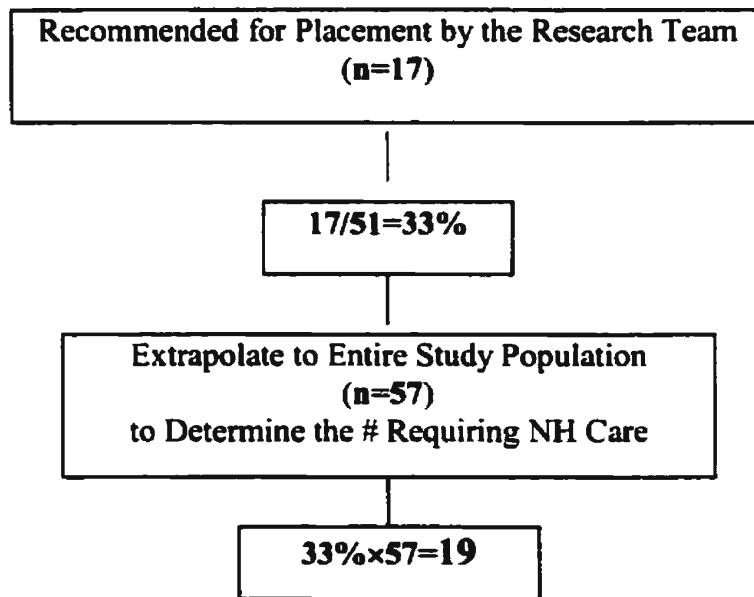


Figure 5.8 Estimate of Annual Demand for NH Care in Labrador based on Research Team Decisions

CHAPTER VI

Comparison Between Regions

At present, data has been collected for three regions of the province. These data provide a means of comparing different regions of the province with respect to their long-term care sector and also to aid in future planning for long-term care in these regions. Each region is different with respect to the long-term care available and also with respect to their social structure and population make-up. Therefore, gathering data on several regions of the province allows for a fuller understanding of not only the regional long-term care sectors but also the provincial long-term care sector as well. This, in turn, will allow for future planning of long-term care in the province as a whole.

In the following sections, comparisons will be made between Western, Labrador, and St. John's with respect to the following issues:

- beds and rates of institutionalization per unit population;
- client characteristics (annual placement cohort);
- appropriateness of client placement;
- annual demand for LTC; and
- efficiency of single entry system.

6.1 Long-Term Care Delivery

Each region of the province differs with respect to the number and type (subsidized or non-subsidized) of long-term care beds available and also on the distribution within these regions. The number and rate of nursing home beds and

supervised care beds for both the Western and Labrador regions were mentioned in the previous chapter. This data was then compared to that collected in the St. John's region.

St. John's and Western are very similar in regards to their rate of nursing home care per 1000 population ≥ 75 years of age. Labrador, however, has a rate of nursing home care that is almost double that found in the other two regions. St. John's has the lowest rate of supervised care per 1000 population ≥ 75 years of age and Labrador has the highest and is almost double that found in the St. John's region. Western has a rate that falls approximately in the middle. Western, however, does have the lowest rate of subsidized supervised care beds and the highest rate of non-subsidized supervised care beds of the three regions. **(Table 6.1)**

Table 6.1 Comparison of Long-Term Care Delivery Between Regions

	Regions		
	Western	Labrador	St. John's
Population ≥ 75 Yrs	4230	270	9450
# Nursing Home Beds	424	47	969
# Supervised Care Beds	355	30	539
# Subsidized Beds	88	20	372
# Unsubsidized Beds	267	10	51
# Level I NH Beds	-	-	116
Population Rate/ 1000 ≥ 75 years for Nursing Home Care	100.2	174.1	102.5
Population Rate/ 1000 ≥ 75 years for Supervised Care	83.9	111.1	57.0
Population Rate/ 1000 ≥ 75 years for Subsidized beds	20.8	74.1	39.4
Population Rate/ 1000 ≥ 75 years for Unsubsidized Beds	63.1	37.0	5.4
Population Rate/ 1000 ≥ 75 years for Level I Nursing Home Beds	-	-	12.2

6.2 Characteristics of the Annual Incidence Cohorts

The characteristics of the annual incidence cohorts for the three study regions were fairly similar. The mean age for clients entering the long-term care sector ranged from 75.6 in Labrador to 80 in both Western and St. John's. For all three regions, over 70% of the clients entering the long-term care sector were residing in these regions. The percentage of clients residing in both the community and the acute care hospitals were approximately equal for all three regions and accounted for at least 86% of clients in each of these regions.

In all three regions the largest % of clients had an ARCS of A-B with both Western and Labrador having 52% of their clients falling into this category. There was, however, some differences in the level of care recommended for these clients by the single entry system. In Western, over 30% of clients were recommended for each of the three levels of care, level I, level II, and level III-IV. In Labrador, however, only 24% were recommended as level I and 49% were recommended as level III-IV. For St. John's, level of care was analyzed differently and clients recommended as requiring a protective care unit (PCU) or as adult/youth disabled were not individually given a level of care category. Over 12% of clients fell into one of these two categories, and of the remainder, 26% were recommended as level I and 42% were recommended as level III-IV. Those assigned a level of care (level I-level IV) were more similar to Labrador than Western.

(Table 6.2)

The RUGs-III categories were also compared, and in all three regions the main categories of care were found to be impaired cognition/behavior problems and no clinical

indicators. In both Western and St. John's, over 37% of clients recommended for institutional care had no RUGs-III clinical indicators. In Labrador, over 52% of clients suffered from either impaired cognition or behavior problems. (Table 6.3)

Table 6.2 Characteristics of the Annual Placement Cohorts for the Three Study Regions

	<i>Western</i>	<i>Labrador</i>	<i>St. John's</i>
Mean age, yr. (range)	80 (37-96)	76 (35-102)	80 (32-101)
	<u>%</u>	<u>%</u>	<u>%</u>
Female	52	59	63
Area of Residence			
St. John's	-	-	81
Western	87	-	-
Labrador	-	71	-
Other	13	29	19
Location at Application			
Community	44	47	53
Acute Care Hospital	43	47	33
Chronic Care Hospital	10	6	9
Personal Care Home	3	-	5
Nursing Home Resident Classification Score Group			
A-B	52	53	43
C-E	27	27	37
F-G	21	20	20
Level of Care Recommended By Single Entry			
1	31	23	26
2	38	28	20
3-4	31	49	41.5
PCU	-	-	12
Adult/Youth Disabled	-	-	0.5

Table 6.3 RUGs-III Categories for the Three Study Regions

<i>RUGs-III Category</i>	<i>Western</i>	<i>Labrador</i>	<i>St. John's</i>
Special Rehabilitation	-	2.0	0.4
Extensive Services	-	2.0	-
Special Care	-	-	2.6
Clinically Complex	20.8	9.8	14.1
Impaired Cognition	19.7	43.1	26.8
Behavior Problems	5.6	9.8	0.7
Reduced Physical Function	16.8	17.6	18.3
No Clinical Indicators	37.1	15.7	37.1

6.3 Appropriateness of Placement Decisions

The same decision tree was used for determining the appropriateness of client placement in Western, Labrador, and St. John's. The comparison of placement decisions between the single entry panel and the research team were shown for both Western and Labrador in the previous chapter. These comparisons were then made in the St. John's region. The research team concluded that of the 110 clients recommended for supervised care in the St. John's region, 15 could have been cared for at home, and of the 316 recommended for nursing home care, 161 could have been adequately cared for in a supervised care environment. (Table 6.4) A further 70 clients were recommended for NH care by the SES but may adequately have been cared for in a SC environment depending upon their clinical problems.

For all three regions it was evident that the single entry panel recommended clients for a higher level of care than what was necessary. The number of clients recommended for supervised care would be a lot higher based upon the decision tree used by the research team and the number of clients recommended for nursing home care would be a lot lower. In all three regions the percentage of clients actually requiring nursing home care could range anywhere from 20% to 40% depending upon the clinical problems experienced by those with low to modest disability.

Table 6.4 Comparison of Placement Decisions for the Annual Placement Cohort (St. John's)

<i>SES Decision</i>	<i>Research Team Decision</i>			
	Home n(%) (no disability)	SC n(%) (low to moderate disability with no RUGs; low to moderate disability with impaired cognition)	SC or NH? n(%) (low to moderate disability with other clinical problems; high disability)	Total n(%)
SC	<i>15 (13.6)</i>	<i>93 (84.5)</i>	<i>2 (1.8)</i>	<i>110 (26)</i>
NH	-	<i>161 (50.9)</i>	<i>155 (49.1)</i>	<i>316 (74)</i>
Total	<i>15 (3.5)</i>	<i>254 (59.6)</i>	<i>157 (36.9)</i>	<i>426 (100)</i>

6.4 Single Entry System: Regional Efficiency

Each region of the province differs in respect to the efficiency of their single entry system. The median time to placement, the size of the waitlist and the occupancy of acute care beds for both Western and Labrador were given in the previous chapter. Here we compare these factors with those found previously in the St. John's region.

Western had a median time to placement of 12 days for supervised care and 18.5 days for nursing home care compared to a median time to placement in Labrador of 205 days for supervised care and 251 days for nursing home care. St. John's had a median time to placement in supervised care that was quite short and a time to placement of 96 days for nursing home care. The time to placement for supervised care was quite rapid for both Western and St. John's, however, clients from the Labrador region had an extensive wait for similar care. Western also had the shortest waiting time to placement for nursing home care and Labrador had the longest.

All three regions had a shorter waitlist for supervised care than for nursing home care. The size of the waitlist for supervised care was zero for Western, 1-2 for Labrador and around 55-60 for St. John's. For nursing home care, the size of the waitlist for Western was approximately 40, for Labrador it was around 11-12 and for St. John's it was around 90-100.

Western had the lowest rate of acute care beds occupied by clients awaiting placement. In one year, approximately 2.5% of acute medical/surgical beds were occupied compared to 70.9% for Labrador and 6.6% for St. John's.

6.5 Demand for Institutional Placement

Determining the annual demands for long-term care requires knowledge of the number of clients placed in the long-term care sector within one year. Each region differs in the number of people who demand long-term care and in the number of people who actually get placed. The annual demands for supervised care and nursing home care were compared for Western, Labrador, and St. John's.

Western and St. John's had a similar rate of placement for both supervised care and nursing home care. The placement rate for supervised care was 15.8/1000 population ≥ 75 years in Western and 13.1/1000 population ≥ 75 years in St. John's and the placement rate for nursing home care was 31.9/1000 population ≥ 75 years in Western and 33.2/1000 population ≥ 75 years in St. John's. Labrador, however, had placement rates for both supervised care and nursing home care that were more than double that found in the other two regions. The rate for supervised care placement was 37.0/1000 population ≥ 75 years and the rate for nursing home placement was 77.8/1000 population ≥ 75 years. (Table 6.5)

Table 6.5 Annual Demands for Institutional Placement Within Regions

	Regions					
	St. John's		Western		Labrador	
	n	Rate	N	Rate	n	Rate
<u>Supervised Care</u>						
Beds	<i>539</i>	<i>57.0</i>	<i>355</i>	<i>83.9</i>	<i>30</i>	<i>111.1</i>
Placed in one Year	<i>124</i>	<i>13.1</i>	<i>67</i>	<i>15.8</i>	<i>10</i>	<i>37.0</i>
On Waiting List	<i>44</i>	<i>4.7</i>	<i>0</i>	<i>0</i>	<i>1</i>	<i>3.7</i>
<u>Nursing Home Care</u>						
Beds	<i>969</i>	<i>102.5</i>	<i>424</i>	<i>100.2</i>	<i>53</i>	<i>196.3</i>
Placed in one Year	<i>314</i>	<i>33.2</i>	<i>135</i>	<i>31.9</i>	<i>21</i>	<i>77.8</i>
On Waiting List	<i>154</i>	<i>16.3</i>	<i>40</i>	<i>9.4</i>	<i>11</i>	<i>40.7</i>

This table also illustrates the difference in turnover rates for both supervised care and nursing home care in all three regions. One third of Labrador supervised care beds received new occupants in one year as opposed to less than 1/4 in the other two regions. For nursing home beds, the Labrador region also had the largest turnover rate with close to 2/5 of their beds receiving new occupants in one year. Whereas, both Western and St. John's, had a turnover rate of less than 1/3 for their nursing home beds.

6.6 Discussion of Regional Issues

As was previously mentioned, each region of the province differs with respect to their population make-up and the long-term care options available. However, other differences exist between the type of care available in each region and the type of care actually required. Even though there is a tendency, by all three regions, to place residents in a higher level of care than they require, the reasoning behind these decisions seem not to be identical.

The Western region currently has the lowest rate of subsidized personal care home beds in the province. Some areas of the region have only non-subsidized beds and therefore equal access to these beds is eliminated for many clients because they can't afford to pay for the bed. This issue regarding the lack of subsidized beds in a geographical area may be causing the referral of clients with modest disability to nursing home beds in the same area. Therefore, the lack of subsidized beds in the region may be responsible for the proportion of clients, with low needs assessments, that are being recommended for nursing home care.

Labrador currently has a younger, more behaviorally challenged population presenting to the single entry system when compared with other regions of the province. Many of these people are physically well but are impaired mentally. A large number of clients on the annual placement cohort for Labrador are recommended for a protective care environment by the single entry system. Many of these clients suffer from impaired cognition and require special care that is not available in Labrador's nursing home or personal care home. Instead, they are placed in a protective care unit where their quality of life is lowered. Labrador requires appropriate facilities that can cater to the many clients with these special needs.

In the St. John's region, the lack of appropriate facilities in the city of St. John's for clients with low levels of need may be causing the placement of these clients in nursing homes. Many residents of St. John's do not want to leave the city and enter supervised care facilities in the surrounding areas. Therefore, many residents apply for placement in nursing homes even though they don't require this level of care and because the placement panel does not look for alternatives to the type of care requested by the client, they are inappropriately placed in nursing homes.

All three regions have waitlists for institutional placement that are larger for nursing home care than supervised care. These waitlists are not excessive but they could be shortened if clients were more appropriately placed. The placement of clients with low to modest disability in nursing home beds may be causing the longer waitlists for nursing home care. Therefore, reducing these inappropriate placements may reduce nursing home waitlists. Also, waitlist sizes are an issue because of duplicate waitlisting.

Clients can be waitlisted for institutional care in more than one region of the province because the regional single entry systems operate independently from each other and do not check clients for their placement on other waitlists. Therefore, more communication between regional single entry systems or a provincial governing body may be necessary to ensure accuracy of waitlist sizes and prevention of duplicate waitlisting.

Labrador also has a major issue with clients occupying acute care beds while awaiting placement. In Labrador, the time to placement for both supervised care and nursing home care is quite large especially for those awaiting from an acute care hospital. A system of priority placement may be needed to combat the occupancy of these acute care beds.

CHAPTER VII

Discussion

The purpose of the study was to assess the annual demands for institutional long-term care within different regions of the province and to aid in future planning for the provinces long-term care sector. This chapter will discuss the limitations of the study, the alternatives to institutional care, the need for alternative housing options for those with low to modest disability, housing options for those with cognitive impairment, the need for interactive assessments and policy directions for improvement of the long-term care sector.

7.1 Limitations of Study

This study used secondary data sets and as such was subject to bias. The charts used for data abstraction contained predetermined information and therefore limited the data that could be collected. The data was limited in scope and contained information on areas such as cognitive impairment that was difficult to judge accurately. Clients requesting long-term care placement were not always formally evaluated for the presence of cognitive impairment and therefore the number of people with cognitive impairment may be underestimated. Formal testing may discover forms of cognitive impairment that are not obvious without testing. Also, if we include clients with any cognitive impairment, not only those with formally diagnosed conditions, the estimates may be even larger. This tendency to underestimate the number of clients with cognitive

impairment strengthens our conclusion that facilities need to be designed to meet the demands of these clients.

The quality of the data itself was questionable because the NLCCA was completed by a variety of people from different disciplines leading to assessments with variable data. This was a limitation for both the single entry system and the research team and therefore does not invalidate the conclusions we have made.

Subject bias was another factor limiting the study. When using personal observations as a form of data collection observers may tend to overestimate or underestimate the severity of patient's disabilities depending upon the outcome they desire. Therefore, nurses may have an incentive to overestimate the need of clients that are currently in long-term care settings. These errors in the data cannot be detected and as such could lead to inaccurate conclusions. This bias, however, only strengthens our conclusion that clients are placed in higher levels of care than they require.

The placement decisions made by the research team were objective in nature but were not without limitations. There was no set standard for determining placement within the home care, supervised care, or nursing home care sectors. There may be other factors, not captured by the classification systems used in this study, that affected the type of care required by clients. The placement decisions did not take into account client preference nor did they include the element of choice. Also, other barriers to equal access of long-term care services, such as lack of subsidized beds in a geographical area and inability to purchase private care, were not captured by the research team's decision tree. However, if we assume that the research team's decisions provided a measure of minimal

need and the placement committee decisions provided a measure of maximum need then some of these limitations could be overcome.

The classification systems used in client assessment were also a possible cause of uncertainty. Scoring a client's physical and mental abilities was somewhat subjective. Some categories of care had small overlaps with adjacent categories and the numbering of the degree of disability in certain areas were based on a judgment call. This overlap was only an issue when it affected whether a client was placed at home or in a SC facility, or in a SC facility or a NH. These issues may have led to inaccurate assessments of a client's needs.

Alternatives to Institutional Care

Currently, the LTC sector in Newfoundland and Labrador provides mainly institutional care. Most clients are uprooted from their "homes" and placed in a SC facility or a NH because of a lack of appropriate community services. The community services' sector consists mainly of homemaker services and Meals-on-Wheels. These services are not available or adequate to meet the demands of many clients and leads to unnecessary institutional placement of clients with low levels of need. We, therefore, need other community service alternatives to institutional care.

Community services, such as adult day care or group homes, may reduce the number of clients entering SC facilities. These facilities could provide personal assistance, supervision and a degree of independence for clients who want to stay at "home" for as long as possible. When deciding on care for the elderly, we must ensure

that the care they receive is adequate for their level of need and that their autonomy is not compromised.

7.3 Assisted Living for the Elderly

Assisted Living provides an alternative long-term care option for clients who require limited assistance but who do not require the heavy medical and nursing care provided in a nursing facility. There are approximately 28,000 assisted living residences in the United States housing around 1.15 million people. (NCAL 1998) Presently, in Newfoundland, institutional care is provided primarily by personal care homes and nursing homes and for many clients these options are not appropriate. Assisted living facilities could provide them with the necessary care and security required by many clients for independent living.

An assisted living residence is not designed by its capacity for residents, but by the type and amount of services it provides. The residence should be located, constructed, and equipped in compliance with all local, state and federal codes and regulations. (NCAL September 1998) Assisted living residences embrace the philosophy of “aging in place” and are designed to do the following:

- provide or co-ordinate personal services, 24 hour supervision and assistance (scheduled and unscheduled), activities, and health-related services;
- minimize the need to move;
- accommodate individual residents’ changing needs and preferences;
- maximize residents’ dignity, autonomy, privacy, independence, choice and safety; and

- **encourage family and community involvement.(NCAL 1998)**

Assisted living is provided in congregate residential settings. It can be provided in freestanding facilities, near or integrated with skilled nursing facilities, as part of a continuing care retirement community or at independent housing facilities. Residents can typically choose furnished or unfurnished studio or one-bedroom units with a private or shared bathroom. These units can be private or semi-private depending upon availability. Several of these residences even have kitchenettes or full kitchens. Depending upon the facility, residents may also have recreation rooms, exercise rooms, outdoor gardens, libraries or chapels for their personal use. (NCAL March 1999)

Each client who requests placement in an assisted living facility is evaluated or assessed to determine the best way their need for services can be met. A service agreement is then developed indicating the services that will be delivered to the client based on their physical, psychosocial and cognitive capabilities. This agreement is developed with the assistance of the individual, family or responsible party and is updated regularly or as a resident's condition changes. (NCAL September 1998, NCAL March 1999)

The number and type of staff employed by an assisted living facility will depend greatly upon state regulations, the number of people living in the residence and the needs of these residents. Typical staff would include administrators, nurses, nursing assistants, personal care attendants, etc., and contract services would be mainly provided by physicians, dietitians, physical therapists and beauticians. (NCAL March 1999)

As the population ages and the number of elderly people with low needs increases, so will the demands for alternatives to present institutional living. In the future, elderly people will be more demanding in regard to quality of life and independence and as such will want to live in an environment that fosters and supports these needs. Therefore, assisted living facilities will continue to be popular among seniors and their families.

7.4 Housing Options for Those with Cognitive Impairment

Dementia is closely associated with old age and as the number of elderly people increases so will the number of people with dementia. Presently, over a quarter million Canadians over age 65 are affected by dementia and this number is expected to increase to over 750,000 by the year 2031. In 1991, the Canadian Study of Health and Aging surveyed some 10,000 people in 36 Canadian cities and surrounding areas to establish the relationship of health to age for both institutional and community dwelling citizens. This study found that dementia increased with age and that 8 per cent of those over 65 years of age suffered from dementia. Of this group, 49% were living in the community and the remaining 51% were living in institutional settings, such as nursing homes, hospitals or other institutions. (CMHC 1999)

In Newfoundland, the majority of clients with impaired cognition and low to moderate disability are placed in nursing homes. In the Western region, over 23% of clients suffered from impaired cognition and more than 65% of these were placed in nursing homes. The same is also true for Labrador and St. John's. Over 50% of clients recommended for institutional placement in the Labrador region suffered from impaired

cognition and more than 84% of these were placed in nursing homes. In St. John's, 26% of those on the annual placement cohort had impaired cognition and more than 87% of these were placed in a nursing home.

In Newfoundland, the choices for those with impaired cognition are limited and because of this many people are inappropriately placed in nursing homes or are placed in supervised care facilities that are not adequately designed to maintain the quality of life of these patients. Patients with impaired cognition would be better served with supervised care settings that were designed with their special needs in mind. Not only would these facilities be a benefit for those with impaired cognition but it would also reduce the number of inappropriate nursing home placements.

In order to meet the needs of clients with dementia, there has been tremendous growth in the type of long-term care settings that specialize in dementia care.(Taft 1993) This growth in specialized care has been accompanied by a gradual increase in the body of knowledge about how to design these specialized environments and how to deliver specialized services to address the needs of clients with dementia. There is also evidence that people with cognitive impairment fare better living in an environment with other people who have cognitive impairment. They participate more frequently in the activities of the unit because they are designed specifically for their needs and they do not feel inferior. (Grant 1997)

Skilled nursing facilities, assisted living facilities, and specialized housing can be built or enhanced by incorporating dementia-oriented adaptations that better match the environment to the capabilities of individuals at different stages of dementia. (Grant

1998) People with dementia need a social and physical environment that is able to support the safe expression of their needs. This “dementia-friendly” and supportive environment will allow people with dementia to function with relative normality for as long as possible. (CMHC 1999)

For people with dementia there are currently three types of residential housing options: group homes; assisted-living; and supportive housing. All try to balance the need for support and protection against the wish for a degree of independence and normality. Group homes can be either new or renovated and tend to be organized as large, single-family homes that house eight to ten people. They usually have a living room, dining room and kitchen, much like a regular home, and bedrooms for residents. (CMHC 1999, Malmberg 1993) Residents may share a bedroom or they may have their own and bedrooms may or may not contain en-suite bathrooms. They are staffed by trained personnel during the day and a staff person is on call during the night. (CMHC 1999)

For people with dementia, assisted-living is seen an alternative model of continuing care that combines accommodation and support services, including health care, in a home-like environment. Assisted living residences can take several different forms, including:

- free-standing residences where residents have their own rooms but share living rooms, dining rooms and kitchen facilities;
- free-standing residences with two to six apartments, each with its own living/dining room, kitchen, bedrooms and possibly a garden; and

- residences forming part of a larger assisted-living residence for older people but operated independently and often having their own entrances, their own secure gardens and their own staff.(CMHC 1999)

Supportive housing for people with dementia can be built new or it can be converted, and it can take different forms of delivery, including:

- small groups of self-contained dwelling units, usually six to ten in number, sharing living/dining and kitchen facilities and can be found in stand-alone buildings or as part of another seniors housing development;
- small groups of bachelor apartments, or suites, usually eight to twelve in number, sharing common living/dining and kitchen facilities and are usually found on a dedicated floor in a multi-story seniors apartment building or as a wing or part of a floor.(CMHC 1999)

Despite the varying needs of those suffering from dementia, they all face a number of common problems such as forgetfulness, confusion, and a tendency to wander. To combat these problems a supportive and therapeutic environment must be carefully planned so that it is comfortable, secure and safe, and able to promote as much independence as possible. (Buckwalter 1996, CMHC 1999, Rockey 1993)

When designing housing for people with dementia, whether it be building new housing or renovating old, there are a number of key issues that need to be dealt with. Designers must remember that people suffering from dementia have a tendency to walk and wander, a tendency to rummage, suffer from confusion and forgetfulness, have

difficulty with activities of daily living and tend to fall and slip more often. To deal with these issues they can incorporate the following key design principles:

- exits that are safe in an unobtrusive way;
- hallways in which to walk and wander;
- private rooms and small sitting areas where residents can be by themselves;
- a residential place that feels like home;
- supports that enable residents to maintain their independence;
- understandable sounds, smells, colors and views;
- shared spaces that are multiple and have diverse character; and
- adjacent outdoor space that is secure and planned.(CMHC 1999)

A facility designed for people with dementia should be homelike, safe and provide a level of independence and dignity. For example, to support an individual's independence and to create a safe environment, handrails, non-slip flooring, solid furniture and so on can be provided. Also, encouraging the use of some of their own belongings or furniture to furnish their own rooms helps people with dementia keep in touch with reality and to remain calm and dignified. Designers can also use environmental cues such as using tape or paint on stair edges to help a person with depth perception avoid falling. (CMHC 1999)

Several housing complexes have been built or renovated based on "dementia friendly" principles. Mountain Road, New Brunswick, was opened in February 1996 and is privately owned. The residence houses ten people. It was built from an existing home

and was completely renovated inside and outside with an addition. The following are some of the features of the residence:

- hallways that run in a circular pattern;
- walls that have extra insulation to minimize noise;
- rooms that are brightly painted to distinguish them from each other;
- contains two double bedrooms and six single bedrooms;
- exit doors that are fitted with a coded security system;
- a secured, landscaped backyard with a wandering path, bench and flowerbeds; and
- a resident/staff ratio of 3:1 during the day and 10:1 during the night.(CMHC 1999)

Madison Village, Madison, Wis., U.S.A, is an assisted living home in a residential neighborhood. There are three houses on the property and each house is divided into two wings, with each wing accommodating eight people. Some of the design features of the home include the following:

- clean, contemporary lines with therapeutic color schemes;
- large windows that overlook the landscaped gardens;
- open kitchen that allows the activities and aromas of cooking to circulate the house;
- a common living room with fireplace;
- “memory boxes” that are placed outside each resident’s room ;
- eight bedrooms that have different colors and wallpapers which allow residents to recognize their own space;
- circular corridors that have no sharp angles or dead ends; and

- bathrooms that have sit-down showers and highly visible water closets.

Residents are also encouraged to personalize their rooms with their own furniture and decorations. There is a staff ratio of 4:1 or 5:1 and each staff member receives 56 hours of specialized training. There are also weekly visits to restaurants, parks, museums and shopping centers. (CMHC 1999)

Le Cantou de Rueil-Malmaison, France, was developed from a partnership between the operators of nursing homes, homes for the aged and municipalities. The emphasis is on quality of life and the active prevention of decline not on medical treatments and technical life supports. It is situated in a private garden and houses twelve residents. The center of the house is designed as a large common area with a kitchen and living room where household activities take place. There is also 12 bedrooms with private bathrooms, a garden and six bachelor apartments on the upper floor for student residents who help supervise the residence on five nights a month in exchange for free accommodation. It also has two full-time multi-skilled “maitresses” and a maid who works three hours a day at the residence. (CMHC 1999)

Ardal, Norway has been in operation since September 1996 and houses eight people. The design of the home resulted from the collaboration of an architect and a researcher from the Norwegian Centre for Research in Dementia. Some of the design features of the home include the following:

- private bedrooms with bathrooms;

- bedrooms that are situated so that when residents leave their rooms they are able to see at least one of the common areas;
- center walkways that allow residents to enter the dining and living room areas as well as their bedrooms;
- installation of a sprinkler to protect them in case of fire; and
- a large barrier free walking path on the outskirts of the building.(CMHC 1999)

These examples are just some of the options that are available to serve individuals with cognitive impairment. These homes provide a safe and familiar environment and seem to minimize some of the behavior disturbances associated with cognitive impairment. They also reduce the number of people who are placed in a more restrictive nursing home environment. Even though there is evidence for separate housing for people with cognitive impairment, it should be considered carefully. There may be a negative stigma associated with a separate housing facility and it may be referred to as the “mental facility”. Therefore, it may be necessary to incorporate people with cognitive impairment into existing LTC facilities by giving them their own wing or floor.

7.5 Interactive Assessments for Long-Term Care

Clients who enter the long-term care sector are not informed of the full range of care available. This is due to the fact that Newfoundland and Labrador has a “partial single-entry system”. This system determines the client’s level of need and assigns placement but does not inform patients of the other types of care available or explore other options. Clients need to be aware of the care available so that they can make

informed choices based on their own preferences. The type of LTC services chosen for a client should be more client-driven than what it is currently. The decision for type of placement should be a joint effort between the placement committee, the client and the client's family.

Interactive assessments allow for more informed choices but the alternative care options must also be made more attractive to clients for them to be used. Clients choose certain homes because of the reputation they have, their location and others in the home, not on the care they provide. This causes the waitlists for these homes to increase while other homes have beds that are unoccupied. Therefore, other accommodations that are available must be made more appealing so that clients will choose these facilities.

7.6 Policy Directions

Seniors represent a rapidly growing segment of our population and their larger numbers and increased life expectancies will have a tremendous impact on the demands for long-term care. Due to these increasing demands, changes must be made to our health care system to ensure that clients are appropriately cared for and resource use is maximized.

One of the major issues from this study is the inappropriate placement of clients in a higher level of care than they require. The excessive overuse of nursing home beds for clients with low to modest disability is costly in both monetary terms and in terms of quality of life. To reduce both these costs, alternate care options should be developed or enhanced. There is a need for policy makers to encourage more support for caregivers at home and for the development of alternative institutional accommodations. Also, to

reduce inappropriate placement in existing nursing home beds, pre-admission screening criteria should be made more stringent.

The management of waiting lists for institutional placement and occupancy of acute care beds by clients awaiting institutional placement are also major issues in some regions of the province. When either waiting lists or waiting times to placement are long, issues arise surrounding the management of the waitlists. Some decision must be made about who will receive care from those awaiting placement. One approach is to adopt a first-come, first-served basis. This, however, may not be beneficial because clients with the highest need may be further down the list and occupying an acute care bed while awaiting placement. Therefore, waiting lists could be better managed if resources were allocated on the basis of assessed need. Those with the most need would be placed first and this would lead to a reduction of acute care beds occupied.

The percentage of clients, with impaired cognition, requesting institutional placement is also becoming a major policy issue. Many of these clients are placed in nursing homes where the care they receive may not be adequate to meet their special needs. These clients are occupying beds at a high monetary cost to government. The renovation of existing facilities and the construction of new facilities to meet the needs of those with cognitive impairment could be beneficial to both clients and government. These facilities could maintain the quality of life and the independence of these clients for a longer period of time effectively reducing the cost to government.

The single entry system may also need to take a more active approach in determining client placement. Presently, client preference, not assessed need, determines

where a client will be placed. This again leads to inappropriate nursing home placement because the placement committee does not advocate alternate care options. Therefore, it may be necessary for the client, the client's family, and the placement committee to work in conjunction with each other to determine the appropriate placement based more on assessed need and less on client preference.

CHAPTER VIII

Conclusions and Recommendations

1. To overcome the issue of inappropriate placement of clients in higher levels of care, minimal criteria and a set standard for placement must be developed for both supervised care and nursing home care. The single entry system should follow Manitoba's initiatives and determine their placement based primarily on assessed need not client preference.
2. It may be necessary to develop a policy of priority placement so that clients with the highest level of need are placed first. This may lead to a reduction of acute care beds being occupied by clients awaiting long-term care placement.
3. Other alternative long-term care options may be necessary for clients with low to modest disabilities. Assisted living facilities and other community service alternatives may be more appropriate than personal care homes and nursing homes for these clients and may help maintain the independence of these clients.
4. Appropriate housing facilities for clients with cognitive impairment would also reduce the number of inappropriate nursing home placements. They would help maintain the quality of life of these clients and provide them with a higher level of autonomy and self-worth.

5. **Management of waitlists may require adopting either a first-come, first served approach or allocation of resources based on assessed need, providing care first to those who need it most.**

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Appendix A

LONG-TERM CARE CLASSIFICATION WORKSHEET

Initials: _____
Sex: _____

Age: _____

ID Number: _____

Current residence: _____

Functional Need Score <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> (1-5) <input type="checkbox"/>		Resident Classification Score <input type="checkbox"/> (A-G)	
Informal Supports _____		RUGs-III ADL Score <input type="checkbox"/> (4-18)	
RUGs-III Index _____			
Recommended LTC services:	<i>Assessor:</i>	<u><i>Home Care</i></u>	<u><i>PCH</i></u>
	<i>Researcher</i>	_____	_____
		_____	_____
Recommended LTC services: _____ (level)			
comments: _____			

<u>Functional Needs</u> <i>(same indicators as RCS)</i>		<i>(Other indicators used for Home Care classification)</i>	
*Eating <input type="checkbox"/>		Bathing <input type="checkbox"/>	
*Toileting <input type="checkbox"/>		Grooming <input type="checkbox"/>	
*Transferring <input type="checkbox"/>		Indoor Mobility <input type="checkbox"/>	
*Dressing <input type="checkbox"/>		*Outdoor Mobility <input type="checkbox"/>	
Potential for Injury <input type="checkbox"/>		Memory <input type="checkbox"/>	
Coping <input type="checkbox"/>			
Urinary Management <input type="checkbox"/>			
Bowel Management <input type="checkbox"/>			
	Sum of 13 Functional Need Indicators _____ *		
		Functional Need Score (1-5) <input type="checkbox"/>	
			1- (1-5)
			2-(6-10)
			3-(11-20)
			4-(21-25)
			5-(26-62)
* for categories with n/a, total will have to be adjusted			

Informal Supports: (Y/N) _____
 (unpaid & unsupervised persons eg. family, friends) _____

Support services currently in place _____

Resident Classification System 'RCS' (using translation Paradigm from APPI)

Eating Potential for Injury Urinary Continence
 Toileting Ineffective Coping Bowel Continence
 Transferring BDL Score CCL Score
 Dressing
 ADL Score

RESIDENT CLASSIFICATION SCORE (A-Low to G-Very High)

RUGs III Professional Care Requirements ✓ if appropriate (describe in comments section)
 (based on RUGs III seven Hierarchical Categories)

Special Rehabilitation Impaired Cognition
 Extensive Clinical Services Behaviour Problems
 Special Care Reduced Physical Function
 Clinically Complex
 Comments: _____

*RUGs ADL: (refer to RUGs index ordinal scale)

Bed Mobility **RUGs-III ADL Index Ordinal Scale**

	<u>ADL Variables</u>	<u>Score</u>
Toilet Use <input type="checkbox"/>	Bed Mobility	Independent or supervision 1
	Transfer	Limited assistance 3
Transfer <input type="checkbox"/>	Toilet use	Extensive assistance or total dependence:
		Other than 2-person physical assist 4
		2 or more persons physical assist 5
Eating <input type="checkbox"/>	Eating	Independent or supervision 1
		Limited assistance 2
		Extensive assistance or total dependence 3

RUGs III ADL SCORE sum of ADL's (ranges from 4 "completely independent" to 18- "high")

Appendix B

Alberta's Home Care Client Classification (HCCC)-Functional Need Score

Alberta has developed a classification system which groups clients according to their care requirements. Classification is based upon indicators of assessed functional need. Alberta's Home Care Client Classification System is based on the assessment of 13 functional need indicators. These 13 indicators are:

1. Eating
2. Urinary Management
3. Bowel Management
4. Toileting
5. Indoor Mobility
6. Outdoor Mobility
7. Transferring
8. Memory
9. Coping
10. Potential for Injury
11. Grooming
12. Dressing
13. Bathing

Appendix C

Alberta Resident Classification System (ARCS)

Indicators in the following three domains proposed by Alberta's Resident Classification System (ARCS) were used to classify clients needing institutional placement:

• **Activities of Daily Living (ADL) Indicators:**

1. Eating
2. Dressing
3. Toileting
4. Transferring

• **Behavior (BDL) Indicators:**

5. Ineffective Coping
6. Potential for Injury to Self and Others

• **Continence (CCL) Indicators:**

7. Urinary Continence
8. Bowel Continence

Alberta Resident Classification (ARCS) Category Definition

A resident's score on each of the 8 indicators is combined using a series of decision rules which places the individual in one of seven classification categories. These categories (A to G) are rank ordered from low to high in terms of care requirements and

resource use. Weights were assigned to each category based on the differences between the nursing resources used by residents in the seven categories.

When these weights are standardized, with category A having a weight of 1.0, then resource use measures for the seven categories are:

A	1.00
B	1.40
C	1.93
D	2.26
E	2.90
F	3.40
G	3.86

(A category B resident requires, on average, 1.4 times as much nursing care time as a category A resident, and a category G resident requires 3.86 times as much)

Category 'A' - patients with low ADL's, low BDL's and non-med incontinence problems. They have little or no functional impairment who require minimal supervision, although they may require a supportive environment to function at their potential levels (e.g. patients prepared for independent living or who require supervision to prevent deterioration in their condition).

Category 'B' - patients with a low ADL and a med to high BDL, or those with a med-low ADL and a low to medium BDL. These combinations require about the same levels of care (e.g. patients with minor physical handicaps that require restorative rehab, or in

patients with mild cognitive impairment- early Alzheimer's). Higher BDL's are offset by lower ADL's in this category. Patients with highest level of incontinence are excluded.

Category 'C' - comprise three clusters of patients. As in 'B', the clusters represent different combinations of ADL and BDL levels: lowest ADL with highest BDL, med-low ADL with high BDL and med ADL with low-med BDL levels. However, in 'C', the BDL's are higher for any given ADL level than they are for 'B'. Patients with highest level of incontinence are also excluded (patients with early stage multiple sclerosis requiring little physical care, but are emotionally liable, or stroke patients with moderate physical deficits who need emotional support).

Category 'D' - comprise the largest number of combinations: patients whose combined ADL and BDL would have put them in A, B, or C but who have incontinence of both bowel and bladder; patients with no or occasional incontinence if they have med-low ADL's and very high BDL's, med ADL's and high BDL's, or med-high ADL's and BDL's from low-high (paraplegics having bowel/bladder retraining, younger CVA, MS, organic brain syndrome etc.).

Category 'E' - four different combinations: patients with lower ADL's must have either med-high CCL's or very high BDL's. Patients with med-low ADL's *only* if very high BDL's **and** need management or retraining for urinary incontinence. Those with medium ADL's and high BDL's and bladder management problems are also in this category.

Patients with no or low incontinence are in this category only if they have very high BDL needs. Patients with med-high or high ADL requirements, whether they require management of urinary incontinence or have no incontinence, if they do not have very high BDL requirements (very frail, confused elderly, old stroke patient, severely arthritic patient, alcoholic with Korsakoff's syndrome, brain injured patient).

Category 'F' - primarily patients with heavy care requirements: highest ADL's who also have some incontinence problems. Without the highest ADL's a patient could fit in category F, if the physical care requirements (ADL and incontinence) are complicated by behavior problems. Patients with very high BDL's are not included unless they have lower ADL's (advanced dementia, bedridden, non mobile with incontinence, MS, or palliative care).

Category 'G' - Highest BDL's and med-high ADL's. those with med-high ADL requirements must also have some incontinence (advanced neurological diseases such as MS, ALS, Huntington's Disease, Palliative Care, severe dementia requiring high physical care, severe rheumatoid arthritis).

Appendix D

Resource Utilization Groups-Version III (RUGs-III)

The RUGs-III classification system groups nursing home residents by resident characteristics so as to explain resource use. This system consists of seven main clinical groups devised as hierarchy, ranked by cost. These groups are:

Special Rehabilitation - combination of physical, occupational, or speech therapy.

Resident's must meet the criteria for one of the following four subcategories:

- **Very High Intensity Multidisciplinary Rehabilitation:**
450+ minutes rehabilitation therapy per week, 2+ of the three therapies provided, with 5+ days per week of one type of therapy
- **High Intensity Rehabilitation:**
300+ minutes rehabilitation therapy per week, with 5+ days per week of one type of therapy
- **Medium Intensity Rehabilitation:**
150+ minutes rehabilitation therapy per week, with 5+ days per week of one type of therapy
- **Low Intensity Rehabilitation:**
45+ minutes rehabilitation therapy per week, with 3+ days per week of therapy, and 2+ types of nursing rehabilitation.

Extensive Services - ADL index score of at least seven. Meets at least one of: Parental feeding, suctioning, tracheostomy, ventilator/respirator.

Special Care - ADL index score of at least seven. Meets at least one of: burns, coma, fever with vomiting, pneumonia, dehydration, multiple sclerosis, stage 3 or 4 pressure ulcers, quadriplegia, septicemia, 4 medications, radiation treatment, tube feeding.

Clinically Complex - Meets at least one of: aphasia, aspirations, cerebral palsy, dehydration, hemiplegia, internal bleeding, pneumonia, stasis ulcer, terminal illness, urinary tract infection, chemotherapy, dialysis, 4 or more physician visits per month, respiratory or oxygen therapy, transfusion, wound care, other than decubiti, including active foot care dressings or patients who meet extended service or special care categories but ADL index score is 4-6.

Impaired Cognition - ADL index score of 4-10. Cognitive impairment in all three of: decision-making, orientation (recall), short-term memory.

Behavior Problems - ADL index score of 4-10. Problems with: inappropriate behavior, physical abuse, verbal abuse, wandering, hallucinations.

Reduced Physical Function - ADL index score of more than 10 but do not meet any of the above categories 1-6.

Other Variables used in RUG-III

RUG-III ADL Index

ADL Variables	Score
Sum the scores for four ADL variables (index ranges from 4 -18):	
Bed Mobility, toilet use, and transfer:	
Independent or supervision	1
Limited assistance	3
Extensive assistance or total dependence:	
Other than 2-person physical assist	4
2+ person physical assist	5
Eating:	
Independent or supervision	1
Limited assistance	2
Extensive assistance or total dependence	3

Extensive Treatment Count

A count of extensive treatments (Extensive Services category). Count of the following criteria: parenteral feeding, suctioning, tracheostomy, ventilator/respirator.

Depressed Mood (Sad)

Signs and symptoms of a depressed or sad mood (tertiary split for the Clinically Complex category). Presence of a combination of symptoms, as follows:

Persistent sad or anxious mood and at least 2 other symptoms:

- Expressions of distress
- Agitation or withdrawal
- Early awakening with unpleasant mood or awake 7-hours/day

- Thoughts of death or suicidal thoughts
- Weight loss

Alternately, a diagnosis of depression or bipolar disease and either a persistent sad or anxious mood or at least one symptom from the above list.

Nursing Rehabilitation

Nursing rehabilitation activities are used as a tertiary split for the Impaired Cognition, Behavior Problems, and (Reduced) Physical Functions categories and as a criterion for the Low Intensity Rehabilitation category. A count of 2+ of the following activities occurring 5+ days/week: amputation care, active range of motion, passive range of motion, splint/brace assistance, dressing/grooming training, eating/swallowing training, locomotion/mobility training, transfer training, any toileting program (not used for defining Low Intensity Rehabilitation category).



