Chapter 6

Older Canadians with Developmental Disabilities
Access to Health Care and Social Services¹

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INTRODUCTION

The accessibility, predictors, and use of health care and social services among developmentally disabled elderly adults in Canada were examined using data from the Canadian Health and Activities Limitation Survey. Data were obtained from 640 developmentally disabled adults interviewed in a nationally representative household survey of 184,500 persons. Dependent variables included measures of respondents’ use of physicians, hospitals, nurses, chiropractors, occupational therapists/physical therapists/speech therapists, and prescription medicines; use of aids for hearing, vision and mobility impairment; and use of non-family helpers and special transportation. Predictors of use of these services included illness or need variables (self-assessed health status, activity limitations, activities of daily living, and functional limitations); enabling variables (employment or retirement status, family income, receipt of income supplements for low-income developmentally disabled elderly, and urban/rural residence); and predisposing variables (age, gender, marital status, and race/ethnicity).

The Developmentally Disabled Elderly

A society’s commitment to health care reflects its fundamental attitudes about what it is to be a human being. Society has a moral burden to assure impartial access to health care for all its citizens.

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A particularly fascinating aspect of investigating the health care delivery system of a particular nation is the insight such a probe provides into the nature of that society. As Donald Light (1986) has pointed out, medical care and health services are functions of political philosophy; therefore, social and political values underlie the options chosen, the institutions developed, and the quantity of funding given. A nation’s approach to health care is based upon its historical background, culture and religion, monetary resources, political ideology, social structure, level of education, standard of living, and perspectives of welfare and the role of government.

It is necessary to address some of the issues faced by the increasing population of elderly developmentally disabled individuals in Canada and the need for the various helping professions, educational disciplines, and public policy agencies to understand this special population.

Research data and findings associated with aging among the developmentally disabled must be reviewed and some of the program and policy implications discussed, keeping in mind that those who influence policy decisions in the United States can be informed by studies of the Canadian health care system.

By definition, a developmental disability is an administrative designation used by the federal government to refer to certain individuals. According to Public Law 98-527 of the Developmental Disabilities Act of 1984, a developmental disability is a severe chronic disability of a person which:

1. is attributable to a physical or mental impairment (or combination of impairments);
2. is manifest before age 22;
3. is likely to continue indefinitely;
4. results in substantial functional limitations in three or more of the following areas: self care, receptive and expressive language, learning, mobility, self direction, capacity for independent living or economic self-sufficiency; and
5. reflects the need for a combination and sequence of special, interdisciplinary, or generic care, treatment, or other services which are (a) of lifelong or extended duration and are (b) individually planned and coordinated (Walz, Harper, & Wilson, 1986:623).

This means that a developmentally disabled person is one with mental retardation, cerebral palsy, Down’s Syndrome, epilepsy, autism, or dyslexia manifested prior to age 22. The most prevalent developmental disability is mental retardation. Mental
retardation is defined as: "subaverage intellectual functioning along with deficits in adaptive behavior that occur first in childhood and are carried over into adulthood" (Rose & Janicki, 1986:1).

The literature reveals that the life expectancy for all developmentally disabled groups has increased. Walz, et al. (1986) compared documents showing mortality of the developmentally disabled over a widely separated interval of time. In 1932, 28% of persons with mental retardation (studied at age 10) survived to age 60. In a 1976 study, however, 46% survived to age 60. This figure is still lower than that of the general population (Carter & Jancar, 1983). Within the developmentally disabled population, women, ambulatory persons, non-Down's Syndrome, the less severely mentally retarded, and those who have remained in their home communities have the greatest life expectancies (Jacobson, Sutton, & Janicki, 1985).

According to the Association of Retarded Citizens, approximately 3% of the United States population, or 6 million persons, have mental retardation. The United Cerebral Palsy Association estimates the number of persons with cerebral palsy at 750,000, and the Epilepsy Foundation of America claims close to one million epileptics, while the National Society for Children and Adults with Autism estimates approximately 80,000 autistic Americans (Lippman & Loberg, 1985).

In a major research study of Ohio, Indiana, Illinois, Michigan, Wisconsin, and Minnesota, Sweeney (1980) found that over 10% of the developmentally disabled population for this region were over the age of 65. Based on current estimates from a number of sources, Walz, et al. (1986) state that there are a quarter of a million elderly developmentally disabled in the United States aged 65 and over. If age 55 were used for the estimation, the number would be 1,380,000 (Seltzer & Seltzer, 1984). It is obvious that with extended life expectancy the subpopulation of developmentally disabled elderly will continue to increase in the coming years. Demographers have estimated that the elderly population in the United States will double in the next thirty years (Rose and Ansello, 1987; Rose & Janicki, 1986). It is safe to assume that there will be a comparable increase in the number of adults with developmental disabilities.

**Issues**

*Drug Interactions*

There are several problem areas at issue for those who deal with the developmentally disabled elderly. For one thing, when they are prescribed medications for geriatric illnesses, they may experience drug interactions with medicines previously prescribed to help control seizures, depression, or other effects of their primary disability.
Communication Problems

Secondly, a common result of a developmental disability is impairment of the ability to communicate. This tends to interfere with the identification, diagnosis, and treatment of chronic illnesses, since physicians rely heavily upon patients’ verbal descriptions of their ailments. For this reason, researchers have found that chronic conditions often persist or recur over prolonged periods of time among the developmentally disabled (Nelson & Crocker, 1979).

Competition for Resources

A third issue is competition for limited health and welfare resources. The disability agencies are already heavily weighted toward the needs of children and young adults and the aging network is heavily oriented toward the needs of the general aging population. “In any intergenerational ‘battle,’ aging MR/DD people are unlikely to do very well. This subgroup is . . . without an organized advocacy group” (Walz, et al., 1986:627). The charge has jointly been blatantly made by the Director of Planning at the New York State Office of Mental Retardation and Developmental Disabilities and the Co-director of the Aging and Developmental Disabilities Research and Planning Project at the Center for Aging at the University of Maryland at College Park:

There have been many instances where disabled individuals have been denied services by local aging agencies even though they were entitled to such services due to their eligibility under the Older Americans Act. The barriers that have been set in place are often times insurmountable without extraordinary interventions. (Rose & Janicki, 1986:14)

Many times such barriers are financial in nature. Limited funds are allocated to area agencies on aging and priorities are set to help the greatest number of people. The needs of the developmentally disabled, whose conditions often require more constant and expensive assistance, are therefore not considered. Sometimes the barriers may be due to “handicapism” on the part of those officials who simply do not wish to deal with the “distasteful” aspects of developmentally disabled behavior.

Changes in characterizing mental retardation from a medical problem to a social problem have served to shift the focus of professional attention from the medical practitioner to the professional educator and social worker (Kelly, Larson, & Groeneweg, 1988). Consequently, in some cases, either important health care needs have gone undetected by these professionals because of their lack of specialized training in health care (Weinberg, 1977), or the health care technologists who have been called in to deal with these individuals have been reluctant or unable to provide adequate service because of their unfamiliarity with developmental disability (Kelly et al., 1988).
Caregiving and Residence

Improvements in caregiving and residential setting can increase the longevity and life satisfaction of the developmentally disabled. Long term care, particularly in relation to the dimensions of its quality and accessibility, is probably the most important issue currently affecting the developmentally disabled elderly.

The historical pattern for developmentally disabled adults has been institutionalization in long-term care residential units. Approximately 55% of the developmentally disabled elderly reside in institutional settings, as opposed to only 5% (9% in Canada [Wasylken, 1982]) of the non-developmentally disabled elderly. In a recent study by the International Social Security Association, the institutionalization rate of seniors in Canada was one of the highest among eighteen industrialized nations (Statistics Canada, 1989). There has been, nevertheless, an emphasis on deinstitutionalization and community-based services. In general, there is agreement that institutional care is rarely the most appropriate setting for developmentally disabled persons and that residential services should be provided in the least restrictive environment (Hauber, Rotegard, & Bruininks, 1985).

Deinstitutionalization often takes the form of small "family-sized" group housing. Many times, the older developmentally disabled person resides with parents, relatives, or foster parents (Rose & Janicki, 1986). This can result in "two-generation senior citizen families." The parents or foster care providers are often in their seventies or eighties and are becoming progressively less able to care for their aging developmentally disabled child (Rose & Janicki, 1986). In such instances, both the parents and the developmentally disabled child are in need of assistance. The family may have had their standard of living dramatically reduced due to financial obligations relating to the developmental disability. The parents should not be seen as simply resources of support for their developmentally disabled child who need to be supported and eventually replaced when they die, but they should be seen as "...individuals, facing life's last great crisis, but with the additional and tragic task of making arrangements for children who are adults, yet still dependent" (Dobrof, 1985:414).

Though remaining at home with the parents may have some drawbacks, especially where there exists a "reclusive" kind of environment, this living arrangement is nevertheless superior to some archaic mental institution or non-therapeutic nursing home. At least the developmentally disabled person at home retains communication with those with whom he has established primary relationships. Additionally, much of the deterioration and early deaths of the developmentally disabled was a direct result of poor institutional care and lack of rehabilitation (Cotton, Sison, & Starr, 1981).
Access to Health Care

Another issue regards health care. As a group, the developmentally disabled elderly tend to need and use health services more than other elderly persons. The movement of the developmentally disabled from institutions to community settings has shifted their dependence for health care from the segregated medical services of institutions to the health care structures of communities (Janicki et al., 1985). They tend to experience, with increasing age, increases in mobility impairments, medication usage, need for special diets, and decreases in self-care skills. They must be carefully observed for adverse reactions to drugs, particularly those persons with communication disabilities, who cannot readily report symptoms.

Persons with developmental disabilities tend to die of a pattern of disease somewhat different from that of the general population. Respiratory infections attributed to cerebral palsy, epilepsy, and reduced efficiency in coughing, feeding, and breathing are factors in the excess mortality among the more severely retarded individuals. The mildly mentally retarded, on the other hand, are more likely to die from a cerebrovascular or cardiovascular disease. Persons with developmental disabilities are 50% more likely to die from carcinoma or cardiac failure than is the general population (Carter & Jancar, 1983).

Secondary health problems of the developmentally disabled adult include obesity, chronic skin problems, hygiene related problems, and early aging in the forty to sixty age group (including Alzheimer’s Disease). In fact, one researcher performed actual autopsies on a group of former Down’s Syndrome patients who had reached at least the age of forty. He found that 100% had suffered from Alzheimer’s Disease (Miniszek, 1983). Buehler, Smith, and Fifield (1985) blame many of these secondary health problems on lack of access to adequate health care due to a lack of availability, expertise, and interest in the medical community.

Day Services

Daytime program services for the developmentally disabled elderly are still in the embryonic stage. The programs that do exist share as their primary goals:

(a) prevention of regression due to inactivity;
(b) minimization of mental and physical debilitation;
(c) enhancement of the quality of life for participants; and
(d) prolongation of community placement (Catapano, Levy, & Levy, 1985:315).

More service approaches need to be created, especially for those who are unable to travel to day programs due to medical restrictions.
The Need For Understanding

In most areas of the United States both an aging network to help meet the needs of the elderly and a network of agencies to serve the developmentally disabled are already in place. Why, then, have many of the developmentally disabled elderly “fallen through the cracks” of the system? Some insist that a lack of understanding on the part of both helping networks is the problem. The developmental disabilities service providers generally do not have a familiarity with the Older Americans Act, nor do many in the aging network have much knowledge concerning developmental disabilities (Rose & Janicki, 1986). Because of this situation, both the American Association on Mental Deficiency and the Gerontological Society of America now have special membership sections to address the special needs of this sub-group of older Americans (Rose & Janicki, 1986).

A clear need exists for a greater number of gerontologists, mental health professionals, physicians, policymakers, and educators to be more properly educated and trained to more adequately service the specific needs of the elderly developmentally disabled. Many persons, including some in positions of influence, carry with them myths, stereotypes, and prejudices that hinder the advancement of the developmentally disabled elderly.

Unfortunately, the business community and society in general often embrace stereotypical beliefs that the developmentally disabled person is “senile” and may be a threat to other workers or to the general population (Robinson, 1987). Obviously, this view is distorted. A small percentage of the developmentally disabled eventually get married. Some can drive their own automobiles. Many are gainfully employed, and sometimes the employer receives tax credits for hiring them. It is to be hoped that with better education and sensitization, the general public will accept the developmentally disabled elderly with respect and understanding.

Employers often use persons’ disabilities as excuses for not hiring them. In most cases, only minor adjustments or provisions are necessary for the developmentally disabled to be successful on the job. Sometimes over-protective family members prevent developmentally disabled persons from working in a competitive employment situation because they do not want them to be hurt or embarrassed. Developmentally disabled persons should be given trust and some latitude in order to develop the concept that other people have confidence in and can rely upon them, rather than their always being dependent on others (Robinson, 1987).

The developmentally disabled elderly person faces the prejudices and discriminations of society as both elderly and developmentally disabled. The person is thus the victim of both ageism and handicapism. Dobrof (1985:412) states that these persons have “... been subjected to ‘systematic stereotyping and discrimination,’ and are often seen as different and not identified as human beings.”
Helping professionals are not immune to a reluctance to work with this group of people. In the first place, both the elderly and the developmentally disabled generally have low social status in our society. Staff persons of service providers may fear being stigmatized by their association with the clients. Secondly, in the process of dealing with this subpopulation, they are forced to come to grips with their own mortality as well as vague feelings of inadequacy because they have not achieved more even though they are not handicapped. A third conflict is the crude question of whether the scarce time and expertise spent in working with a person who may soon be dead is really worth it (Kastenbaum, 1964).

Elderly persons have the right to continue to be educated, to enhance or reduce their involvement in work, retire, relax, volunteer their time, engage in religious activities, and participate in social and recreational activities. The developmentally disabled elderly have the same rights. Service providers should therefore act as advocates for this group who cannot promote their own needs.

**Andersen’s Conceptual Framework of Health Care Utilization**

The most widely adopted and empirically assessed model of health services utilization is Andersen’s (1968) behavioral model. This model has been expanded, modified, and used extensively by Andersen and other health services researchers in the 1970s and 1980s; it is likely to be the dominant model in the 1990s (Wolinsky, 1988). This model aims to be a simplified representation of empirical reality portraying the causal process of health services utilization. Andersen and Anderson (1979:384) suggest that this model of health services utilization may serve any one or more of the following purposes:

1. to illustrate the interrelationships among the determinants of health services utilization;
2. to facilitate the prediction of future health services needs;
3. to determine whether or not the distribution of health services is equitable;
4. to suggest ways to manipulate policy relevant variables in order to bring about desired changes;
5. to evaluate the impact of new health care delivery programs or projects.

The original model developed by Andersen (1968) and expanded by Andersen and Newman (1973) has been empirically assessed in a number of regional and national studies with considerable success. (Andersen, 1968; Andersen & Newman, 1973; Wan & Soifer, 1974; Andersen, Kravits, & Anderson, 1975, 1976; Berki & Kobashigawa,
1976; Wolinsky, 1976, 1978; Eve & Friedsam, 1980; Eve, Watson, & Reis, 1980; Aday, Andersen, & Fleming, 1980; Eve, 1982; Wolinsky, Coe, Miller, Prendergrast, Creel, & Chavez, 1983; Eve, 1984; Wolinsky & Coe, 1984; Aday, Fleming, & Andersen, 1984; Wolinsky, Moseley, & Coe, 1986; Chappell & Blandford, 1987; Eve, 1988). "This health systems model is very useful because it provides both a conceptual and a methodological framework for the study of health services utilization. Indeed, it has become the standard framework used in health policy studies" (Wolinsky, 1988:133). A summary of Andersen and Newman's (1973) model for explaining the utilization of health care services by the elderly appears in Figure 1. What Andersen and Newman conceived as predisposing variables are characteristics which exist prior to one's illness and which may affect the need for services but may not necessarily be the cause of utilization. Predisposing factors include, for example, demographic factors such as age and sex, social structure factors such as ethnicity and education, and attitudinal factors such as attitudes and beliefs. Enabling factors may be thought of as characteristics or circumstances which can either hinder or facilitate the use of appropriate services once the need has been recognized. Examples of enabling factors include family income, health insurance, region of country, and whether residence is rural or urban. The third category, illness (need) factors, includes both the respondent's own perception of her/his health status and evaluation of the respondent's health by a health care professional.

Despite variations in measurement, there has been some consistency in concluding that illness (need) is the most predictive determinant of use of physician and hospital services (Eve & Friedsam, 1980; Eve et al., 1980; Eve, 1982; Eve, 1984; Wolinsky, Moseley, & Coe, 1986; Chappell & Blandford, 1987; Eve, 1988). When applied to the use of health services, Aday and Andersen (1981) argue that an equitable situation is one in which only medical need determines health services utilization (in addition to some vestiges of a relationship with age and sex, as proxies of biological need). Inequity is said to exist when health services are distributed on the basis of race, income, or place of residence.

Andersen and Newman's (1973) model, conceptualizes utilization as the end product of a complex pattern of interrelationships between predisposing, enabling, and need factors. It suggests that some individuals have a higher propensity to use social services than do others, and that this propensity can be viewed as the outcome of certain background characteristics of the individual (Starrett, Wright, Mindel, & Tran, 1989). This propensity is associated with such variables as ethnicity or race, age, sex, education, marital status, and attitudes. Starrett, et al. (1989), working with the Andersen-Newman theoretical framework, found that a high of 44% of the variance in utilization was explained for Cuban elderly, 41% for Puerto Rican elderly, and a low of 35% was explained for Mexican American elderly.
**Figure 1.**
**Summary of Variables in the Andersen-Newman (1973) Model.**

<table>
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<tr>
<th>I. Utilization of Health Care Services</th>
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<tbody>
<tr>
<td>A. Contact</td>
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<td>B. Volume of use</td>
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<td>C. Frequency of Use</td>
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<th>II. Illness (Need) Variables</th>
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<tr>
<td>A. Perceived health by respondent</td>
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<td>B. Evaluated health by health care professional</td>
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<th>III. Enabling Variables</th>
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<tr>
<td>A. Family level variables</td>
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<tr>
<td>1. Income</td>
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<tr>
<td>2. Insurance</td>
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<tr>
<td>3. Access to transportation</td>
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<tr>
<td>B. Community level variables</td>
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<tr>
<td>1. Region of residence</td>
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<td>2. Urban/rural residence</td>
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<th>IV. Predisposing Variables</th>
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<td>A. Demographic variables</td>
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<td>1. Age</td>
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<td>2. Sex</td>
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<tr>
<td>B. Social structure variables</td>
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<tr>
<td>1. Education</td>
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<td>2. Occupational status</td>
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<td>3. Marital status</td>
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<td>4. Race/ethnicity</td>
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<tr>
<td>C. Beliefs</td>
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<tr>
<td>1. Health values</td>
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<tr>
<td>2. Attitudes toward services</td>
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<td>3. Knowledge about disease</td>
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**Canadian Studies**

With the notable exceptions of Snider's (1980) study of noninstitutionalized Canadians and Chappell and Blandford's (1987) study of the Manitoba system, all of these studies are American. None specifically relates to the developmentally disabled elderly.

A few surveys have been conducted to attempt to determine the health care and/or social service needs of the developmentally disabled elderly in Canada. Badry, Vrbancic, Groeneweg, McDonald, and Hornick (1986), in a survey of the developmentally disabled elderly in Alberta, concluded that leisure activities represented the
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The greatest need for this group. Similarly, Berg and Dalton (1980) and Delaney (1984) studied the needs of the developmentally disabled elderly in Ontario, as did Anglin (1981) in the metro Toronto area. None of these is national in scope and none resembles the Andersen-Newman theoretical framework.

The area of aging and developmental disabilities remains relatively unexplored in Canada. One reason for this is that this is a relatively "new" population. This is the case due to two major factors. Prior to the 1950s, the developmentally disabled were primarily institutionalized in Canada (Canada has the highest percentage of institutionalized elderly among the industrialized nations, at 9% [Wasyljenki, 1982]). The other factor is that the developmentally disabled did not live long lives. Neither of these is any longer the case. The developmentally disabled are aging along with the remainder of society and there are a number of issues regarding this population which must be addressed. Some of these issues (discussed in the Introduction) include drug interactions, communication problems, competition for resources, caregiving, institutionalization vs. community residence, access to health care, day services, and legal concerns. This research deals with the issues of access to health care and social services for those in community residences.

The health care needs of developmentally disabled adults who are now participating in community living are poorly understood. This project was developed to survey the current health care situation for this population living in Canada. Kelly et al. (1988), have concluded from their qualitative survey in Alberta that health care needs are not being adequately addressed; a lack of professional services was identified by both administrators of health care agencies and health care service providers.

Over the last two decades there has been an overall increase in the number of individuals in Canada with developmental handicaps who have maintained residency in community versus institutional environments (Kelly et al., 1988). Correspondingly, there has been an increase in the number and variety of health care services required to meet their individual needs. On the surface, this seems to be an optimal situation; however, the needs are poorly understood and the level of service and expertise required to meet them may be considerably lacking within existing health care systems (Kelly et al., 1988).

Researchers in Toronto (Wasyljenki et al., 1985) have added a valuable dimension to previous studies by looking at estimated and met needs in five separate dimensions as well as outcomes. They examined perceived and met needs in the five dimensions of medical therapeutic, social recreational, vocational educational, housing, and financial needs. Only the medical therapeutic needs were fairly well met. The other needs were dealt with poorly, particularly the social recreational component. Similar concerns with regard to the "disabled" were raised in the comprehensive report of the Mental Health Planning Survey in British Columbia (1979).
Policy Implications

The Canadian health care delivery system differs from that of the United States in at least one fundamental respect: there is universal insurance coverage in Canada. The Canadian federal government pays one third and each province pays two thirds of the costs of health care in Canada. Health care is thus almost entirely funded publicly and is available to Canadians of any age (Kane & Kane, 1990). The health care delivery system in the United States is a direct-fee system, in which patients pay directly for services provided by physicians and hospitals.

It could be argued that universal access in Canada should result in the lesser importance of enabling factors such as family income, access to services, ratios of health personnel and facilities to the population, region of the country, etc. It is not known whether this is actually the case.

The proposed research project is not a cross-cultural comparison between the United States and Canada. It will, however, undoubtedly be of interest to U.S. policymakers who desire the best system possible for their population.

METHODOLOGY

The objective of this research is to examine the accessibility of, and the predictors of, use of health care and social services among noninstitutionalized developmentally disabled elderly adults in Canada. Data for older developmentally disabled adults in Canada was obtained from Statistics Canada’s Health and Activity Limitation Survey (H.A.L.S.) for 1986 and 1987 (the latest available).

For the current research certain characteristics have been selected for the purpose of analyzing the developmentally disabled elderly rather than the entire sample of disabled persons in Canadian households. These characteristics are:

Aged 55 or older, and
Mental retardation,
Down’s Syndrome or similar chromosomal anomaly,
Cerebral palsy,
Epilepsy, and/or
Other cerebral degenerations.

Data Analysis

The data analysis was done using SPSS-X (Norusis, 1985). Descriptive statistics, including mean, median, mode, standard deviation, and measures of skewness and
kurtosis, were used to describe the data in the H.A.L.S. dataset. Step-wise multiple regression analysis was used to compare the strength of the predictors of use of specific health care and social services.

Figure 2.
Summarized Adaptation of Andersen-Newman model.

Utilization of Health Care Services
- No. of doctor visits past 3 months
- No. of hospital days past 12 months
- No. of nurse visits in past 3 months
- No. of physio/occupational/speech therapist visits
- Aids for hearing impaired used
- Aids for visually impaired used
- Aids for mobility impaired used
- No. of prescription drugs used daily

Utilization of Social Services
- How often use special bus/van
- Receive outside help with daily activities

Illness (Need) Variables
- Trouble dressing or getting out of bed
- Learning disability
- Activities limited due to learning disability
- Difficulty using public transportation
- Condition caused difficulty riding in car

Enabling Variables (Family Level)
- Total income from pensions or welfare
- Total income
- Low-income status

Enabling Variables (Community Level)
- Rural/urban
- Province of residence

Predisposing Variables
- Ethnic origin
- Marital status
- Sex
- Age group
- Educational level
RESULTS

Descriptives

After selecting respondents according to the characteristics listed above, a total of 640 developmentally disabled over age 55 remain as valid cases for the current research. Of the 640 in the sample, nearly half (47.5 percent) are ages 55 to 64, one third (32 percent) are ages 65 to 74, less than one fifth (17.5 percent) are ages 75 to 84, and only 3 percent are aged 85 or over. The median age is 62.

In terms of disabling conditions, over a third (35.1 percent) have been diagnosed as being developmentally delayed. Nearly equal in number to each other are those who are either mentally retarded (21.2 percent) or suffer from cerebral palsy or similar cerebral degeneration (21.4 percent). Epilepsy accounts for 15 percent, Down's Syndrome 1 percent, and other related conditions 6.3 percent of the cases.

The sample is divided almost evenly on the category of sex. One half (50.2 percent) are female and one half (49.8 percent) of the 640 respondents are male.

Over half the respondents are either married (36.6 percent) or widowed (15.8 percent). Less than one tenth are either divorced (3.1 percent) or separated (4.1 percent). A large percentage (40.5 percent) have remained single throughout their lifetimes, and 58 percent are currently living completely apart from any family members. Interestingly, 2.5 percent are female single parents and 1.1 percent are male single parents. Only 3.1 percent are adult children living with their parents.

About one quarter (27 percent) have attained more than eight years of formal education. One fifth (19.5 percent) have no formal education or kindergarten only. Very few (1.9 percent) are college graduates. One respondent has an earned doctorate.

About two-thirds (65.6 percent) speak English as their first language. Only a fifth (21.2 percent) speak French as their first language, although nearly a third (30.3 percent) claim French ethnicity, and a tenth (10.2 percent) are bilingual. A small number (2.5 percent) are proficient in neither English nor French.

Fully 64.4 percent of the respondents live in urban areas. About half reside in the provinces of Quebec (28 percent) and Ontario (19.8 percent). The next most prevalent home provinces of respondents are Saskatchewan (12 percent) and British Columbia (11.7 percent).

The median total annual income for all respondents is $8,499. Over one-third (36.6 percent) fall below the poverty line. Three-quarters of the respondents receive less than $500 per year in pensions and welfare payments.

One-fourth to one-half of the older developmentally disabled older adults report functional difficulties with hearing (26.9 percent); eyesight (32.2 percent); speaking (34.0 percent); walking (52.6 percent); carrying, moving or standing (53.4 percent);
bending or stooping (36.6 percent); dressing or getting in or out of bed (28.5 percent); using their fingers or hands to grasp (51.6 percent); and reaching readily in any direction (34.0 percent). These data are presented in Figures 3A and 3B. Overall, 79.8 percent of the older developmentally disabled adults report limitation in activity. As one would expect, more than half of the older adults surveyed report a learning disability or a learning problem. Seventy percent report that their activities are limited by their conditions. Refer to Figures 4A and 4B. As a result of their learning disability, significant proportions of the older adults report difficulty using public transportation (11.9 percent), one-third cannot take long trips, nearly half cannot drive, 6.7 percent have difficulty even being a passenger in a car, and 15 percent have difficulty using a train, plane or bus on long trips. One-third report that their condition completely prevents them from working.

Data on use of health care services are presented in Figure 5. Over two-thirds (69 percent) of the older adults report having seen a physician in the past three months. Exactly one-third (33.3 percent) report having been hospitalized in the past year. One-seventh (14.1 percent) of the respondents have seen a nurse in the same period, while only three percent have visited a chiropractor. Fewer still are the cases of respondents who have seen a physical, occupational, or speech therapist (1.8 percent). However, 69 percent report currently using prescription medicines. Of these, 45.6 percent take three or more different prescription drugs daily. As shown in Figures 6 and 7, over a quarter (27 percent) of the cases indicate using aids for the hearing impaired, but 7.7 percent indicate an unfulfilled need for such aids. Aids for the visually impaired are used by one-tenth (10.9 percent) of the respondents, while 33.2 percent need visual aids but are not utilizing them. Fully 17 percent make use of aids for the mobility impaired, with only 2.2 percent indicating that they have such a need but do not have the aids.

With regard to social services utilization (Figure 8), less than half of the sample (42.5 percent) report receiving outside help with the activities of daily living. By “outside help” is meant a non-child, non-parent, non-spouse, non-relative, or non-neighbor. In other words, the helper is either hired or has volunteered to perform social service work. The services provided include meal preparation, shopping for groceries, housework, heavy household chores, looking after personal finances, personal care, and help moving around within the residence. In addition, 4.2 percent report using a special bus or van for transportation. In spite of the help available, substantial proportions of these older adults report needing assistance that they cannot get. As shown in Figures 9A-C, one-fourth to one-third of the older adults need assistance with meal preparation, shopping, housework, heavy chore, personal finances, personal care, and taking short or long trips. Approximately ten percent or fewer report needing help with signing, moving about in their residence, special transportation, and special residential adaptation.
Multiple regression was used to examine the predictors of use of health services, use of aids for impairments, and use of social services. The simple correlation coefficients and the betas for the predictors of the use of physicians, hospitals, nurses and prescription medicines are reported in Table 1. If health care services are equitably available to all, the Andersen and Newman model would predict that indicators of health would be most predictive of use of these services. For use of hospitals, nurses and prescription medicines, need variables are significant predictors of use of these services, although not for use of physicians. The strongest predictor of use of these services in general is a predisposing variable—being of French ethnic origin. Being French is significantly negatively correlated with use of physicians (Beta=-.20), and with having seen a nurse (Beta=-.30), but positively related to having been hospitalized (Beta=.14), and strongly positively related to use of prescription medicines (Beta=.39). Gender is also a significant predictor, with men being more likely to have been hospitalized (Beta=.17) and to use prescription medicines (Beta=.19), and women being more likely to have seen a physician (Beta=-.16) and a nurse (Beta=-.22). Enabling variables—low income status and rural residence—were also significantly related to use of physicians and nurses. Older developmentally disabled adults who had low incomes were more likely to have used both these services (Beta=.13 and .14 respectively). Those who lived in rural areas were less likely to have seen a physician (Betас=-.11) or a nurse (Betас=-.19). Thus, National Health Insurance appears to be working in that those in the greatest need with the lowest incomes are most able to use

![Figure 3A: Percent of Older DD with Functional Difficulties](image-url)
these services, but physicians and nurses continue to be less readily available in rural areas. Overall, 30 percent of the variance in use of nurses services was explained, 20 percent of use of prescription medicines, 14 percent of use of hospital services and 13 percent of use of physician services.

Predictors of use of aids for hearing, mobility and vision impairments are presented in Table 2. The strongest predictors of use of these aids are the variables that are indicators of functional impairment, especially having difficulty dressing or getting out of bed, which is positively related to all three variables (Beta=.18 for hearing aids, .23 for mobility aids and .15 for vision aids). It is interesting that having activities limited by learning disabilities is strongly inversely related to using aids for mobility impairment (Beta=-.30). Perhaps those older adults with activity limitations due to learning disabilities do not tend to have mobility impairments. The predisposing variables are also significantly related to use of impairment aids. Age is positively related to use of hearing aids (Beta=.13). Males are more likely to use hearing aids (Beta=.16), but women are more likely to use mobility aids (Beta=-.15). French ethnicities are more likely to use hearing aids (Beta=.15), but less likely to use mobility aids (Beta=-.12). The better educated are less likely to use vision aids (Beta=-.14), and those older adults who are married are less likely to use mobility aids. Finally, older adults who are rural residents are less likely to use mobility aids or vision aids. Overall, the
Figure 4A: Percent of Older DD with Learning Disabilities

Learning disability: 54.1
Problem learning: 54.1
Activities limited: 69.7

N=640

Figure 4B: Percent of Older DD with Limitation due to Learning Disability

Transportation: 11.9
Long trips: 34.9
Driving: 33.9
Passenger: 48.6
Working: 6.7
Train/Plane/bus: 15.1

N=640
Figure 5: Percent of Older DD Using Health Services in Past Three Months

Figure 6: Percent of Older DD Currently Using Aids for Impairment
analysis explained 21 percent of the variance in use of mobility aids, 12 percent in use of hearing aids, and seven percent in use of vision aids.

Use of a non-family member to help with daily activities was most strongly predicted by having trouble dressing and getting into and out of bed (Beta=.18), and having activities limited due to learning disabilities (Beta=.19). Use of non-family helpers also increased with age (Beta=.18). Overall, 13 percent of the variance in the use of non-family helpers was explained by these predictors as shown in Table 3.

CONCLUSIONS AND IMPLICATIONS

In summary, older developmentally disabled Canadians report significant difficulties with functional abilities that are necessary for daily living. Their activities are also significantly limited by their learning disabilities, especially in their abilities to get outside their homes. Thus, these older adults have a great need for health and social services. As one would predict, their use of physicians, hospitals and prescription medicines is high. Aids for use by those impaired in hearing and mobility appears to be readily available to the developmentally disabled, but more than one-third report needing vision aids that they do not have. As for non-family assistants, more than 40
Figure 8: Percent of Older DD Using Non-Family Helpers and Transportation

42.5

Non-family helper

Special bus or van

N=640

Figure 9A: Percent of Older DD Needing Social Services They Do Not Have

<table>
<thead>
<tr>
<th>Service</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Signing</td>
<td>2%</td>
</tr>
<tr>
<td>Meal prep</td>
<td>26.8%</td>
</tr>
<tr>
<td>Shopping</td>
<td>30.6%</td>
</tr>
<tr>
<td>Housework</td>
<td>30.9%</td>
</tr>
<tr>
<td>Heavy Chores</td>
<td>37.9%</td>
</tr>
</tbody>
</table>

N=640
Figure 9B: Percent of Older DD Needing Social Services They Do Not Have

<table>
<thead>
<tr>
<th>Service</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Finances</td>
<td>28%</td>
</tr>
<tr>
<td>Personal care</td>
<td>33.1%</td>
</tr>
<tr>
<td>Move about</td>
<td>7.4%</td>
</tr>
<tr>
<td>Short trip help</td>
<td>34.4%</td>
</tr>
<tr>
<td>Long trip help</td>
<td>36.9%</td>
</tr>
</tbody>
</table>

N=640

Figure 9C: Percent of Older DD Needing Social Services They Do Not Have

<table>
<thead>
<tr>
<th>Service</th>
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</tr>
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<tbody>
<tr>
<td>Spec. transport</td>
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<tr>
<td>Residence entrance</td>
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<tr>
<td>Residence features</td>
<td>10%</td>
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</tbody>
</table>

N=640
percent of these older adults report having such assistance, but one-fourth to one-third report needing assistance with basic activities of daily living.

In an ideal health and social service delivery system, all the variance in the use of health and social services would be explained by the need for those services. In the Canadian system, need tends be a strong, if not the strongest predictor of the use of health and social services examined in this research. However, the continued influence of factors such as minority ethnic status and rural residence remains cause for concern. It was heartening to find that in only two instances—utilization of physician services and having seen a nurse—was the enabling category of income significantly correlated

### Table 1. Regression of Predictor Variables on Use of Health Care Services among Older Developmentally Disabled Adults in Canada

<table>
<thead>
<tr>
<th></th>
<th>Physician r</th>
<th>Hospital r</th>
<th>Nurse r</th>
<th>Prescription r</th>
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<tr>
<td></td>
<td>Beta</td>
<td>Beta</td>
<td>Beta</td>
<td>Beta</td>
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<tr>
<td><strong>Need Level</strong></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Trouble dressing/</td>
<td>.28</td>
<td>.18</td>
<td></td>
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</tr>
<tr>
<td>getting out of bed</td>
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<td></td>
<td></td>
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<tr>
<td>Diagnosed with</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Learning disabilities</td>
<td>.25</td>
<td>.17</td>
<td>-.15</td>
<td>-.12</td>
</tr>
<tr>
<td>Activities limited/</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>learning disability</td>
<td>.18</td>
<td>.11</td>
<td>-.30</td>
<td>-.12</td>
</tr>
<tr>
<td>Trouble using public</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>transportation</td>
<td>-.15</td>
<td>-.10</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Predisposing</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
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<td>.11</td>
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<td>French origin</td>
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<td><strong>Enabling—family level</strong></td>
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<td></td>
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<td>Low income status</td>
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<td>.30</td>
<td>.14</td>
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<tr>
<td><strong>Enabling—community level</strong></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Rural residence</td>
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<td>-.11</td>
<td>-.24</td>
<td>-.19</td>
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<tr>
<td>Adjusted R-squared</td>
<td>.13</td>
<td>.14</td>
<td>.30</td>
<td>.20</td>
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</tbody>
</table>
with use of services. In both instances, persons with incomes below the poverty line had
greatest access to services, as they should given their poorer health. This undoubtedly
reflects Canada’s health care delivery system, which is a mixture of private enterprise
and nationalized medicine.

This research has important policy implications that should be informative for
policymakers in both the United States and Canada. The implications will be particu-
larly relevant to those persons in both the private and public sectors who are in positions
from which to influence policies concerning the developmentally disabled elderly. The
Andersen-Newman theoretical framework was conceived and has been replicated in
the United States. The findings of this research indicate that enabling factors such as
income, which are so important to health care and social services access in the United
States, are not as significant in Canada. The fact that need emerges as being correlated
with the use of services and income does not suggest that health care and social services
are provided equitably for Canadian developmentally disabled elderly. This is not to
say that the services offered in Canada are necessarily superior or particularly
appropriate, but only that they are accessible to those most in need.

The findings of this study, when combined with other facts about the Canadian and
United States health care delivery systems, suggest that the United States would do well
to emulate at least some aspects of the Canadian system. Free access to physicians’
offices, hospitals, nurses, and other health care practitioners and services tends to
provide more care for those who need it most. Following the introduction of cost-free
medical care in Canada (Hatcher et al., 1984), physicians reported seeing fewer
patients for frivolous reasons and more persons with serious complaints. Canada
provides equal service for rich and poor alike. It is not a two-class health care system.

The quality of health care in Canada is similar to that of the United States. The
major emphasis is upon general practitioners rather than specialists, and there are twice
as many general practitioners per capita in Canada than in the United States (Hatcher
respect to infant mortality and life expectancy is somewhat better than for Americans.”
The infant mortality rate (per 1,000 live births) in Canada is the third lowest in the world
at 7.2 (Hatcher et al., 1984). This is substantially lower than that of the United States,
at 10.5 (Schaefer, 1989).

The outcome of deinstitutionalization has been less unfavorable in Canada than in
the United States. The mental health services in Canada have been evaluated as
superior to those throughout most of the United States (Smith & Herman, 1988).

Despite the equality and generosity of its health care program, Canada is one of the
few countries that has held the cost of all health care to a constant proportion of the
Gross National Product (Hatcher et al., 1984). Per capita health care costs in Canada
are only half those in the United States, even though most hospitals are privately owned
Table 2. Regression of Predictor Variables on Use of Aids for Impairment among Older Developmentally Disabled Adults in Canada

<table>
<thead>
<tr>
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<th>Mobility Beta</th>
<th>Vision r</th>
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<tr>
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<td>.18</td>
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<td>.23</td>
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<tr>
<td>getting out of bed</td>
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<tr>
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<td>.21</td>
<td>.07</td>
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</tr>
</tbody>
</table>

and most physicians are in independent private practice. Only 1.5 percent is spent on administrative costs, making the Canadian system possibly the most efficient in the world (Hatcher et al., 1984). In Canada, malpractice insurance is not a factor in medical costs. In addition, there is not a large insurance industry to contribute to spiraling health care costs, as in the U.S. (Kane & Kane, 1990).

For Canadian policymakers there is much to gain from a study of the Canadian health care delivery system as it applies to the developmentally disabled elderly. Having empirical information on variables that differentiate and characterize (and are potentially modifiable via social policy) those elderly respondents prone to use services will enable policymakers and program developers to structure or restructure the service delivery system in ways that will effectively meet the needs of the developmentally disabled.

As with health care utilization, need factors emerged in this research as the most significant determinants of social services utilization. For both the United States and Canada, it will be beneficial for policymakers and social services practitioners who work with elderly developmentally disabled persons to have an understanding of the
Table 3. Regression of Predictor Variables on Use of Social Services among Older Developmentally Disabled Adults in Canada

<table>
<thead>
<tr>
<th></th>
<th>Non-Family Helper r</th>
<th>Beta</th>
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<tbody>
<tr>
<td><strong>Need level</strong></td>
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<td>Trouble dressing/</td>
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<td>getting out of bed</td>
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<tr>
<td>Activities limited/</td>
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<td>Adjusted R-squared</td>
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<td>.13</td>
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</tbody>
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different variables that predict the utilization of services. This kind of information is mandatory for effective service programs to be developed and implemented, particularly in an environment in which resources are limited.

An important concept concerning social services is that they have historically been equated with welfare, usually in a negative sense, and recipients have been stigmatized (Tenhoor, 1982). In times of financial exigency, they are often targeted for elimination. In actuality, however, social services such as the ones investigated in this research (receiving help with the activities of daily living and the use of a bus or van) “... are frequently preventive in nature, and... prevention is generally accepted as less costly than diagnosis and treatment” (Chappell, 1988:83).

A few final comments about the limitations of this research are in order. A relatively small portion of the variance was explained for some of the dependent variables by the application of multivariate analysis. Similar results have been obtained in other studies (Eve et al., 1980; Wolinsky & Coe, 1984) dealing with different categories of respondents. In particular, the enabling variables account for a disappointingly small proportion of the variance in the model. The variables in this study, though taken from a scientifically designed questionnaire, did not provide as much
insight as might have been desirable. For example, the study would have been enhanced had it been possible to distinguish among physician visits which were initiated by the patient, visits initiated at the physician's request, and by some third party, such as a social service worker or a relative. Future research should attempt to obtain information which can be more conducive to such considerations.

Future studies should also attempt to incorporate variables, unavailable in this research, that indicate the respondents’ knowledge of health care and social services and how and when to use them. Such knowledge could be operationalized as an enabling variable and would logically have some predictive power in the utilization model.

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Andersen, R. 1968. A behavioral model of families' use of health services. Chicago: Center for Health Administration Studies.


