

Identifying the Assumptions Used by Various Jurisdictions to
Forecast Demands for Home and Facility-Based Care for the Elderly*

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TABLE OF CONTENTS

Executive Summary

1.0 Introduction	1
2.0 Needs-Based Assumptions	3
2.1 Population Characteristics	5
2.2 Clinical Needs	12
2.3 Social Care Needs	16
3.0 Preference-Based Assumptions	23
3.1 Pure Preferences	24
3.2 Enabling Factors	25
3.3 Attitudinal Factors	28
4.0 Conclusion	31
Appendix	32
Table A1: Factors identified in Selected LTC Planning Models in Canada	32
Table A2: Summary of the way factors are used or discussed in selected LTC planning models in Canada	34
Table A3: Summary of LTC Services in Ontario: Descriptions, Eligibility Requirements and Associated Co-Payments	41
List of HMRU Advisory Committee Members	46
References	47

Executive Summary

This paper is concerned with the systematic and comprehensive development of a long-term care (LTC) planning framework to aid decision-making. The framework advanced includes both needs-based and preference-based assumptions with respect to plans for health services and health care settings. Needs-based assumptions used in this model are those factors that predispose the elderly to need health and social care. While needs-based assumptions might be thought of as factors that highlight a *potential* need for LTC, preference-based assumptions might be thought of as factors that influence the willingness of individuals to seek/accept care. Such preference-based assumptions are therefore those factors that affect the type and amount of health and social care that individuals will demand. While needs and preference-based approaches to health planning have often been viewed as competing alternatives, we contend that these approaches are highly complementary. Indeed, we suggest that a systematic and comprehensive approach to LTC planning may only be achieved if both approaches were integrated into health planning efforts. Consequently, the framework advanced herein represents a more complete approach to LTC planning than earlier efforts.

A summary of our framework is illustrated in Tables A1 and A2 in the Appendix. These tables identify the factors used in our conceptual model and highlight those used in other selected Canadian jurisdictions. In particular, the summary tables compare our model to the models and frameworks advanced by Hollander and Pallan (1995)¹, Ontario's Health Services Restructuring Commission (1997, 2000),^{2, 3} the Policy Advisory Committee of the Long-Term Care Review for Alberta (1999),⁴ Lazurko and Hearn (2000)⁵, Manitoba Health (1999)⁶ and Turner (2000)⁷. The tables demonstrate that our proposed model is unique in its inclusion of both needs and preference-based assumptions.

Needs-Based Assumptions

This section explicitly defines needs for the purposes of this paper and describes the needs-based assumptions that have been influential in LTC planning models. The assumptions are grouped into three dimensions: population characteristics; clinical (or health) needs; and social care needs. Population characteristics have often served as proxy measures for future demand for LTC.¹⁻¹² Population characteristics include population size, population growth, age and gender composition, and socio-economic status. Tables A1 and A2 in the Appendix summarize the use of population demographics in other LTC planning models and outline the factors we include in this dimension.

The remaining dimensions included in our needs-based assumptions are clinical needs and social care needs. Since the clinical needs for LTC are always defined within a specific social context, an understanding of the changing LTC needs of the population requires an appreciation of both the clinical needs of the population and the effects of social context on such needs. Variation in the underlying clinical needs of the population or in the population's social context will result in modified LTC needs. Consequently, plans for LTC that are based exclusively on either a clinical or social focus will be incomplete as both dimensions are important to project the need for LTC.

Preference-Based Assumptions

This section explains the difference between needs-based assumptions and preference-based assumptions by first defining preferences and then discussing each preference-based assumption in turn. Preference-based assumptions are important for LTC planning because they influence the decision to seek and accept care. Indeed, such preferences influence the type and range of services used as well as the settings in which such services are sought, delivered and received. Consequently, one important driver of current

and future patterns of health service utilization are the underlying (and changing) preferences for the type of LTC and the setting in which care is received by both care recipients and caregivers.¹³ Using current utilization rates as a means to forecast future needs without a discussion of the underlying (and changing) preferences implicitly assumes that preferences are either invariant to change or unimportant.¹⁴ Inclusion of care recipient and caregiver preferences in our model of LTC planning removes this naïve assumption. Because we cannot assume that preferences are constant, a comprehensive LTC planning model needs to include trends in preferences of care recipients and caregivers through use of information on care settings, household incomes, place of residence, self-rated health status and perceived needs for LTC.

1.0 Introduction

The number of Ontarians over sixty five years of age is expected to increase to approximately 3.8 million by the year 2046 from approximately 1.5 million in 2001.¹⁵ As a percentage of the total population, this growth in the elderly population represents an increase from 12.7% in 2001 to 24.3% by 2046.¹⁵ Because the elderly are high users of health and social services, this anticipated change in the size and composition of the elderly population is likely to drive the debate with respect to the future needs for health and social care for the foreseeable future.

Long-term care (LTC) in Ontario reflects a range of health, social and personal care services offered across alternative care settings.¹⁶ Formal LTC services in Ontario are facility-based, such as nursing homes and homes for the aged, and community-based, such as home nursing, homemaking and supportive housing.¹⁶⁻²⁰ In 1998, there were approximately 55, 882 residents in facility-based LTC¹⁶ in Ontario and approximately 380, 316 clients served by Ontario's Community Care Access Centres.²¹

The past two decades have been characterized by a shift in care from the acute hospital and facility-based LTC sectors to the community, often with goals to increase economic efficiency and better meet the needs and preferences of care recipients.^{16, 22} Such a shift has resulted in an annual growth of public home care expenditures of approximately 20% since 1975.¹⁶ Nonetheless, it is uncertain that the shift to the community has resulted in more efficient use of resources and it is unknown whether the needs and preferences of both care recipients and caregivers have been met by this shift. This uncertainty is in part due to the lack of a comprehensive model that properly identifies the needs and preferences of the population.

This paper is concerned with the systematic and comprehensive development of a LTC planning framework to aid decision-making. The framework advanced includes both

needs-based and preference-based assumptions with respect to health service and health setting planning. While needs-based and preference-based approaches to health planning have often been viewed as competing alternatives, we contend that these approaches are highly complementary. Indeed, we suggest that systematic and comprehensive LTC planning may only be achieved if both needs and preference-based approaches were integrated in health planning efforts. Consequently, the framework advanced herein represents a more complete approach to LTC planning than that developed by Hollander and Pallan (1995),¹ Ontario's Health Services Restructuring Commission (1997, 2000),^{2, 3} the Policy Advisory Committee of the Long-Term Care Review for Alberta (1999),⁴ Lazurko and Hearn (2000),⁵ Manitoba Health (1999)⁶ and Turner (2000).⁷

2.0 Needs-Based Assumptions

This section begins by clarifying our definition of needs for the proposed conceptual model for planning LTC because needs have not been consistently defined in the literature. Likewise, our definition of needs may differ from those proposed by others. Therefore, our goal, at the outset, is to make our definition of needs explicit in this LTC planning model. The following four quotes provide a sense of the manner in which needs have been defined by others:

This term has both a precise and an all-but-indefinable meaning in the context of public health. We speak of needs in precise numerical terms when we refer to specific indicators of disease or premature death that require intervention because their level is above that generally accepted in the society or community in question. ... It must be explicitly stated that “needs” always reflect prevailing value judgements as well as the existing ability to control a particular public health problem ... (p. 111)⁶⁰

It is sometimes argued that individuals will not, in a free market, demand as much of certain commodities as ‘society’ or the ‘community’ deems that they should consume. Thus a distinction between the individual’s own demand for the product and his or her need is drawn ... (p. 300)⁶¹

The simplest, most common, and in some ways intuitively appealing definition of need is what is necessary for sheer physical survival ... (p. 69)⁶²

The gerontological social sciences have a hellacious record in distinguishing between *need* and *demand* in the context of chronic care services for older people ... (p. 390).⁶³

While the four quotes differ, each reflects the difficulty in defining needs. A review of the literature suggests that needs have not been adequately defined and that some distinction should be made between needs and demands. Because our LTC planning model is designed as a framework to determine the amount and type of health and social care services for the elderly, our model has been designed to incorporate both the needs and the demands of care recipients without assuming that these concepts are the same. Our LTC planning model distinguishes demands from needs under the assumption that demand is

driven by preferences, which we discuss in Section 3. Needs, on the other hand, are determined by factors that predispose the elderly to need long-term health and social care.

We propose that, population characteristics, clinical (or health) needs and social care needs meet our definition of needs-based assumptions because when all else is held constant each can serve as a proxy for variations in the need for LTC. However, we suggest that each dimension – population characteristics, clinical needs and social care needs – represent unique contributions to the LTC planning model. Each dimension of our LTC planning model is discussed in turn.

The first dimension of need is the characteristics of the population, which we define as those factors that describe the demographic and socio-economic composition of the population. Factors that characterize the size and composition of the population have been used in all the planning models we identified.¹⁻⁷ Table A1, in the Appendix, shows the population characteristics that have been components of selected planning models. Table A2, in the Appendix, additionally shows how each model has operationalized its definition of population demographics. Our model will use the size, growth, age and gender composition of the population as well as its socio-economic status (SES) to develop a LTC planning model. None of the previously selected models have been as comprehensive in their characterization of population need, which suggests that our model might offer a more complete picture than previous efforts in the development of LTC plans.

The second dimension of needs-based assumptions is clinical (or health) need. Clinical needs are related to functional status and are measured by determining the extent to which a potential care recipient requires assistance with the Activities of Daily Living (ADL). ADLs include walking, washing, bathing and grooming, and using the toilet.⁶⁴ Needs-based planning models identify the extent of clinical needs within a particular care setting and assess the extent to which these clinical needs are met by current patterns of utilization.⁸

Since the clinical needs for LTC are always defined within a specific social context, an understanding of the changing LTC needs of the population requires an appreciation of both the clinical needs of the population and the effects of the social context on such needs. Variation in the underlying clinical needs of the population or in the population's social context will result in modified LTC needs. Consequently, plans for LTC that are based exclusively on either a clinical or a social care focus will be incomplete as both dimensions are important to project the need for LTC.

Social care needs therefore make up the final dimension of our needs-based assumptions. We define social care needs by evaluating the social care networks – family, friends, and community and social care services – available to the elderly. One way social care needs might be measured is by considering the amount of potential informal care available through proxy measures of household composition. A second measure might be to use the Instrumental Activities of Daily Living (IADLs) which assess the social care needs of the elderly in terms of their ability to perform: housekeeping, household maintenance, transportation, shopping, personal business affairs and taking medications etc.⁶⁴ In sum, the set of needs-based assumptions used in our LTC planning framework comprise population characteristics, clinical care needs and social care needs.

2.1 Population Characteristics

The first thing to consider in relation to population size is the effect of changes in absolute population size. If all other factors are held constant, the greater the absolute size of the population, the greater the need for LTC. The absolute size of the population in Ontario is increasing.¹¹ Table 1 reports population forecasts for Ontario to the year 2046 and shows that the total population is expected to increase from approximately 11.8 million in 2001 to 15.8 million by 2046.¹⁵ Similarly, the population aged 65+ is expected to increase in absolute size from approximately 1.5 million in 2001 to 3.8 million in 2046.¹⁵ Assuming all other

needs-based factors are held constant this change in the absolute size of the population represents an increased need for LTC.

Year	Age Group			
	Total Population	65-74	75+	Total 65+
2001	11,770	829	675	1,504
2006	12,423	870	775	1,645
2011	13,015	999	847	1,846
2016	13,600	1,252	921	2,173
2021	14,217	1,479	1,051	2,530
2026	14,657	1,665	1,280	2,945
2031	15,073	1,831	1,519	3,350
2036	15,399	1,802	1,783	3,585
2041	15,647	1,723	2,017	3,740
2046	15,839	1,744	2,105	3,849

Source: Denton, F.T., Feaver, C. and Spencer, B.G. Projections of the Population and Labour Force to 2046: The Provinces and Territories. SEDAP Research Paper No. 16. A Program for Research on Social and Economic Dimensions of An Aging Population. February 2000.

The absolute size of the population 65+ also influences the need for LTC since this population is growing (to 2046) at a different rate than the total population and will thus represent an increasing share of Ontario's population. Table 2 shows the differences in growth rates and proportions of the elderly in Ontario to the year 2046 for two age cohorts, 65-74 and 75+ as well as for the total population. The table shows that the elderly population is increasing in size at an annual rate that is threefold greater than for the total population, 2.1% vs. 0.7%. By the year 2046, 11.0% of the population is expected to be aged 65-74 and that 13.3% of the population will be over seventy-five years of age.¹⁵ This is particularly important because most (95.7%) residents of LTC facilities were over 65 years of age⁵, and home care utilization rates for those under 65 in 1995 was less than 2% compared to over 8% for those over 65.¹⁶

In addition to showing that the population 65+ is growing faster than the total population, Table 2 also demonstrates that the population aged 65-74 in Ontario is growing at

a different rate than the population 75+ and that there are specific temporal trends.¹⁵ Currently, the growth rate of the population 75+ is greater than that for the population aged 65-74.¹⁵ Between 2006 and 2021, as the cohort of baby boomers ages, there will be a shift to a faster growth rate among those 65-74 (3.6% per annum) compared to those over 75 (2.0% per annum). However, between 2021 and 2046 the population over 75 years of age will increase at a rate that is fourfold faster than those aged 65-74, 2.8% vs. 0.7%. This change in the age distribution of the population is important for LTC planning because the main recipients of LTC services are the elderly, particularly those over 75 years of age.

Traditionally, planning models have applied demographic projections data to current utilization rates to determine the future needs for LTC.⁸ Such planning methods isolate changes in the elderly population and implicitly assume that all other factors are held constant. If this method were applied to Ontario data, an increased need for both facility-based and home-based LTC services would be identified.

Year	65-74		75+		Total Population
	Percent Distribution	5-Year Growth Rate(%)	Percent Distribution	5-Year Growth Rate(%)	5-Year Growth Rate (%)
2001	7.0	--	5.7	--	--
2006	7.0	4.9	6.2	14.8	5.4
2011	7.7	14.9	6.5	9.3	4.9
2016	9.2	25.4	6.8	8.7	4.5
2021	10.4	18.1	7.4	14.1	4.1
2026	11.4	12.6	8.7	21.9	3.5
2031	12.2	10.0	10.1	18.6	2.8
2036	11.7	-1.6	11.6	17.4	2.2
2041	11.0	-4.4	12.9	13.1	1.6
2046	11.0	1.2	13.3	4.4	1.2

Source: Denton, F.T., Feaver, C. and Spencer, B.G. Projections of the Population and Labour Force to 2046: The Provinces and Territories. SEDAP Research Paper No. 16. A Program for Research on Social and Economic Dimensions of An Aging Population. February 2000.

Table 3 shows the estimated utilization rates of LTC facilities in Ontario in 1999 per 1,000 by 5-year age groups, with utilization increasing dramatically with age. In 1999, 11.6% of all facility-based LTC recipients were aged 65-74 compared to 84% who were 75+.⁵ All else being equal, if these are the relevant age-groups for LTC planning, the data suggest that the need for facility-based LTC is strongly influenced by the number of individuals in the population over seventy five years of age. While this comparison is informative it is also worth noting that Table 3 shows that detailed consideration should also be given to those over 85 because it is this age group that has a dramatically greater utilization rate than other members of the population.

Table 3 further shows that differential rates of utilization may be identified through the examination of more disaggregated age groups. Some models for LTC planning make explicit the use of multiple age groups, particularly for the population older than 75 years of age¹. For example, it is estimated that facility-based LTC utilization rates in Ontario for those 80-84 are almost threefold those for persons aged 75-59, (64 per 1000 population vs. 26 per 1000 population), and in turn utilization rates for those older than 85 years are also almost threefold greater than those for persons 80-84 year (176 per 1000 population vs. 64 per 1000). These figures suggest that rather than focus on a dichotomy between those ≤ 75 years and those 75+ years, a more detailed and extended assessment across all age groups beyond 65 years is warranted. The disaggregation of the over 65 years population into more detailed age groups would increase the reliability of projections for LTC vis-à-vis projections based on more aggregated data.

Age Group	Total care recipients	% Total Care Recipients*	Total Population in Age Group	Utilization Rate/1,000 Population
0-64	2,438	4.3	10,274,294	0.24
65-69	2,153	3.8	439,674	4.90
70-74	4,405	7.8	386,405	11.40
75-79	7,876	14.0	308,517	25.53
80-84	11,453	20.4	179,047	63.97
85+	27,858	49.6	158,038	176.27
65+	53,745	95.7	1,471,681	36.52
75+	47,187	84.0	645,602	73.09

Adapted from: KPMG: Continuing Care Scenarios, 1999-2041. Prepared for the FPT Advisory Committee on Health Services. May 2, 2000. Mark Lazaruko and Brenda Hearn.

*Percentages may not sum to 100% due to rounding.

The trend towards increased and differential utilization by age group is not limited to facility-based LTC. A similar pattern is found in the home care sector. Table 4 reports the estimated rate of home care utilization by age and gender in Ontario for 1995.¹⁶ It is reported that for both males and females, utilization increases with age and that increases in utilization occur differentially over both age and gender cohorts. For males, the largest difference in utilization was between the 80-84 age cohort and the 85+ age cohort, while for females the difference between the 75-79 year-olds and the 80-84 year-olds was the greatest. While it is difficult to account for these differences, our intention has been to show that differences exist even within small age groups for both facility-based and home-based care.

Table 4 also provides information concerning the role of gender on the use of home care. All the planning models identified in this paper have made use of gender specific data.¹⁷

⁷ The reason for looking at population by gender is that there are different rates of health service utilization by gender, as illustrated in Table 4. Women in all age categories, with the exception of those aged 0-19, reported greater utilization of home care services than men. In addition, though not reported in Table 4, women in all age groups over 45 reported a greater intensity of home care utilization (more services per home care recipient) than men in Ontario

in 1995.¹⁶ This implies that not only were more women reporting a greater propensity to use home care services, women were also using and receiving more services than their male counterparts.¹⁶

Age Group	Male Per 1,000 Population	Female Per 1,000 Population
0-19	13.76	8.74
20-44	5.47	8.55
45-64	15.46	19.47
65-69	45.29	54.51
70-74	70.56	88.99
75-79	100.65	132.97
80-84	172.58	220.08
85+	255.83	287.76

Adapted from: Baranek PM and Coyte PC. 1999. Long Term Care in Ontario: Home Care and Residential Care

Bertakis et al. (2000) studied the differences in utilization of health services for a population of adult men and women in the United States. The authors found that after controlling for socio-demographic variables and physician specialty, women used significantly more health services than men.²³ These results mirror the gender differences in health service utilization reported for Ontario and suggest that if preferences for health and social care remain unchanged, gender differences will need to be a consideration in planning for LTC.

Table 5 reports projected life expectancies for men and women at age 0 and age 65 in Ontario to the year 2046. Table 6 reports the trend in the proportion of population in various age groups in Ontario to the year 2046. It can be seen that women have a greater average life expectancy than men. However, life expectancies for both groups are projected to increase and men are projected to experience a faster rate of life expectancy increase than women, which may result in a reduced proportion of women in the elderly population. While this data does not account for differences in utilization rates between men and women, it is an

important source of information that should be used in the development of future plans for LTC.

Year	Age 0		Age 65	
	Male	Female	Male	Female
1991	74.9	80.9	15.8	19.8
1996	75.9	81.4	16.3	20.1
2001	76.8	81.7	16.7	20.3
2006	77.6	82.1	17.2	20.5
2011	78.3	82.4	17.6	20.7
2016	79.0	82.7	18.0	20.9
2021	79.6	83.0	18.4	21.1
2026	80.2	83.4	18.7	21.3
2031	80.7	83.7	19.0	21.6
2036	81.1	84.0	19.3	21.8
2041	81.5	84.3	19.6	22.0
2046	81.9	84.6	19.8	22.2

Source: Denton, F.T., Feaver, C. and Spencer, B.G. Projections of the Population and Labour Force to 2046: The Provinces and Territories. SEDAP Research Paper No. 16. A Program for Research on Social and Economic Dimensions of An Aging Population. February 2000

Year	Age	
	65-74	75+
1996	54.1	62.8
2001	52.9	62.3
2011	52.5	60.1
2016	52.3	59.3
2026	51.9	57.4
2031	51.2	57.0
2041	51.1	56.0
2046	50.8	56.0

Source: Denton, F.T., Feaver, C. and Spencer, B.G. Projections of the Population and Labour Force to 2046: The Provinces and Territories. SEDAP Research Paper No. 16. A Program for Research on Social and Economic Dimensions of An Aging Population. February 2000

A final characteristic of the population that we include in LTC planning is socio-economic status (SES) because the literature has identified differences in the utilization of

health care services across SES groups.²⁴ Evidence shows that even in a universal health care system that offers services “free” at the point of utilization, a positive income and education gradient is observed, such that more services are used by those with higher incomes even after the adjustment for morbidity.²⁴ Socio-economic status is related not only to income levels but also to education levels because higher levels of education are associated with better employment, and lifetime opportunities and knowledge. Therefore, the model proposed for LTC planning might include data both on incomes and on trends in post-secondary education levels.

2.2 Clinical Needs

This section will discuss what is meant by clinical (or health) needs in addition to why and how we determine clinical needs in the population. Because clinical needs may be implied by the extent of disability in a population, we present data pertaining to disability trends in the elderly population. It has been shown that disability within the elderly population in Canada is changing.^{10,27,29} We argue that this change will affect the need for LTC and we discuss the impact that this directional change might have on alternative LTC settings in Ontario.

It has been argued that, “the future health of older populations is a key element in analysing the future needs for social systems (p.5).”¹⁰ Implicit in this statement is that social systems include health care, social assistance, housing, transportation and education. Consequently, clinical needs are directly related to the future health of the population and may be assessed by measuring the extent of illness or disability amongst care recipients and by considering overall population health trends. The clinical needs of a population may be measured by assessing its functional status.¹⁰ While physicians or care assessment teams assess clinical needs at the individual level, in this section we measure trends in the functional status of the elderly population because health planning takes place at that level.

The general level of disability in a population is important for planning LTC because it has been explicitly assumed that the severity of illness or disability of care recipients proxies the potential need for care.^{25, 26} In general, the greater the clinical needs of care recipients, the greater the potential need for LTC. Different measures exist to determine functional status, which tend to make comparisons of disability rates across countries difficult.¹⁰ A similar problem might arise if disability measures across different care settings are incongruent. It is therefore important that valid, reliable and equivalent measures of clinical needs are employed by LTC planners so that the impact of the shift from one care setting to another can be fully assessed.

It is important to consider the trend in population health even in the context of increases in overall life expectancy since there has been some debate about whether the ageing population is living longer in a healthier state or longer in a chronic state.^{10,27,28, 29} Current evidence supports the “compression of morbidity” theory, wherein individuals experience longer and healthier lives, rather than “the expansion of morbidity theory”, wherein individuals live longer but in a state of disability.¹⁰ The compression of morbidity theory is supported by evidence that both chronic and acute conditions are starting at increasingly older ages. This change may be due to both improved overall population health and improvements in medical technology.²⁹

Disability Free Life Expectancy (DFLE) and Severe Disability Free Life Expectancy (SDFLE) are measures of disability that have been used by the Organization for Economic Co-operation and Development (OECD).¹⁰ DFLE uses scores from the Activities of Daily Living (ADL) and Instrumental Activities of Daily Living (IADL) scales to estimate the number of years that an individual may expect to live disability free.¹⁰ ADLs are a measure of functional disability associated with the performance of activities of daily living, such as walking, washing, bathing and grooming, and using the toilet,⁶⁴ and refer to the elderly and

institutionalized individuals. IADLs, on the other hand, were designed to extend the ADL scale to problems typically encountered by individuals living in the community. IADLs assess the ability to perform activities, such as, cooking, shopping, household maintenance, transportation, personal business affairs, taking medications, and reading or writing.⁶⁴ In general, the greater the number of ADL restrictions the more severe the level of disability. In contrast, SDFLE is defined as the absence of any ADL restriction. When SDFLE increases it implies a trend to healthier populations and supports the compression of morbidity theory.

The following data on disability is adapted from an OECD study that compared disability trends of selected OECD countries.^{10,27,29} Severe disability was defined as the presence of at least one ADL deficit. The extent of severe disability in a country is the sum of severe disability in both community and facility-based care settings. The OECD study assumed that all care recipients living in LTC institutions were severely disabled. Thus, the extent of a severe disability in the population was defined as the sum of the total institutional population and the number living in the community with at least one ADL restriction. According to the OECD estimates, Canada has experienced decreased levels of severe disability.^{10,27,29}

Two alternative projections were developed to assess the extent of severe disability in the elderly. The first applies population growth rates to the underlying prevalence of severe disability and assumes no change in either community disability rates or institutionalization rates. The second projection applies population growth rates to the prevalence of severe disability and allows for a decreasing trend in community disability rates as well as a decreasing trend in institutionalization rates. The second projection makes use of longitudinal data from both household surveys and surveys of the institutionalized population to determine the prevalence of severe disability.¹⁰ Tables 7 and 8 summarize the Canadian data, but report different components to disability in Canada. While Table 7 shows the trends

in SDFLE, Table 8 shows the proportion of the population that is expected to be severely disabled.

Table 7 shows that there are gender differences, severe disability is decreasing for both men and women. Nonetheless, Table 7 indicates gender differences. For example, both males and females over 65 years of age experience longer disability free lives, but disability has decreased more for females than for males. In 1991, females over 65 years of age could expect to live one more disability free year than in 1986 and males over 65 years of age could expect to live free from disability for an additional six months than in 1986. If this difference is indicative of greater health improvements for females than males, it may be beneficial to incorporate these data into LTC plans as women generally exhibit greater use of health and social care than their male counterparts.

Table 8 shows that in Canada, the estimated percent of the elderly population with severe disability will increase to 2010, but decrease thereafter. This trend is invariant to the disability assumptions employed, and holding other factors constant suggests that there will be an increased need for LTC until 2010 and a potential decrease thereafter.

Table 7				
Trends in Severe Disability Free Life Expectancy (SDFLE) for Canada				
	Males		Females	
	Life Expectancy at Age 65	SDFLE at Age 65	Life Expectancy at Age 65	SDFLE at Age 65
CANADA				
1986	14.9	12.8	19.2	14.4
1991	15.6	13.3	19.7	15.4

Source: Jacobzone, Stephane. Ageing and Care For Frail Elderly Persons: An Overview of International Perspectives. Labour Market and Social Policy – Occasional Papers No. 38. OECD. April 1999.

Year	Assumption 1: no change in Disability Rate			Assumption 2: Decrease in Disability Rate**		
	Percent Population Severely Disabled in Institutions ^Δ	Percent Population Severely Disabled Community	Percent Population Severely Disabled Total*	Percent Population Severely Disabled in Institutions	Percent Population Severely Disabled Community	Percent Population Severely Disabled Total
1994	6.0	4.1	10.1	6.0	4.1	10.1
2000	6.3	4.3	10.6	5.9	4.4	10.3
2010	6.8	4.5	11.3	5.7	4.9	10.5
2020	6.1	4.2	10.3	4.5	4.5	8.9

Source: Jacobzone, Stephane. Ageing and Care For Frail Elderly Persons: An Overview of International Perspectives. Labour Market and Social Policy – Occasional Papers No. 38. OECD. April 1999.

* Rounding may imply that the percent population severely disabled in institutions + percent population severely disabled in community differ from the total percent of severely disabled in the population.

Δ Note that as the population size and composition changes, the percent of the population living in institutions and in the community might similarly change.

**Note that the decrease in disability is estimated from population surveys of both households and the institutionalized population in Canada.

Health planning for LTC is often based on the clinical needs of the population as well as the appropriate setting for LTC because alternative care settings may not provide care for the same “type” of care recipient. In general, the most disabled care recipients receive facility-based LTC as opposed to in-home care.⁸ There has been a concern that shifting care from institutions to the community has resulted in an increase in the service needs of community-based clients.^{14, 21} At the same time, there is a concern that the community sector lacks the resources to cope with this shift. It is suggested that LTC plans for Ontario ought to consider the extent to which alternative care settings are appropriate and adequate for the elderly who present with varying levels of disability.

2.3 Social Care Needs

This section begins by defining what is meant by social care needs and why social care needs influence the need for LTC. We propose that social care needs can be met both formally and informally through social networks in the community. The gerontology literature demonstrates that informal caregivers, a major part of a care recipient’s social

network, represent the overwhelming majority of care to elderly Canadians.³² Therefore, we suggest that a LTC planning model, in addition to including the extent of available formal community-based services should include a detailed examination of the extent of available informal care when determining LTC needs. This section also discusses the extent and type of available housing for the elderly as housing represents the physical component of social care, and moreover, it is associated with the ability to utilize both formal community-based services and informal care.

Social care helps elderly Canadians maintain independence and is associated with their integration into the community. The social networks available to care recipients help them meet their social care needs. The extent to which social networks are available to the elderly is important for planning LTC because it enables a policy of “ageing in place”.³⁰ This policy is based on the premise that the elderly want to remain in their own homes as long as possible and assumes both implicitly and explicitly that ageing in place provides autonomy.¹

One way that social care needs are met formally in Ontario is through the provision of formal community support services. Community support services are often designed and developed by voluntary organizations and include, but are not limited to, Meals-on-Wheels, adult day programs, friendly visiting services, security checks or reassurance services, and social or recreational services.¹⁹ Table 9 provides a list of community support services that are outlined in Ontario’s Long-Term Care Act of 1994.¹⁹ While only a list is provided here, a LTC planning model for Ontario might also include the extent to which each of these services are available to older Ontarians as well as the terms and conditions associated with their utilization.

¹ For example, in Ontario the Ministry of Health and Long-Term Care states that “community-based services are designed to ... assist elderly people ... to live independently and remain in their own homes for as long as possible” http://www.gov.on.ca/health/english/program/ltc/lc_mn.html

Table 9
Community Support Services in Ontario
Service
Meal Services
Transportation
Caregiver Support
Adult Day Programs
Home Maintenance and Repair
Friendly Visiting
Security Checks
Social or Recreational Services
Equipment/Supplies
Other

Source: Long-Term Care Act, 1994 Ontario Ministry of Health and Long-Term Care.

Formal services in the community also meet the social care needs of the elderly, and similarly, so do the services provided by informal caregivers. Informal care is defined as “that care provided by family and friends, neighbours and ... volunteer agencies ... (p.3)².”³⁰

³¹ Informal care differs from formal care in that there is no formal client-agency relationship.³² Family and friends provide most informal care, and it is generally assumed that the provision of care is “free” in the sense that the informal caregiver is unpaid. In the light of the provision of unpaid care, many governments have developed programs and policies to partially “compensate” informal caregivers for a portion of their care giving time and expenses.³⁰

As the informal care sector accounts for the greatest portion of care providers within the LTC continuum, it is of utmost importance in models that predict LTC needs, and accordingly, the setting for such care. It has been estimated that almost 75% of the 3.4 million Canadians older than sixty five years of age receive assistance from an informal caregiver.³⁰ Any variation in such assistance uptake rates would have dramatic effects on the need for formal LTC.

² cited from Lessman and Martin Home-Based Care, The Elderly, The Family and The Welfare State: An International Comparison. Pp. 251-271. University of Ottawa Press, Canada. 1993. In: Williams A. (1996)

Table 10 reports the rate of receipt of informal care by age and gender for Canada. The table demonstrates that the uptake of informal care in Canada is high and that the receipt of informal care increases with the age of the care recipient, and moreover, is higher for men than women. Because LTC is provided both formally and informally, Table 10 supports the point made previously that the need for LTC increases with age. It is important to include these data in planning models because they suggest that age and gender may influence the need for LTC, and they highlight the importance of valid and reliable assumptions concerning the provision of informal care.

Age Group	Women	Men
	% Receiving Assistance*	% Receiving Assistance
60-74	65	75
75-84	75	79
85+	88	90

Source: Keating, N, Fast, J, Frederick, J, Cranswick, K and Perrier, C. *Eldercare in Canada: Context, Content and Consequences*. Statistics Canada Housing and Social Statistics Division. November 1999.

* Assistance is defined as any of the following tasks provided to a senior because of a long-term health problem; because of a temporary difficult time, or because of the way things are done in the senior's household: meal preparation and clean up, house cleaning, laundry and sewing, household maintenance and outside work, shopping for groceries or other necessities, transportation, banking or bill paying, personal care, emotional support, and/or checking up to make sure a senior is okay (p. 12).

Table 11 reports reasons for the receipt of informal assistance by gender and marital status of the elder care recipient. This table is adapted from a report by Keating et.al. (1999) entitled *Eldercare in Canada: Context, Content and Consequences*.³² This study used data from the General Social Survey of Community Support in Canada to analyze elderly care recipients and their caregivers.³² The study focus is relevant because it looked at those caregivers who provide care to the elderly on "high needs", where high needs was defined as the presence of chronic or long-term disability. In addition, the authors noted that high needs might be influenced by an acute or temporary illness, as well as by familial roles and responsibilities that predispose the elderly to need care. Consequently, these reasons for the

receipt of assistance ought to be examined separately in order to develop a detailed and comprehensive planning model for LTC.

It might be useful for planners in Ontario to consider Table 11 in more detail. Specifically, the table demonstrates that the majority of elderly Canadians receive assistance from informal caregivers, and more importantly, that assistance is provided not only for health reasons – long-term disability and temporary illness – but also in the absence of any health-related illness. In fact, it was more often the case that informal care was provided in the absence of long-term or acute illnesses. These observations suggest that a substantial portion of informal caregiving is for social as opposed to health reasons.

Table 11				
Relationship between Reason for Care and Selected Characteristics of the Elderly Care Recipients				
Characteristic	Reason for Assistance			No Assistance
	Long-term Disability	Temporary Disability	Assistance in absence of Disability ^a	
Gender				
Female	26	5	40	30
Male	17	3	57	23
Marital Status				
Married	16	3	63	18
Non-Married	31	4	25	40

Keating, N, Fast, J, Frederick, J, Cranswick, K and Perrier, C. Eldercare in Canada: Context, Content and Consequences. Statistics Canada Housing and Social Statistics Division. November 1999.

[a] The assumption here is that some assistance is provided to the elderly because of familial responsibilities and roles. For example, a woman might always assume the meal preparation role. Identifying these norms in a household is of value because it suggests that care not only fulfills clinical needs but also fulfills social needs.

Table 12 highlights the characteristics of informal caregivers in Canada. Some interesting observations can be made from these statistics that might be important for the development of LTC plans. Table 13 summarizes general observations that might be made about the informal care sector for purposes of planning LTC in Ontario.

Table 12: Who Provides Informal Care? Percentage of Group and Average Hours/Week Spent on Eldercare by Canadian Women and Men, 1996						
Caregiver Characteristics	Women Caregivers		Men Caregivers		Total	
	%	Mean Hours/Wk	%	Mean Hours/Wk	%	Mean Hours/Wk
Age Group						
15-29	12.5	4.6	18.6	2.8	14.9	3.7
30-44	33.1	4.2	33.9	2.8	33.4	3.7
45-59	36.6	4.8	31.0	2.6	34.4	4.0
60-74	14.8	7.5	12.6	4.0	13.9	6.2
75+	2.9	6.8	3.9	6.6	3.3	6.7
Education Level						
<High School	22.4	6.7	23.4	2.4	22.8	5.0
High School	14.3	5.5	9.8	5.4	12.6	5.5
Some Postsecondary	19.2	5.1	15.7	2.7	17.8	4.2
Trade school or Community College	30.3	3.6	26.6	3.2	28.9	3.5
BA+	13.8	4.8	24.6	2.5	18.0	3.6
Urban/Rural Residence						
Urban	72.7	4.7	79.1	3.1	75.2	4.0
Rural	27.3	6.0	20.9	2.9	24.8	5.0
Marital Status						
Married/Common- law	65.9	4.5	74.0	2.8	69.1	3.8
Separated/Divorced	8.0	3.9	3.5	1.9	6.3	3.5
Widowed	7.9	7.7	1.5	12.0	5.4	8.2
Single	18.2	6.4	21.0	3.5	19.3	5.1
Labour Force Status						
Not in Labour Force	37.9	6.2	22.2	5.0	31.7	5.8
Employed Part Time	15.3	4.6	7.4	2.3	12.2	4.0
Employed Full Time	46.8	4.2	70.5	2.6	56.1	3.4
Presence of children under 15						
No children <15	74.8	5.6	67.8	3.3	72.0	4.7
Children <15	25.2	3.4	32.2	2.6	28.0	3.0
Length of Time Caregiving						
<6 months	13.5	7.1	12.9	2.4	13.3	5.3
6<12 months	10.2	4.6	11.5	2.8	10.7	3.8
1<2 years	16.1	4.2	15.1	5.5	15.7	4.7
2+ years	60.2	4.8	60.5	2.6	60.3	4.0

Keating, N, Fast, J, Frederick, J, Cranswick, K and Perrier, C. Eldercare in Canada: Context, Content and Consequences. Statistics Canada Housing and Social Statistics Division. November 1999.

Table 13**Identifying General Observations for the Informal Caregiver***

Informal caregivers in Canada:

- Spend more hours caring for older care recipients than for younger ones;
- Spend fewer hours caring when they have more years of formal education;
- Are proportionately greater in urban centres, but spend more time caring in rural communities;
- Often married or live common-law; and are
- More often employed either part or full time.

A final ingredient in the determination of social care needs is the extent of available housing because it is an integral component to the production of health and social care. An assumption that is implicitly made where there have been shifts away from the acute care sector to the community is that appropriate housing circumstances exist to enable that shift.¹⁴ However, since most homes, even the finest homes, were not designed to be the setting for the provision of LTC, serious examination of the housing assumptions underpinning LTC health policy is warranted.

A review of housing policies across jurisdictions reveals that some jurisdictions have more explicitly considered housing in the context of LTC policy.³⁴ Canada now recognizes the importance of linking housing policy and LTC policy.³⁵ However, housing policy in Canada may not be responding appropriately to the changes in the LTC sector or to the changes in the ageing population.³⁶ In both Denmark and Sweden, limits on nursing home construction were accompanied by significant investments in residential alternatives.³⁵ It is unclear whether Canada has placed sufficient emphasis on housing alternatives. A planning model that considers the impact of shifts to supportive housing or other appropriate housing alternatives is needed since the range, form and application of available housing provides an important influence on the planning process for LTC. If appropriate housing were not available to the elderly in the community, the need for formal institutional LTC may increase.

3.0 Preference-Based Assumptions

This Section outlines the role of preference-based assumptions in the development of a comprehensive model for LTC planning. Preferences held and acted upon by both care recipients and caregivers are important to incorporate in LTC planning models as they influence the decisions to seek and accept LTC as well as the setting in which such care is received. An assessment of the trends in and the determinants of such preferences, and an examination of the care seeking behaviours which are based on such preferences, a more complete understanding of the factors required to forecast the demand for LTC would be achieved.

There are three main dimensions to the preference-based approach to LTC planning: pure preferences; enabling factors; and attitudinal factors. First, pure preferences refer to the underlying (or innate) preferences exhibited by care recipients and caregivers with respect to the type and range of LTC services. Preferences are instrumental to the LTC seeking behaviours exhibited by care recipients and caregivers, once issues such as service eligibility, financing and perceived service quality have been clarified. Indeed, once such constraints and perceptions have been determined, the LTC seeking behaviours of care recipients and caregivers are driven by an assessment of the benefits and costs associated with alternative care settings and services.

Second, enabling factors refer to the availability and accessibility of resources as well as the attributes of the community in which one resides that facilitate or hinder the use of services.^{13,49,56} One specific class of enabling factors that influence LTC seeking behaviour are the provincially determined and locally operationalized eligibility requirements for LTC. Variation in such enabling factors, holding constant underlying preferences for the type and range of LTC services, will alter the observed LTC seeking behaviours of the care recipients and caregivers.

Third, attitudinal factors refer to the perceptions held by care recipients and caregivers over an array of health and social care services and their perceived needs for LTC. Such attitudinal factors are important in the formation of pure (or innate) preferences for LTC as they provide insight into the attributes of LTC and the associated benefits that care recipients and caregivers expect to derive from the receipt of such services. Consequently, attitudinal factors help shape the preferences exhibited by care recipients and caregivers concerning LTC settings and services. The interplay of pure preferences, enabling factors and attitudinal factors are likely to be key determinants of the type and range of LTC services demanded by the elderly in Ontario.

3.1 Pure Preferences

In our model pure (or innate) preferences refer to the underlying preferences exhibited by care recipients and caregivers with respect to the type and range of LTC services. Holding all other factors constant, we anticipate that a particular care setting may be preferred to other settings by care recipients and caregivers, and that if asked, both care recipients and caregivers might reveal this preference.^{47, 48} This is important for LTC planning because if pure preferences were not included in a planning model there may be a miss-match between the type and amount of care provided and the amount of care sought by care recipients and caregivers.

While LTC planning models have implicitly discussed the importance of pure preferences for particular care settings, none of the planning models we have reviewed obtained care recipients or caregiver preferences for LTC planning purposes.¹⁻⁷ Instead, these models rely on the implicit assumption that people prefer autonomy over dependence, and that autonomy is achieved by remaining in ones own home as long as possible. It is unknown if this assumption adequately captures the preferences for LTC. We, however, suggest that the most comprehensive LTC planning model would be one that explicitly incorporates the

pure preferences of care recipients and caregivers by directly asking these individuals about their preferred settings for LTC.

Indeed, it might be inappropriate to assume that we know a care recipient's preferences without asking directly. Tsevat et.al. (1998) studied the health values of older hospitalized patients (80+) to assess the differences that might exist between their actual preferences and those that were expected by the caregivers or surrogate decision makers. These investigators found that preferences varied greatly between individuals, and that in most cases the caregiver did not accurately predict the preferences of the care recipient.

Likewise, it would be inappropriate to assume that preferences were invariant to change. Wilson (2000) studied how preferences changed over time and with experience. Wilson argues that experience with end-of-life care influences preferences for both the type of and the setting for care.⁵⁸ Most seniors preferred to die at home, while those with caregiving experience preferred a facility-based care setting if they anticipated that they would be without an informal caregiver.⁵⁸ A direct measure of care recipient and caregiver preferences for LTC settings would not only make our assumptions explicit about the preferred setting for care, but would also identify factors such as informal caregiving etc., that might influence health and social care preferences and by extension, influence the demand for formal LTC.

3.2 Enabling Factors

We defined enabling factors in this model as those factors that either facilitate or create barriers to the use of LTC services. Such enabling factors refer to the availability and accessibility of resources that satisfy an underlying need for LTC. Table A3, in the Appendix, outlines the formal LTC services offered in Ontario and provides a description of the formal LTC service, the various eligibility requirements for each service and the range of co-payments, or out-of-pocket costs for each service. Three enabling factors can be identified in

Table A3: the eligibility requirements; the cost-sharing arrangements; and the range of LTC services available.

Eligibility requirements for LTC services are the first of the three enabling factors. Eligibility requirements create barriers for potential care recipients who may prefer a specific type of LTC but are not eligible to receive such services. For example, one eligibility requirement for the receipt of in-home services is the availability of an informal caregiver to provide care.⁶⁵ Suppose, however, that the potential care recipient considered herself to be a burden to her informal caregiver or that the informal caregiver was incapable of providing sufficient or appropriate care. Consequently, even though a caregiver is available, informal care is not the preferred alternative in this case. This might lead a care recipient and caregiver to seek/accept alternative services without similar eligibility requirements. LTC planners need to be aware of these impacts because as Table A3, in the Appendix shows, eligibility requirements vary by service and care setting. Indeed, eligibility requirements will impact not only the immediate service, but also the other services that cover the LTC continuum.

The second enabling factor is the out-of-pocket costs borne by care recipients and caregivers where LTC services are used. Co-payments create barriers when incomes are insufficient to seek/accept the formal LTC services. Incomes are included within a preference-based approach because they enable a care recipient to seek/accept care when there are out-of-pocket expenses to be incurred. The role of incomes in the development of LTC plans is important because there are wide variations in the out-of-pocket costs borne by care recipients at the point of utilization that depend on the service used and the setting in which services are received (see Table A3 in the Appendix).^{19,20}

The third enabling factor is the availability of formal LTC because when a particular formal LTC service is preferred but not offered a barrier is created for potential care

recipients. Availability relates to proximity to services and care settings which in turn enhances the ability and willingness to seek/accept care.³⁸ It has been shown that individuals wish to remain in their own community if they are supported in that decision, but not all jurisdictions are capable of providing such supportive services.⁴³ Moreover, when a preferred LTC service is not available or accessible to potential care recipients, there will be a substitution to alternative services or individuals will forgo services altogether.

To quantify enabling factors, LTC plans might describe and identify differences in eligibility requirements across LTC services and settings. Similarly, LTC plans might describe and measure the out-of-pocket expenses for publicly and privately financed LTC services. LTC planning may also include statistics that measure the extent of the elderly population in different regions and the relative availability of LTC services. The site of residence is important in the identification of regional variations in health and social service use.⁴² Because wide regional differences have been found in both the propensity and intensity of service use, planners have endeavoured to establish provincial benchmarks for utilization and planning.^{1,2} It may be appropriate to use evidence from such regional variations in LTC planning exercises. Nevertheless, we argue that without also considering the complete array of needs and preference-based factors identified in this model the use of regional differences to determine benchmarks will fall short of appropriately established forward-looking benchmarks for LTC.

We suggest that enabling factors be considered in the development of LTC plans because they are a component of the demand for LTC. Because enabling factors influence the care recipient's and the caregiver's decision to seek/accept care, any change in an enabling factor will similarly change the demand for LTC. Indeed, the care recipient or caregiver might be more or less willing to seek/accept care as a result of a change in eligibility requirements, out-of-pocket costs or availability of LTC services; however, the

amount and type of care that the care recipient and the caregiver will seek/accept depends on the underlying preferences for LTC. The interplay of pure preferences and enabling assumptions is important and highlights the need to incorporate care recipients' and caregivers' pure preferences in a LTC planning model in addition to eligibility requirements, out-of-pocket costs and the availability of LTC services.

3.3 Attitudinal Factors

Attitudinal factors refer to the perceptions held by care recipients and caregivers over an array of health and social care services and their perceived needs for LTC. We discuss two specific attitudinal factors in our model – own health perceptions and beliefs, and attitudes towards the health and social care system. These factors are important in the formation of pure preferences and are therefore important to LTC planning. Attitudinal factors provide insight into both the attributes of LTC and the associated benefits that care recipients and caregivers expect to derive from the receipt of such services and can be used as proxy measures for determining the demand for care.^{13, 40,41, 49,56,57}

Anderson and Newman (1973) and Anderson (1995) provide a framework for understanding health services utilization that has been employed to identify factors that predict health service use by older adults.^{39, 40,41,49} The model characterizes the population at risk of using health services with a set of predisposing, enabling and needs factors. The model considers not only the characteristics of the service user but also the social determinants that might influence health service utilization. In the Anderson model of health service utilization, predisposing factors include: demographics, socio-economic factors and health attitudes/beliefs; enabling factors include: income, health insurance, type of regular care, access to regular care, and health system characteristics; and needs factors include evaluated health states and perceived health needs.^{40,41}

Our model employs a similar framework of Anderson and Newman, which identifies and describes specific predisposing, enabling and needs factors that might determine the future needs for LTC. We have not yet identified or described health beliefs and attitudes, or perceived needs, in our model and we recognize that these are significant factors that influence the future needs for LTC. An integral, and unique, part of our model is the inclusion of care recipient and caregiver preferences for LTC. To identify the attitudes and beliefs that shape care recipients' and caregivers' preferences for LTC, we include an attitudinal dimension.

Attitudinal factors have been assessed by taking proxy measures of attitudes towards health and health care services and using these to predict health service utilization.^{49,56,57,58} For example, Linden et al. (1997) considered the health care utilization of very old adults (80+). In their study, the authors found that the demand for formal and informal caregiving increased with subjective health complaints.⁵⁶ Similarly, in Canada, perceived health was measured in the General Social Survey and used to predict the receipt of care.³² Using the results of the General Social Survey it was found that poor health perceptions were associated with the greater use of care.³² These results imply that if we were to know the perceived health of individuals we might also know something about their willingness to seek/accept care.

It might be possible to quantify perceived health for purposes of LTC planning through surveys. Self-rated health has been measured in Canada using surveys such as the National Population Health Survey and the General Social Survey.^{32, 45} Table 14 shows selected results of the 1996-97 National Population Health Survey for self-rated health. In 1996-97 it was found that 78% of Canadians over 65 thought their health was at least "good". In fact, 40% of Canadians over 65 rated their health as excellent or very good.⁴⁵

Table 15					
Self-Rated Health of Selected Age-Groups in Canada and Ontario, 1996-97					
Age	Percentage Describing Health As:				
	Excellent	Very Good	Good	Fair	Poor
65-74					
Men	13.6	30.0	34.3	16.5	5.7
Women	13.0	28.3	41.4	13.0	4.2
Total	13.3	29.0	38.3	14.6	4.8
75-84					
Men	10.1	24.9	39.5	17.4	8.2
Women	11.9	25.9	34.7	21.4	6.1
Total	11.1	25.4	36.7	19.7	7.0
85+					
Men	6.3	29.1	38.2	16.5	9.9
Women	6.4	28.5	34.8	19.0	11.3
Total	6.4	28.8	36.1	18.0	10.8
Total Population Ontario					
	25	39	25	7	3

Sources: a) A Portrait of Seniors in Canada Third Edition. Statistics Canada. 1999

b) Federal, Provincial, and Territorial Advisory Committee on Population Health. Statistical Report on the Health of Canadians, Ottawa: Minister of Public Works and Government Services Canada, 1999. Available: <http://www.statcan.ca/english/> October 14, 2000.

c) Canadian Institute for Health Information, Provincial and Territorial Indicators, Available: http://www.cihi.ca/Roadmap/Health_Ind/ont/provinc1.htm, October 14, 2000.

Likewise, it might be possible to draw from surveys to quantify perceptions of formal and informal health and social care services. Results from surveys might be included in LTC planning because they might highlight a willingness to consider alternatives to the current health and social care services offered and/or received. The Commonwealth Fund 1999 International Health Policy Survey of the Elderly found that while 38% of elderly Canadians thought that the health care system worked well and needed only minor changes, 36% of elderly Canadians thought that the health care system was worse than five years ago.⁴⁴ If poor perceptions of formal LTC services influence the demand for LTC as well as the setting in which care is sought, such perceptions should be included in a comprehensive LTC planning model.

We have suggested that measures of the perceptions held by care recipients and caregivers over an array of health and social care services and their perceived health needs be

included in a comprehensive LTC planning model. These factors could be quantified with measures of self-rated health status and public perceptions of the formal and informal LTC system. It is essential to include attitudinal factors because they are important in the formation of preferences for health and social care services, and though we cannot assume we know what care recipients and caregivers desire without directly measuring pure (or innate) preferences, proxies such as self-rated health status and public perceptions of health and social care services have the potential to inform LTC plans.

4.0 Conclusion

This paper has identified an array of factors that may be employed in the development of a systematic and comprehensive model for LTC planning. A summary of the factors that are considered in this report is provided in Tables A1 and A2 in the Appendix. Population demographics, in themselves, are insufficient to comprehensively determine either the total demand for LTC in Ontario or the appropriateness of alternative care settings. We believe that a more complete planning model would include both needs-based assumptions and preference-based assumptions, and accordingly, we suggest that the time is right for Ontario to adopt a model that is more sensitive to the future needs of the elderly population than a simple model based exclusively on demographic factors.

Appendix

Table A1: Factors Identified in Selected LTC Planning Models in Canada

Summary of Factors identified in selected LTC Planning Models in Canada that Guide Forecasts for Demand of LTC (✗ indicates that the factor was discussed even if not operationalized in the specified models)								
Model	<i>This Model for Ontario</i>	HSRC: Rebuilding ... Interim Planning Guidelines ²	HSRC 2000 and HayGroup Report ³	Hollander and Pallan 1995 ³	KPMG Continuing Care Scenerios ⁵	Alberta Planning Model 2000 ⁴	Manitoba Planning Model (Proposed) ⁶	Newfoundland & Labrador (From: Ms. K. Turner) ⁷
Planning Factor								
Needs-Based Assumptions								
Population Characteristics								
• Size	✗	✗	✗	✗	✗	✗	✗	✗
• Age	✗	✗	✗	✗	✗	✗	✗	✗
• Gender	✗	✗	✗	✗	✗	✗	✗	
• SES	✗						✗	
Clinical Needs	✗	✗	✗	✗	✗	✗	✗	✗
Social Care Needs								
• Informal Care	✗					✗	✗	✗
• Community Services	✗			✗	✗	✗	✗	
• Housing	✗					✗		
Preference-Based Assumptions								
Pure Preferences or desire for autonomy	✗	✗	✗		✗	✗	✗	✗
Enabling Factors								
• Eligibility Requirements	✗							
• Co-payments or out-of-pocket costs	✗				✗	✗	✗	
• Availability of LTC	✗	✗	✗				✗	✗

Table A1: Factors Identified in Selected LTC Planning Models in Canada

Model	<i>This Model for Ontario</i>	HSRC: Rebuilding ... Interim Planning Guidelines ²	HSRC 2000 and HayGroup Report ³	Hollander and Pallan 1995 ³	KPMG Continuing Care Scenerios ⁵	Alberta Planning Model 2000 ⁴	Manitoba Planning Model (Proposed) ⁶	Newfoundland & Labrador (From: Ms. K. Turner) ⁷
Attitudinal Factors								
• Self Rated Health	✘							
• Perception of health care services	✘		✘					
General Comments on the model								
	<i>Our framework offers a broad, comprehensive model that is needs-based and preference-based. It includes clinical and social factors to forecast demand for LTC and also acknowledges that demand will be shaped by future preferences.</i>	This was a planning model for health services restructuring in Ontario; this model was not limited to LTC	This was a summary report in part written by HSRC (1997) that details health services restructuring in Ontario	This planning model was used in British Columbia to plan the Continuing Care System; the planners considered it to be both population-based and needs-based	This was a forecasting model to project the continuing care needs to 2041 for each province and territory in Canada using current utilization rates for facility-based care and assessing impacts on home living and supportive living	This is a forecasting model for Alberta almost identical in method to KPMG (2000)	This is a planning framework for discussion purposes only and has not been used in practice	This information was provided through personal correspondence; it offers a brief outline of assumptions needed for LTC planning and therefore, was not were Table A2

Table A2: Summary of the way factors are used or discussed in selected LTC planning models in Canada

How are factors determined and discussed?							
Planning Factor	<i>Possible factors to include in a new LTC planning model for Ontario</i>	HSRC: Rebuilding ...	HSRC 2000	Hollander and Pallan 1995	KPMG Continuing Care Scenerios	Alberta Planning Model 2000	Manitoba Planning Model
Needs-Based Assumptions							
Population Characteristics							
• Size	<i>Absolute size increase Growth Rates</i>						Growth determines planning guideline
• Age	<i>Most specific age cohorts available and percent change in each cohort</i>	75+ for facility-based LTC Age Cohorts (0-14), (15-44), (45-64), (65-74), (75-84), (85+)	Current capacity based on 75+	Age Cohorts (1-19), (20-44), (45-64), (65-74), (75-84), 85+	5-year age cohorts	Utilization rates for 75+	Facility-based uses 75+ Home-based uses 65+ Proposal to use 80+ population for facility-based
• Gender	<i>All age cohorts broken down by gender and percent change in each gender group</i>	Nursing Home and Homes for the Aged Utilization was standardized to Age/Gender		All Age Cohorts were split by gender	Gender Cohorts used	Gender Cohorts used	

Table A2: Summary of the way factors are used or discussed in selected LTC planning models in Canada

Planning Factor	<i>Possible factors to include in a new LTC planning model for Ontario</i>	HSRC: Rebuilding ...	HSRC 2000	Hollander and Pallan 1995	KPMG Continuing Care Scenerios	Alberta Planning Model 2000	Manitoba Planning Model
• SES	<i>Trends in incomes and education levels</i>						Higher incomes anticipated to increase health Proposal to use SES measure Ethnicity is considered a risk factor
Clinical Needs	<i>Prevalence & Incidence of Disability in Ontario</i> <i>Eligibility requirements for LTC services according to clinical need</i>	Measured using MDS/RUGS III categories developed in the US		Asked professionals opinion on the extent that care could be shifted to the community because of inappropriate placement	Use of “shifts” in part reflects the idea that we cannot know for sure future health Better health may be realized with healthier lifestyles, changes in medical care, increase in prevention	Identify improved health of senior population	Risk factors identified: ADL limitations Chronic disease Disability Proposal to use incidence & prevalence of disease Proposal to use health status

Table A2: Summary of the way factors are used or discussed in selected LTC planning models in Canada

Planning Factor	<i>Possible factors to include in a new LTC planning model for Ontario</i>	HSRC: Rebuilding ...	HSRC 2000	Hollander and Pallan 1995	KPMG Continuing Care Scenerios	Alberta Planning Model 2000	Manitoba Planning Model
Social Care Needs							
<ul style="list-style-type: none"> Informal Care 	<p><i>% of population living alone</i></p> <p><i>Household composition data as a basis to assess social care needs</i></p> <p><i>Outline of policy & programs that support informal caregiver</i></p>					Identify demand for benefits to family members providing care	<p>Living alone considered a risk factor</p> <p>Proposal to use % living alone</p>
<ul style="list-style-type: none"> Community Services 	<p><i>Quantify the regional availability of community services</i></p>			Might assume that professionals also consider available community services when assessing the amount that care could be diverted to the community			Proposal to consider availability of services
<ul style="list-style-type: none"> Housing 	<p><i>Availability of supportive housing and “suitable” housing for LTC</i></p>					Identify that seniors are adapting own homes more frequently	

Table A2: Summary of the way factors are used or discussed in selected LTC planning models in Canada

Planning Factor	<i>Possible factors to include in a new LTC planning model for Ontario</i>	HSRC: Rebuilding ...	HSRC 2000	Hollander and Pallan 1995	KPMG Continuing Care Scenerios	Alberta Planning Model 2000	Manitoba Planning Model
Preference-Based Assumptions							
Pure preferences	<i>Pure preferences: identification of regional differences in preferences for alternative care settings</i>				Underlying model is that shift should be to the community; delay facility-based LTC		
Enabling Factors							
<ul style="list-style-type: none"> Eligibility Requirements 	<i>Describe and identify differences in eligibility requirements for public LTC services</i>						
<ul style="list-style-type: none"> Co-payments or out-of-pocket costs 	<i>Describe and measure out-of-pocket expenses for various publicly and privately financed LTC services</i>				Changes in incomes might allow delay of LTC admissions	Identify higher incomes Identify more educated senior population	

Table A2: Summary of the way factors are used or discussed in selected LTC planning models in Canada

Planning Factor	<i>Possible factors to include in a new LTC planning model for Ontario</i>	HSRC: Rebuilding ...	HSRC 2000	Hollander and Pallan 1995	KPMG Continuing Care Scenerios	Alberta Planning Model 2000	Manitoba Planning Model
Enabling Factors							
<ul style="list-style-type: none"> • Availability of Formal LTC 	<i>Identification of regional differences in the availability of alternative care settings</i> <i>Identify accessibility differences</i>	Capacity was determined by region and baseline determined from this information	Regions ranked and baseline determined according to the percentile method: 25 th percentile was the minimum standard	Geographic Distribution of Provincial Population Baseline for planning was established at the provincial level			
Attitudinal Factors							
<ul style="list-style-type: none"> • Self Rated Health 	<i>Self-rated health</i>				Increased attention to healthier lifestyles		
<ul style="list-style-type: none"> • Perception of health care services 	<i>Population perceptions of health and social care services</i>		Some discussion (p.136) of Ontarians perceptions of health care				

Table A2: Summary of the way factors are used or discussed in selected LTC planning models in Canada

Planning Factor	<i>Possible factors to include in a new LTC planning model for Ontario</i>	HSRC: Rebuilding ...	HSRC 2000	Hollander and Pallan 1995	KPMG Continuing Care Scenerios	Alberta Planning Model 2000	Manitoba Planning Model
Other							
	<i>suggest that planning is not naively based on current utilization rates but on well understood factors that determine the demand for LTC</i>	<p>planning framework based on current capacity</p> <p>planning based on current utilization rates</p> <p>this model preceded HSRC 2000 and shares much in common</p>	<p>planning based on current capacity</p> <p>planning based on current utilization rates</p>	<p>Set Target for facility based services at 55 beds/1,000 65+</p> <p>Community services planning based on actual utilization rates</p>	<p>in addition to current utilization three shifts to community analysed: high (bed ratio decreased by 34.8% over 40 years), medium (bed ratio decreased by 28.7% over 40 years), low (bed ratio decreased by 18.9% over 40 years) to reflect changes other than population</p> <p>suggest that assumptions will determine what shift is appropriate</p>	<p>shifts are specifically thought to represent different assumptions related to preferences for care and desire for autonomy</p>	

Table A3: Summary of LTC Services in Ontario: Descriptions, Eligibility Requirements and Associated Co-Payments

FACILITY-BASED CARE

Facility-Based LTC (*)

Long-Term Care Centres: "... also known as nursing homes and homes for the aged, are available for people who are not able to live independently or in their own homes and who require 24-hour nursing service to be available to meet their nursing and personal care needs."⁵⁴

Includes:

Nursing Homes which are Covered by the *Nursing Homes Act*⁵⁰

Nursing Home: "... any premises maintained and operated for persons requiring nursing care ... (sec 1(1))"⁵⁰

Fundamental Principle: "... a nursing home is primarily the home of its residents and as such it is to be operated in such a way that the physical, psychological, social, cultural and spiritual needs of each of its residents are adequately met and that its residents are given the opportunity to contribute, in accordance with their ability, to physical, psychological, social, cultural and spiritual needs of others. (sec 2(1))"⁵⁰

Homes for the Aged which are Covered by *Homes for the Aged and Rest Homes Act*⁵¹

Home: "... a home for the aged established or maintained under this Act ... (sec 1(1))"⁵¹

Fundamental Principle: "... a home is primarily the home of its residents and as such it is to be operated in such a way that the physical, psychological, social, cultural and spiritual needs of each of its residents are adequately met and that its residents are given the opportunity to contribute, in accordance with their ability, to physical, psychological, social, cultural and spiritual needs of others. (sec 1.1(1))"⁵¹

Charitable Institutions which are Covered by *Charitable Institutions Act*⁵²

Charitable Institution: "... all or any part of a building or buildings maintained and operated by an approved corporation for persons requiring residential, sheltered, specialized or group care ... (sec 1(1))"⁵²

Fundamental Principle: "... an approved charitable home for the aged is to be operated in such a way that the physical, psychological, social, cultural and spiritual needs of each of its residents are adequately met and that its residents are given the opportunity to contribute, in accordance with their ability, to physical, psychological, social, cultural and spiritual needs of others. (sec 3.1(1))"⁵²

Applicant's Eligibility Requirements

Long Stay

a) ≥ 18

b) Insured under Health Insurance Act

c) Meet one of:

- Require on-site 24 hour care;
- Require assistance daily with ADL;
- Require on-site monitoring/supervision at frequent intervals to ensure safety or well-being;
- At risk financially, emotionally or physically if remain in own home;

d) Meet one of:

- None of the publicly funded community-based services available meet requirements and no other caregiving, support or companionship arrangements are possible in ones own home to meet requirements
- Similarly if there is an intention to move, neither of the above is satisfied in the new area

e) Care Requirements can be met in LTC facility

Long Stay of Spouse/Partner

Meets a), b) and e) and spouse has been determined eligible by all criteria.

Short Stay

Respite: meet a), b), c) and e) and:

Caregiver requires temporary relief

Anticipated that applicant will return home within 60 days

Supportive care: meet a), b), c) and e) and:

Requires a period of time to recover and facility is appropriate

Anticipated that applicant will return home within 90 days

Other Short Stay

Applied for long or short stay but anticipated that applicant will return home within 14 days

Table A3 Continued: Summary of LTC Services in Ontario: Descriptions, Eligibility Requirements and Associated Co-Payments

COMMUNITY-BASED CARE

Community and Home-Based LTC ()**

Community Services are community support services, homemaking services, personal support services and professional services (sec2(3) of *Long Term Care Act*, 1994)¹⁹

Community support services are meal services, transportation services, caregiver support services, adult day programs, home maintenance and repair services, friendly visiting services, security checks or reassurance services, social or recreational services, providing prescribed equipment, supplies or other goods and services prescribed as community support services (sec2(4) of *Long Term Care Act*, 1994)¹⁹

Homemaker and Personal Support Services

Homemaker Includes: performing, assisting with or training a person, housecleaning, doing laundry, ironing, mending, shopping, banking, paying bills, planning menus, preparing meals, caring for children (sec2(5)) of *Long Term Care Act*, 1994¹⁹

Personal Support Includes: assisting with (or training) personal hygiene, routine personal activities of living and includes providing prescribed equipment, supplies or other goods (sec2(6))¹⁹

Covered by the *Long-Term Care Act*¹⁹

Applicant's Eligibility Requirements

Insured under Health Insurance Act

Assessed by a Community Care Access Centre (CCAC) or provider agency as meeting one of:
 Requires homemaking services and personal support;
 Caregiver provides homemaking and personal support but requires assistance with homemaking or personal support services to continue to provide care;
 Requires constant supervision as a result of cognitive impairment or acquired brain injury and caregiver requires assistance with homemaking services;
 In need of personal care/support services;

Co-Payments

Provided free at point of service to eligible applicants up to:

Maximum service hours for homemaking and personal support are:
 80 hours for first 30 days; and
 60 hours following first 30 days.

Table A3 Continued: Summary of LTC Services in Ontario: Descriptions, Eligibility Requirements and Associated Co-Payments

COMMUNITY-BASED CARE

Home Nursing

Applicant's Eligibility Requirements

Insured under the Health Insurance Act

Nursing service deemed necessary to enable person to remain in own home or return home from hospital or institution;

Care needs cannot be met on outpatient basis; and

Service is suitable for required care.

Co-Payments

Provided free to eligible applicants up to:

Maximum 28 RN or RPN visits in 7 days period;

Maximum 43 hours RN service or;

Maximum 53 hours RPN service; or

Maximum 48 hours combination RN and RPN services.

Physiotherapy, Occupational Therapy, Social Work, Speech-language pathology and Dietetics

All are considered professional services¹⁹

Applicant's Eligibility Requirements

Insured under the Health Insurance Act

Service deemed necessary to enable person to remain in own home or return home from hospital or institution;

Care needs cannot be met on outpatient basis;

Service is suitable for required care; and

Services expected to result in progress towards rehabilitation.

Meals on Wheels

Applicant's Eligibility Requirements

Determined by provider agency with eligibility requirements varying by agency

Co-Payments

Usually a flat fee for service

Depends on available funds from MOH

Depends on fundraising capacity of provider agency

Table A3 Continued: Summary of LTC Services in Ontario: Descriptions, Eligibility Requirements and Associated Co-Payments

COMMUNITY-BASED CARE

Adult Day Support

Applicant's Eligibility Requirements

CCACs determine access with priority given to high needs individuals

Co-Payments

Vary by jurisdiction

Some fees may include transportation to service

Depends on available funds from MOH

Depends on fundraising capacity of provider agency

Equipment and Supplies

Assistive Devices Program (ADP) & Home Oxygen Program (HOP)

“objective is to financially assist ... residents to obtain [needed] devices ... intended to give people increased independence and control over their lives. They may allow them to avoid costly institutional settings and remain in a community living arrangement.”⁵⁵

Applicant's Eligibility Requirements

Insured under the Health Insurance Act

Specific criteria depending on the device although initial access is through a medical specialist or physician who diagnose a need⁵⁵

Co-Payments

Items provided to CCAC clients that are needed for care provided

Free for eligible CCAC clients

ADP pays for up to 75% of cost if not a CCAC client

HOP pays 100% of cost if individual is a home care clients or on social assistance or in LTC facility⁵⁵

Transportation Services

“providing transportation to persons who are unable to use existing transportation or assisting persons to obtain access to existing services (sec2(1))”¹⁹

May be provided by volunteers or provider agency for transport to medical appointments for example

Co-Payments

User fees vary

Depends on available funds from MOH

Depends on fundraising capacity of provider agency

Respite

Part of CCAC services, community support services and LTC facility short stays

Table A3 Continued: Summary of LTC Services in Ontario: Descriptions, Eligibility Requirements and Associated Co-Payments

COMMUNITY-BASED CARE

Palliative Care

Part of CCAC services, hospital services and LTC facility stays

Supportive Housing

“ ... programs provide on-site personal support staff 24 hours a day to help people live independently in their own apartments. Frail elderly people ... receive personal support services through supportive housing.”⁵³

Applicant’s Eligibility Requirements

Insured under Health Insurance Act

≥ 65 who are frail or cognitively impaired and require personal support services and homemaking

< 65 who show signs of frailty and/or cognitive impairment, require ongoing personal support and homemaking and are not eligible for these services under other government-funded programs

≥ 16 with physical disabilities who require personal support services and homemaking on a continuing basis in order to remain in the community

≥ 16 with acquired brain injury who require personal support, homemaking and/or training

≥ 16 living with HIV or AIDS and require personal support and homemaking

Co-Payments

May pay for room and board

May be eligible for rent subsidies

(* Sources: *Nursing Homes Act*⁵⁰; *Homes for the Aged and Rest Homes Act*⁵¹; *Charitable Institutions Act*⁵²; Federal-Provincial-Territorial Advisory Committee on Health Services (ACHS) Working Group on Continuing Care. (May 2000). *The Identification and Analysis of Incentives and Disincentives and Cost-Effectiveness of Various Funding Approaches for Continuing Care. Technical Report 5: An Overview of Continuing Care Services in Canada.* Hollander Analytical Services. Victoria B.C.

(**) Sources: *Long-Term Care Act*¹⁹; Ontario Ministry of Health and Long-Term Care Website. Available: <http://www.gov.on.ca/health/>; Federal-Provincial-Territorial Advisory Committee on Health Services (ACHS) Working Group on Continuing Care. (May 2000). *The Identification and Analysis of Incentives and Disincentives and Cost-Effectiveness of Various Funding Approaches for Continuing Care. Technical Report 5: An Overview of Continuing Care Services in Canada.* Hollander Analytical Services. Victoria B.C.

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