# AGING IN SENIORS' MULTIPLE HOUSING IN THE VANCOUVER AREA

A Comparative Study of Three Organizations

by

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## ABSTRACT

The intention of this thesis is to provide observations and concepts for those persons concerned with the delivery of seniors' living arrangements, which may contribute in the planning and operation of these facilities.

The thesis first looks at the topic of aging-in-place from a broad context using Lawton's ecological housing model as a framework. It consists of four separate interrelated categories: the macrosystem, the exosystem, the microsystem and the individual.

At the macro level, demographic trends suggest that future needs for supportive environments will be high among the *older seniors* group. Assisting aging-in-place will offset increasing health care costs. At the exosystem level, remaining in one's neighbourhood is both desired by and supportive of seniors aging-in-place. Avoiding the negative effects of institutionalization further supports the argument for aging-in-place.

The competence/press model is a useful means of conceptualizing changing needs of seniors as they age-in-place at the micro level. At the individual level, a typology of competencies is introduced along with a discussion on control theory. The need to provide environments which maintain and enhance all the competencies is suggested.

Next, the case studies investigate whether aging-in-place in seniors' multiple housing projects is occurring and whether there are differences by building type (high/low rise) or by organization. Case studies of three seniors housing organizations are presented; New Vista Society (NVS), British Columbia Housing Foundation (BCHF), and British Columbia Housing Management Corporation (BCHMC). Data on median age of tenants, duration of stay, original to total tenants, sex distribution, age subgroups, tenant replacement rate and proportion of couples to all tenants are analysed.

Case study findings indicate that the median age of tenants remained almost constant over the study period. Distinct differences in median age are evident by organization. The relationship of aging-in-place to building type is not significant, although in low rise buildings the median age was lower.

Of the four key variables analysed, differences in median age of tenants by organisation are best explained by differences in median age of replacement tenants. The proportion of tenants in the older seniors age subgroup increased substantially with only small increases in median age across the six buildings studied. BCHMC had a substantially lower median age of tenants and also a much lower proportion of older seniors than the other two organizations.

The evidence suggests that the differences are likely due to policies being more formally applied by BCHMC than by NVS or BCHF. The fact that there are higher median ages at NVS and BCHF, suggests that tenants could be kept longer by BCHMC.

Recommendations include the utilization of an *accommodating model* in programming seniors housing; relaxation of BCHMC housing policy in relationship to tenant admissions and separations; standardization of record keeping by agencies responsible for the delivery of seniors living environments, and an interdisciplinary approach in the delivery of seniors living environments. The need to study where tenants move to after leaving seniors' multiple housing was identified.

In closing, the merits of the Abbeyfield housing model are discussed in relation to the thesis findings. It is suggested that this model will gain in popularity in meeting the challenge of providing appropriate living environments for aging-in-place.

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## 1.1 PROBLEM STATEMENT

I was first exposed to the issue of aging-in-place, ie., remaining in one's own home throughout the process of aging in one's later years, at the end of the 1960's. At that time, Actionline Housing Society, a non-profit private housing society, sponsored the design and construction of a seniors' housing project in Burnaby. The Society, under the leadership of Emmet Cafferky, researched the issue of aging-in-place, including field trips in Canada and the USA to state-of-the-art facilities. The continuum-of-care concept was seen as the appropriate solution, and the project, known as Seton Villa, provided self-contained apartment units, room and board, personal care, intermediate care, all the way to extended care. Numerous amenities were also included such as indoor swimming pool, hydrotherm pool, penthouse recreation and banquet room facilities, dining room and commercial kitchen, community hall and a non-denominational church. Many small laundry/kitchen rooms are scattered throughout the main building to provide opportunities for socializing in small groups.

The idea of being able to remain in place in the local neighbourhood was key. Due to difficulties of implementation (political jurisdictions and funding problems), the project never became a full continuum-of-care, and presently it provides up to personal care only. However, the project, when conceived, was a harbinger of emerging thoughts on housing older persons, at least in British Columbia, and it continues to be popular, with a three year waiting period to get in (Cunningham 1989).

In recent years, numerous options for seniors' living arrangements have emerged designed to accommodate aging-in-place. These options range from congregate care living to continuum-of-care retirement communities; all aim at one not having to move to an institution

when personal competence diminishes ( Newcomer et al. 1986; Gutman & Blackie 1984,1986, 1988). For those who can afford it, these options, which are mainly available in the private sector administration, have proved marketable and appear reasonably successful, at least in the short term.

At the other end of the spectrum, options are limited for those elderly persons who have limited assets and incomes. Particularly, this applies to elderly persons, who may enjoy only the option of multiple seniors' social housing. For many older persons, the move to seniors' multiple housing is made due to the problems of upkeep and maintenance of the single family home, or sometimes due to the death of a spouse, or "lack of funds" to keep paying the house taxes, etc. One may assume that usually the older person may prefer to stay put, if at all feasible, whether in private dwelling or low-income collective housing.

The Provincial Government, through the Ministry of Health, has expressed a policy of aging-in-place for seniors in B.C. (Hoppenrath 1981). However, this policy has created a dilemma since social housing policy for the elderly in B.C. is still based on an independent living model. These seniors' facilities, typically composed of many small units which are designed for independent living, have neither the physical nor administrative capabilities to accommodate aging-in-place. The implications of an aging-in-place policy remain to date to be considered in the light of social housing programs and the present inventory of social housing units for independent living.

In the Vancouver area, there are a number of non-profit seniors' multiple housing projects built in the 1960's and 1970's in which some members of the resident populations have aged in place. This problem was brought to my attention when I was approached by Professor John Gaitinakis (UBC School of Architecture) to assemble a graduate student team to study the

problem for the British Columbia Housing Foundation. In discussing the topic of aging-in-place with British Columbia Housing Management Commission, I was informed that this problem, ie., residents aging in multiple seniors' social housing, is not being evidenced in its public-run facilities (McCririck 1988). Notwithstanding this BCHMC statement, it is likely that these environments, which were designed for retirement age seniors, do not meet current needs of the older senior members of the resident senior populations (Lawton, Greenbaum & Liebowitz 1980). There are persons who moved into these facilities at retirement age (about 65) who are now over 80 years old. As tenants age in place, the ages of occupants range upward to include the 8th and 9th decades. This likely causes upward movement of the median age of occupants in any given project, unless it is regularly expanded in its capacity to accommodate new admissions of (younger) seniors.

Non-profit seniors' multiple housing projects are operated under a presumption that tenants are "independent" insofar as they require no external support service for daily living. However, the older the tenants become, the more tenuous is this presumption. For example, couples in tenancy tend to become widowed, with survivors suffering loss of spousal support. Also partial infirmities and impairments will develop and become more disabling over time, thereby reducing an individual's self-dependence. Indeed, there is evidence that current residents of some private non-profit seniors' multiple housing do use off-site and in-home support on a regular basis while continuing to age in place in their self-contained bachelor and one bedroom units (Cove 1989). With passage of time, residents in independent multiple housing projects must vacate their units either because they become too disturbed, ill or disabled to continue residence in their self-contained units. The period of residence preceding vacating of units through illness or infirmity may impose a severe overload on non-profit seniors' housing managements and a high health and safety risk to the tenant. Alternatively, to

avoid overloading, forced moves may occur resulting in these residents being prematurely placed in care institutions.

Recently a number of alternatives to moves to institutions for the elderly with changing needs have been developed. The Abbeyfield model of small family-style congregate living has been studied in relation to its marketability and affordability in the Vancouver context (Murray et al. 1988). In *Housing Choices for Elderly Canadians* (CMHC 1985), many alternatives to institutionalization are presented.

Problems related to environment and changing residents' needs due to aging-in-place in personal care facilities have been addressed and guidelines formulated (Champagne and Brink 1985; CMHC Design Guidelines, 2nd ed. 1987). However, there appears to be a gap in the research concerning older seniors living in public multiple housing for seniors built through government-sponsored programs in the Sixties and Seventies. Referring to a similar situation in the United States, Lawton stresses the need to research the changes in the thousands of housing environments built as housing for independent seniors (Lawton, Greenbaum & Liebowitz 1980, 62).

The effects of aging-in-place were studied by Lawton et al. in two congregate housing projects in Philadelphia. Tenant population changes suggested that "a process of stabilization at a relatively low level of independence may be occurring" (1980, 63). The researchers ask the question "Will such a state be reached by every housing environment if extraordinary measures are not taken?" ( ibid., 63). As they suggest, housing sponsors "need to know how tenant populations change over time and what factors influence this change, in order to be able to plan for future services to the tenants" ( ibid., 57).

## 1.2 SIGNIFICANCE

We are experiencing a "seniors boom" in Canada. In the next 45 years, the senior population (65 years of age or more) is expected to almost triple in size. Today among the old old (over 80), a sharp increase in growth rate (77%) is expected over the period 1986 to 2001 (Stone and Fletcher 1986, 1). In British Columbia, an increase of 128% in population aged 80+ is projected from 1981-2001.

Presently, it can be expected that the survivors of that cohort of seniors 65+ admitted to multiple housing projects for seniors built in the Sixties and Seventies have experienced considerable debility. Particular problems associated with the changing needs of these old old citizens are only recently being explored.

Government-sponsored multiple seniors' housing projects have been built throughout Canada. Putting aside regional program differences, we are likely to see that the problems being experienced in these facilities by cohorts of older seniors aging-in-place are similar, irrespective of locations, given that the program criteria are national in substance In B.C. seniors' public multiple housing projects are being implemented through the BCHMC program. It could be, therefore, expected that findings from this study will have wider applicability than just the local study focus.

Given the increasing numbers of elderly in Canada and their increasing longevity, this group cannot be ignored. Members of this age group are becoming more vocal in terms of their human rights; also they represent a most valuable community resource whose potential is presently being overlooked. At the same time, re-housing them in intermediate or extended care hospitals is both unappealing and costly. For this reason it is is important that we better understand the circumstances which defer or avoid transferance to various levels of care.

## 1.3 PURPOSE

The thesis explores the issue of aging-in-place as it relates to seniors' multiple housing projects. The thesis first explores aging-in-place from a broad perspective, looking for relevant factors to consider in planning seniors' housing facilities. At a more detailed level, the question of whether aging-in-place is occurring in seniors' multiple housing projects is investigated. Also explored is the question of whether aging-in-place varies by organization or by building type (high/low rise).

## 1.4 DEFINITION OF KEY TERMS:

The following key terms are defined by the writer for the purposes of this thesis.

| | |
|---|---|
| Aging-in-Place | Remaining in one's own dwelling throughout the process of aging in one's later years. "Staying put" is another term synonymous with aging-in-place. |
| Seniors | Those persons of 65 years of age or over |
| Older Seniors | Those persons of 75 years of age or over |
| Old old | Those persons 80 years or older |
| Seniors' Multiple Housing | Housing designed specifically for seniors for independent living. Usually in the form of row houses or apartment buildings |
| Personal Care | Minimal non-professional care and supervision |
| Intermediate Care | Three categories at varying levels of professional care and supervision. |
| Extended Care | Full-time professional nursing care |
| Congregate Housing | Supportive living environment with some meals and services to assist aging in place. |

| | |
|---|---|
| Continuum Care | All needs are met from independent living through to extended care within the one facility. |
| Competence | Represents the givens within the individual such as physical, mental health. It covers a range from low to high. |
| Interdisciplinary | Consisting of the collaboration and co-ordination of more than one discipline. |

ACRONYMS

| | |
|---|---|
| A.I.L. | Assisted Independent Living |
| R.R.A.P. | Residential Rehabilitation Assistance Program |
| SAFER | Shelter Aid for Elderly Renters (B.C.) |
| GAIN | Guaranteed Annual Income for Need |
| G.I.S. | Guaranteed Income Supplement |
| O.A.S. | Old Age Security |
| C/QPP | Canadian/Quebec Pension Plan |

## 1.5 RESEARCH STUDY

Aging-in-place reduces the incidence of institutionalization of the elderly. However, changes that take place to individuals and environments have to be considered at inception of seniors' housing programs designed to accommodate aging-in-place, if these programs are to be successful on a continuous basis.

The main thesis question is concerned with the implications of aging-in-place for present and future seniors' housing policies and programs, particularly given the present B.C. Provincial aging-in-place policy as stated through the Ministry of Health long-term care program.

In Chapter 2, aging-in-place issues from macro level to individual level are reviewed. Demographic statistics and projections respecting the elderly population are first discussed to raise our level of understanding of the needs of the population to be served. The desire of seniors to remain in their neighbourhoods and the advantages of doing so are discussed.

The competence/press model is introduced as a useful conceptual means of understanding the theoretical implications of aging-in-place at the micro level. At the individual level, a typology of competences is introduced along with the argument that there is a need to maintain and enhance all the competencies to support aging-in-place.

Chapter 2 provides a broad perspective on the implications of aging-in-place. The macro system discussion suggests the general magnitude of need for supportive environments; the exosystem discussion suggests locational implications, the micro system discussion emphasizes supportive environments over institutionalization, and a broad definition of individual need is suggested at the individual level.

Chapters 3, 4 and 5 present the case studies. These case studies focus on the segment of the elderly population who are housed to a large extent in "social housing", provided through some form of government-sponsored program. The general question explored is whether aging-in-place is occurring in these facilities and whether there are differences by organization or building type.

Chapter 3 introduces the model for the case studies and outlines the methodology used. Case data used in this study are drawn from seniors' public and non-profit multiple housing projects in Vancouver, built before 1978, two of which are operated by each of three independent

organizations. These organizations are New Vista Society (NVS), British Columbia Housing Foundation (BCHF) and the British Columbia Housing Management Commission (BCHMC).

An analysis of tenant populations for each of the organizations and buildings is provided in Chapter 4. These measures include median age of tenants and replacement tenants, duration of stay, original tenants to total tenants, sex distribution; age sub groups, tenant annual replacement rate, and proportion of couples to all tenants.

Findings indicate that the median age (the primary indicator for aging-in-place) has remained almost constant for the seven-year study period irrespective of organization. There are differences by building with examples of increases as well as decreases in median age. Surprising is the finding that there are distinct differences in median age of tenants by organization with a spread of four years between BCHMC (70) and BCHF (74). Another important finding is that there are distinct differences in age subgroup distribution by organization.

Chapter 5 attempts to explain why the median age is remaining almost constant for all organizations, why there are differences in median age by organization and differences by building. The median age of replacement tenants is the critical variable in explaining differences in median age of residents within a particular organization. There are indications which suggest that older seniors do tend to age-in-place if left to do so.

Chapter 6 summarizes the thesis and evaluates its effectiveness in meeting stated objectives. Limitations of the findings are discussed. Notwithstanding limitations, it is concluded that BCHMC is less accommodating to aging-in-place than the other two organizations. This is likely due to the policy of BCHMC being more formally applied than in the other two organizations, given the inherent inflexibility of a large bureacracy. Possibly "forced" moves of older seniors are

occurring, along with premature institutionalization. Such occurances may be more likely when median age is higher, so that there is an increased need for caregivers along with a higher risk to the health and safety of the tenants if they remain in "independent" living environments.

There is a need for further study to ascertain where tenants move to after they leave these multiple housing projects. Standard forms of record keeping requirements would assist agencies in predicting present and future requirements for tenants. Keeping a record of where tenants move after leaving would facilitate analysis of the proportion being institutionalized.

The present model for the delivery of seniors' multiple housing results in the production of controlled environments. This independent living model is not very effective in supporting aging-in-place. The provision of supportive living environments will require an interdisciplinary approach both in facilities programming and management.

The provision of small housing facilities along the lines of the Abbeyfield model may, in the long run, prove practical to implement in predominately single family neighbourhoods and help meet the challenge of providing appropriate living environments for aging-in-place, in other words competent environments.

# CHAPTER 2: THEORETICAL FRAMEWORK

## 2.1 FRAME OF REFERENCE

The intention of this thesis is to provide observations and concepts for those persons and agencies concerned with the delivery of seniors living arrangements, which may contribute in the planning and operation of these facilities. In Chapter 2, the background research looks at aging-in-place from a broad perspective. The questions asked are typical of those a housing agency might ask in the process of facilities planning. The first question concerns the magnitude of the demand and the characteristics of the population to be served; the second concerns the appropriate location to fulfill the need; the third concerns the functional and spatial needs of particular facilities; and the fourth concerns the individual needs at the detail level. The following discussion attempts to provide answers to the preceding questions and in doing so raise our understanding of aging-in-place issues in relation to seniors' multiple housing.

It is no easy task for those individuals and agencies involved with the delivery of seniors' housing to select programme requirements from the plethora of research which covers a vast range of disciplines and topics. In addition to the problem of complexity, there is little theoretical research which is generalizable for application to programming of seniors' multiple housing. One explanation for this problem lies in the specificity of the research. "From the vantage points of its own advocates, each conceptual framework appears to be a complete, consistent, and correct prescriptive model of reality. Each enables researchers to conveniently structure their own work. Each also provides them with the only available frame of reference for interpreting the research of others working in the same context area. Unfortunately, however, a conceptual commitment provides no basis for the translation or accumulation of research findings across frameworks. Herein lies the dilemma - all research is framework specific" (Lawton, Windley et al. 1982, 157).

The Ecological Housing Model (Lawton 1980) is a helpful tool for categorizing the research within the overall environmental context. It consists of four separate interrelated categories, the macrosystem; exosystem; microsystem and the individual.

The macrosystem includes dominant societal values, social forces, economic and policial decisions and policies. The exosystem includes community characteristics and structure, neighbourhood characteristics and structure. The microsystem includes personal environment, group enviromental, the physical environment and suprapersonal environment.

The last category is the individual including personal characteristics, competences, needs and wants, beliefs and values.

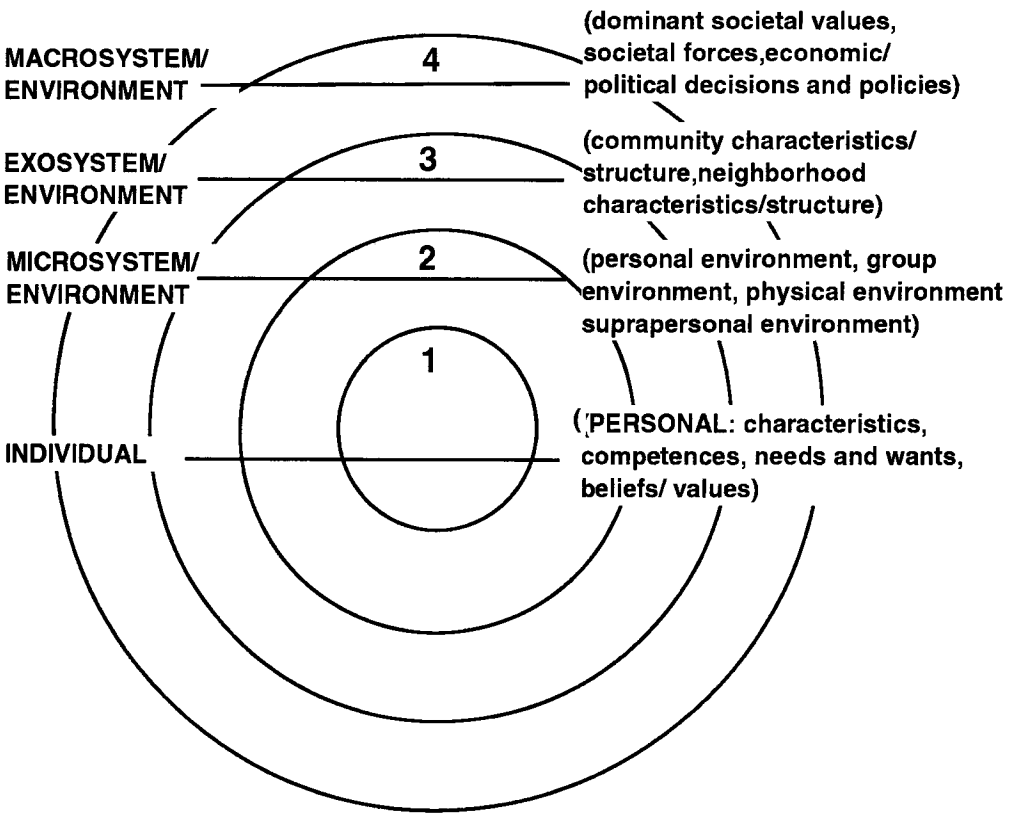



Figure 2.01 Ecological housing model

In this study, the Ecological Housing Model is used as a frame of reference within which, both the background research and the case studies are placed. Final conclusions are considered in the light of this broader context while limitations are also recognized. It should be noted that while these categories provide a general framework for discussion purposes, there are bound to be overlaps among the categories.

## 2.2 MACRO SYSTEM CONSIDERATIONS: ORGANIZATIONS/SENIORS DEMOGRAPHICS

The macro system includes dominant societal values, social forces, economic and political decisions and policies. The rationale for understanding issues at the macrosystem level is provided by Irwin Altman. "However, the larger social, polical and economic forces and processes within a particular changing society are the primary determinants in explaining and accounting for the existence and range of housing alternatives and in the variation in choice between groups of elderly, as well as the changes in these housing options over time." (1984, 123) It is not the intention of this document to address all of these areas of the macro system given the time constraints. Rather, two areas will be covered, the first concerning economic and polical decisions and policies, is organizations, and the second concerning social forces, is seniors demographics.

### 2.2.1 ORGANIZATIONS

In the introduction, we discussed the fact that BCHF reported aging-in-place was occurring in their facilities, while BCHMC reported that aging-in-place was not occuring in theirs. The first question for the case studies presented in Chapters 3 through 5, is concerned with confirming or refuting these reported occurences. Assuming that actual differences might be confirmed by organization, the question that remains is why are these differences occuring?

For the purpose of this thesis the measure of effectiveness (i.e. success) of an organization is longevity of tenancy. This implies that, in successful organizations, median age of tenants would be high, the proportion of original tenants would be high, the proportion of older seniors would be high and tenant turnover would be low. The following discussion provides a definition of organization, and presents some theoretical ideas on why differences in outcome by organization might occur.

Leon Ullmann provides a "concept of organization as a group of people with a common purpose" ( 1967, 164). The common purpose is what justifies the existence of an organization. In order to evaluate the effectiveness of an organization, the attainment of purpose has to be measured.

The relationship of size to groups and organizations has been the focus of a number of studies concerned with effectiveness. The benefits of small size in industrial settings (Worth 1950) were higher employee morale, supervisors and higher administrative officers were known personally, there are fewer levels of supervision, less minute divisions of labour, and the organization operates on a face-to-face rather than on an impersonal, institutional basis. In a study by Barker et al. (1964), the benefits of small size in education settings were, increased student participation, enthusiasm and responsibility. In his discussion on the advantages of small care facilities, John Phillips argues that there is an "ability for all staff to know the patients personally" (Phillips 1977, 126).

Small group research shows a similar relationship between size and participation. As size increases, participation decreases (Kelly and Thibart 1954; LeCompte and Balar 1960; Dawe 1934). In discussing small group housing it is suggested that these settings "because of their small size, also offer the potential for small group interaction and integration into the nearby

community (Peace 1981, 16). On the other hand, it was found that ..."Ironically, England's own Department of Environment has published a survey of grouped schemes in which it was found that, of a sampling of flats, project size was not important to the elderly tenants" (Goldenberg 1981, 174).

A major justification for large size organization is economies of scale. A centralized administration can expedite tasks of many units. The benefits of increased size are efficiency in production or reduction in cost per unit, mainly due to centralization of maintenance and administration functions. Arguments have been presented both supporting and rejecting this reasoning. Ullmann cites Blau & Scott (1962) and Bendix (1956) as sources supporting the argument that the percentage of administration salaried workers decreases with increasing the size of the establishment; and cites Terlin & Mills (1958) as a source opposing the argument (Ullmann 1967, 16). This study of three school districts in California indicated that as size of organization increased, the percentage of employees in the administrative component increased. In other words, there is an increased need for coordination, which leads to the counter argument that small size reduces the need for task coordination and therefore reduces overhead.

There is also a direct relationship between the size of an organization and bureaucratic tendencies. Bureaucracy is defined as a technique for organizing the efforts of many people towards a common goal, having the four basic characteristics of specialization, hierarchy, rules and impersonality (ibid., 127).

The general purpose or goal of an organization may be displaced due to the effects of the bureaucratic characteristics discussed. The following is a review of some of the features associated with these characteristics and some of their effects.

First, there is a continuous organization of official functions bound by rules. The effect is that there is not a need to raise new solutions to problems, but rather all cases are given standardized and equal treatment. When situations change, it is easier to categorize them as appropriate to old rules than to devise new rules. (Merton, 1940). Second is the systematic division of labour, rights and power. The job is defined, always with its limits. The problem is that in practice there may be overlap is a person's area of specialization, especially in the treatment of humans. The system does not accommodate overlaps in jurisdiction. Third, with an organizational hierarchy, there is no position left uncontrolled. At the same time, a senior person might end up in control or having no control over a particular department or area outside his/her particular expertise. Fourth, the rules of conduct are technical, applied rationally; therefore persons tend to "play it safe", not take risks. In the end the policy may become the primary criterion for decisions. "Adherence to the organization's policy has become the organizational goal of the bureaucrat" (Etzioni 1964, 12). Fifth, administration acts, decisions and rules are formulated and recorded in writing. The result is that a paper trail is the visible record of work accomplished. Effectiveness is measured in terms of performance records (Blau & Scott 1962, 179).

Large organizations or bureaucratic organizations are not inherently bad but might be less effective in particular situations than small organizations, especially in situations concerning human needs. Thus, differences in outcome might be explained by differences in size of organization.

In a comparative study of government prisons (DiLulio, Jr. 1987) several possibilities were suggested in accounting for differences in outcome by organization. Some of the suggested factors of relevance to the present study are: i) inaccurate or biased data (e.g.: flawed, bogus or incomplete), ii) characteristics of the population, iii) architecture and iv) management style.

In DiLulio's study there was a correlation between age of inmates and level of violence. Some correlation between level of order and architecture was evident but inconclusive. Of all of the factors considered in explaining the difference, management style was central. It was concluded that "prison management is the strategic variable, one that may be subject to change with predictable and desired consequences" ( ibid., 95).

We will return to the consideration of this discussion on organizations and size in the closing chapters which cover case studies analysis and evaluation.

### 2.2.2 SENIORS DEMOGRAPHICS

The changing characteristics of the seniors population both nationally and locally is one of the major social forces with implications for aging-in-place; it concerns the question of the nature and magnitude of the demand. In presenting statistical data there has been a tendency to ignore older seniors as an age sub group of the seniors population. Most demographic studies tend to talk of the seniors population as a whole (65 and over). This oversight focuses the attention away from the groups who are most in need of support, particularly those who, for the purposes of this study, are defined as older seniors (75 years and over). To rectify this imbalance statistical data are therefore analysed and presented in the forthcoming discussion with an emphasis on older seniors.

2.2.3 POPULATION

The older seniors population in Canada in 1986 totalled 1,047,490 (4.1% of the population) while the seniors population under 75 totalled 1,650,085 (6.5% of the population). In British Columbia, the older seniors population totalled 134,025 (4.6% of the population) and the under 75 seniors population totalled 215,480 (7.5% of the population). The largest proportion of seniors in British Columbia was in the Vancouver Central Metropolitan Area, which accounted for almost half (48%) of the Provincial seniors population. In British Columbia, the older seniors group is 39% which is the largest seniors age sub group (See tables 2.01-2.03 and Figure 2.02).

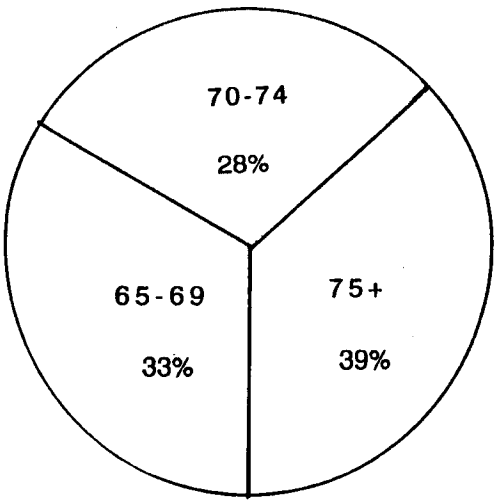



Figure 2.02 Seniors age groups B.C. 1986

Table 2.01 Population Canada 1986

| | % | Both | Male | Female |
|---|---|---|---|---|
| Total | 100.0 | 25,309,330 | 12,485,650 | 12,823,680 |
| 65-69 | 3.6 | 911,765 | 414,545 | 497,220 |
| 70-74 | 2.9 | 738,320 | 324,330 | 413,990 |
| 75+ | 4.1 | 1,047,490 | 394,460 | 653,025 |

65+ total 10.6%
(Source: Statistics Canada, Census of Canada 1986)

Table 2.02 Population in B.C. 1986

| | % | Both | Male | Female |
|---|---|---|---|---|
| Total | 100.0 | 2,883,365 | 1,428,115 | 1,455,255 |
| 65-69 | 4.1 | 117,485 | 53,405 | 64,080 |
| 70-74 | 3.4 | 97,975 | 44,202 | 53,960 |
| 75+ | 4.6 | 134,025 | 53,560 | 80,465 |

65+ Total 12.1
(Source: Statistics Canada, Census of Canada 1986)

Table 2.03 Population in CMA Vancouver 1986

| | |
|---|---|
| Total | 1,380,725 |
| 65-69 | 54,225 |
| 70-74 | 46,170 |
| 75+ | 66,560 |

(Source: Statistics Canada, Census of Canada 1986)

2.2.3 GROWTH

From 1971 to 1986 the older seniors population in Canada increased 56%, compared to an increase of 16% for the under 75 population. Nationally, it is forecast that the older seniors

population will reach 1.7 million by the year 2001 (6% of the total population). This is approximately an increase of 70% from 1986 (Priest, 1988, 27). The forecast for B.C. is an increase of older seniors to 6.6% of the total population by 2011; that is an increase of 130,975 older seniors (Statistics Canada 1986). In British Columbia by year 2011, the seniors population may total 588,500 representing 14.6% of the population. Projections for the 65-74 seniors age group indicate a short-term easing in growth rate for the period 1995 to 2005. However, this easing will only be temporary until the early Baby-boomers reach seniors age (Government of B.C. Central Statistics Bureau October 1988).

### 2.2.4 MARITAL STATUS

Fifty-four percent of the total seniors population in Canada in 1986 were married. This accounted for 74% of the male seniors population and 40% of the female seniors population. In B.C. 58% of the total seniors population were married, constituting 76% of male seniors and 44% of female seniors respectively. Of the seniors age 75+ in Canada, the proportion dropped to only 2/3 of the male population and less than 1/4 of the female population ( Priest 1988, 27). In B.C. in 1981, 58% of the older seniors male population were married and only 18% of the female population (Gutman et al. 1986 18). These lower figures are attributable to the increasing longevity of older seniors in B.C. (see Tables 2.04 and 2.05).

Table 2.04 Marital Status 1986 in Canada

| | Total | Married | % | Single | Widowed | Divorce | Separ. |
|---|---|---|---|---|---|---|---|
| 65+ T | 2,697,580 | 1,462,185 | 54% | 220,265 | 907,240 | 58,920 | 48,820 |
| M | 1,133,340 | 843,945 | 74% | 85,560 | 153,365 | 25.665 | 24,800 |
| F | 1,564,240 | 618,235 | 40% | 134,805 | 753,920 | 33,255 | 24,020 |

(Source: Statistics Canada Census 1986)

Table 2.05 Marital Status 1986 in British Columbia

| | Total | Single | Married | % | Widowed | Divorced | Separ. |
|---|---|---|---|---|---|---|---|
| 65+ T | 349,485 | 19,925 | 201,760 | 58 | 108,955 | 12,535 | 7,210 |
| M | 150,990 | 8,740 | 114,995 | 76 | 18,465 | 5,105 | 3,690 |
| F | 198,495 | 10,290 | 86,765 | 44 | 90,495 | 7,435 | 3,520 |

(Source: Statistics Canada Census 1986)

## 2.2.5 MOBILITY

Northcott (1988) has questioned the myth that there is little mobility among the elderly population. From his analysis he shows that there was still substantial mobility among the 65 and over age group in Canada. In Canada, 22% of the population 65 and over changed residence for the period 1981-86. The figure for B.C. was 26% (see Tables 2.06 & 2.07).

Moves among the older seniors (over 75) population are less well documented. For the period 1976-81, 36% of the male senior population under 75 and 32% of the female seniors population moved residence in B.C. compared to 28% for both groups in the older seniors (75+) category. Moves among the older seniors population are more local in nature, varying both within the province of B.C. and among local neighbourhoods in the urban environments.

Table 2.06 Mobility Status 1981-1986 Canada 65+

| Pop. | Non-movers | Movers | Non Migrant | Same Prov. | Diff. Prov. | Outside Can. |
|---|---|---|---|---|---|---|
| T 2,495,105 | 1,953,685 | 541,421 | 316,375 | 161,775 | 34,906 | 28,370 |
| M 1,072,050 | 851,325 | 220,730 | 123,410 | 70,430 | 14,975 | 11,915 |
| F 1,423,055 | 1,102,360 | 320,700 | 192,965 | 91,350 | 19,930 | 16,450 |

(Source: Northcott 1988, 33-65)

Table 2.07 Mobility Status 1981-1986 B.C. 65+

| Pop. | Non-movers | Movers | Non Migrant | Same Prov. | Diff. Prov. | Outside Can. |
|---|---|---|---|---|---|---|
| T 325,000 | 129,380 | 85,620 | 43,335 | 27,370 | 9,215 | 5,700 |
| M 143,445 | 105,915 | 37,525 | 18,110 | 12,595 | 4,365 | 2,500 |
| F 181,510 | 133,465 | 48,045 | 25,220 | 14,770 | 4,850 | 3,200 |

(Source: Northcott 1988 33-65)

## 2.2.6 HEALTH STATUS

Canada's elderly population are a comparatively healthy group. However, there is generally an increase in reported health problems among the elderly with increasing age (See Tables 2.08 and 2.09). In 1985, persons over 65 reporting functional disabilities numbered 1,221,995 (37%) of the disabled population in Canada; correspondingly, seniors in B.C. constituted 151,540 (38%) of the disabled population in B.C. Of the total seniors disabled in Canada and B.C. in 1986 over 51% are older seniors. Among the reported health problems of seniors, arthritis is the most prevalent (48%) followed by hypertension (40%) cardiovascular troubles (21%), respiratory problems (19%) and diabetes (8%).

Table 2.08 Disabled Population 1986 Canada

| | | Totals | In Households | In Institutions |
|---|---|---|---|---|
| 65+ | Tot | 1,221,995 | 1,026,915 | 195,080 |
| | F | 727,655 | 589,295 | 138,360 |
| | M | 494,340 | 437,615 | 56,720 |
| 65-69 | Tot | 305,310 | 291,705 | 13,605 |
| | F | 151,375 | 144,650 | 6,725 |
| | M | 153,940 | 147,055 | 6,880 |
| 70-74 | Tot | 298,785 | ------- | ------- |
| 75-79 | Tot | 250,380 | 214,335 | ------- |
| 80-84 | Tot | 190,445 | 142,540 | ------- |
| 85+ | | 177,075 | 101,455 | ------- |

(Source: Statistics Canada, Health Activity Limitation Survey 1988, 45-46)

Table 2.09 Disabled Population 1986 B.C.

| | | Total | In Households | % | In Institutions | % |
|---|---|---|---|---|---|---|
| 65+ | T | 151,535 | 128,050 | 85 | 23,485 | 15 |
| | F | 87,600 | 70,865 | 47 | 16,735 | 11 |
| | M | 63,940 | 57,185 | 37 | 6,755 | 4 |
| 65-69 | T | 36,780 | 35,805 | 24 | 975 | 0.6 |
| | F | 19,390 | 18,915 | 13 | 470 | 0.3 |
| | M | 17,395 | 16,890 | 11 | 505 | 0.3 |
| 70-74 | T | 36,915 | 34,970 | 23 | 1,940 | 1.3 |
| | F | 17,725 | 16,520 | 11 | 1,210 | 0.8 |
| | M | 19,185 | 18,455 | 12 | 735 | 0.5 |
| 75-79 | T | 31,800 | 27,995 | 18 | 3,800 | 2.5 |
| | F | 17,805 | 15,160 | 10 | 2,645 | 1.7 |
| | M | 13,995 | 12,840 | | 1,155 | |
| 80-84 | T | 23,735 | 17,655 | 12 | 6,085 | 4 |
| | F | 15,800 | 11,620 | 8 | 4,180 | 2.8 |
| | M | 7,935 | 6,035 | 4 | 1,905 | 1.2 |
| 85+ | T | 22,310 | 11,625 | 8 | 10,685 | 7 |
| | F | 16,880 | 8,655 | 6 | 8,230 | 5.5 |
| | M | 5,425 | 2,970 | 2 | 2,455 | 1.5 |
| 15-64 | T | 216,770 | | | | |
| Total Dis. Pop. | | 395,120 | | | | |

(Source: Statistics Canada, Health Activity Limitation Survey 1988, 39)

Table 2.10 Prevalence of Selected Health Problems B.C.

| | | |
|---|---|---|
| 65+ | Hypertension | 40% |
| | Cardiovascular diseases | 21 |
| | Diabletes | 8 |
| | Respiratory Problems | 19 |
| | Arthritis | 48 |

(Source: Health and Social Support 1985 154)

Table 2.11 B.C. Leading Causes of Death All Ages

| | Rate per 100,000 |
|---|---|
| Diseases of Heart | 217.9 |
| Malignant Neoplasms | 191.7 |
| Cerebrovascular Diseases | 58.4 |
| Accidents | 42.8 |
| Pneumonia | 27.8 |
| Diseases of arteries | 20.0 |

(Source: Health and Social Support 1985 154)

## 2.2.7 HEALTH CARE UTILIZATION

Utilization of the health care system also increases with age (See Table 2.12). Of Canada's total population, 20% of the under 75 seniors age group had ten or more consultations with their physician in the past 12 months in 1989. This figure increased to 29% for the older seniors population in Canada.

Table 2.12 Canada 1985 Percentage of population having 10 or more consultations with doctor in last 12 months.

| | All ages | 55-64 | 65-74 | 75+ |
|---|---|---|---|---|
| Both | 11% | 15 | 20 | 29 |
| M | 8 | 15 | 17 | 25 |
| F | 13 | 15 | 22 | 31 |

(Source: Statistics Canada Health and Social Support 1985)

## 2.2.8 COST OF CARE

Given the increasing utilization of the health care system, this obviously reflects in an increase in cost of care delivery for older persons (See Table 2.13). In B.C. the cost per capita of care 1986/87 for persons under 60 ranged from a low of 155.08 (10-19 age group) to a high of 318.66 (50-59 age group). For the ages 60-69 the figure was 428.23 , for the 70+ age group the per capita cost of care was 623.09 i.e., roughly two to three times the cost of delivery in the other age groups. Although a further breakdown of the older seniors category is not

available one might predict that the per capital cost for the 75+ group would be even higher than the preceding costs.

Table 2.13 Medical services utilization in B.C. by age of patient, by sex of patient - 1986/87

| | Cost per Capita | | |
|---|---|---|---|
| Age Group | Males | Females | Total |
| 0-9 | 190.92 | 184.10 | 187.61 |
| 10-19 | 136.83 | 174.22 | 155.08 |
| 20-29 | 137.42 | 350.04 | 244.37 |
| 30-39 | 169.62 | 348.96 | 259.49 |
| 40-49 | 213.56 | 328.64 | 270.11 |
| 50-59 | 291.87 | 346.46 | 318.66 |
| 60-69 | 445.31 | 413.42 | 428.23 |
| 70+ | 684.97 | 578.10 | 623.05 |
| All Ages | 238.04 | 328.32 | 283.61 |

Dental surgery in hospital and payments for out-of-province services not included.

(Source: B.C. Ministry of Health Annual Report 1986-1987)

## 2.2.9 LIVING ARRANGEMENTS

Of the total seniors under 75 in Canada, 63% of them were living with their spouse in 1985 compared to 43% for the older (75+) seniors group. Of the under 75 senior males this figure was 79% versus only 50% for the under 75 senior females. Of the older senior males the percentage was 65% vs. 29%. A total of 1,620,690 private dwellings were occupied by Canadian seniors in 1986. Sixty-five percent were owned dwellings and 35% were rented. Of the rental dwellings 37% were in apartment buildings with five or more storeys. (Statistics Canada, Census of Canada 1986)

Seniors 65 and older occupied 213,970 private dwellings in B.C. in 1986. Of these, 68% were owned dwellings and 32% were rented (See Table 2.14 and 2.15). Eighty-one percent of

owned dwellings were single detached homes, 25% of rented dwellings were apartments in buildings five storeys or more, 65% were others ( Statistics Canada, Census of Canada, B.C. 1986).

Table 2.14 Occupied Private Dwellings Canada 1986 Seniors 65+

| | | | | |
|---|---|---|---|---|
| Total | 1,620,690 | Owned | 1,037,325 | 65.0% |
| | | Rented | 576,720 | 35.0% |
| Single Detached | 922,880 | Owned | 867,275 | 83.6% |
| | | Rented | 49,990 | |
| Apartment 5 storeys + | 238,360 | Owned | 27,185 | 2.6% |
| | | Rented | 210,810 | 36.5% |
| Movable Dwelling | 14,905 | Owned | 13,375 | 1.3% |
| | | Rented | 1,060 | 0.2% |
| Other | 444,540 | Owned | 129,490 | 12.5% |
| | | Rented | 314,850 | 54.0% |

Table 2.15 Occupied Private Dwellings, B.C. 1986 Seniors 65+

| | | | | |
|---|---|---|---|---|
| Total | 213,970 | Owned | 145,358 | 63.0% |
| | | Rented | 65,875 | 32.0% |
| Single Detached | 126,095 | Owned | 118,170 | 81.3% |
| | | Rented | 6,055 | 9.2% |
| Apartment 5 storeys + | 21,065 | Owned | 4,100 | 2.8% |
| | | Rented | 16,585 | 25.2% |
| Movable | 5,520 | Owned | 4,785 | 3.3% |
| | | Rented | 310 | .5% |
| Other | 61,290 | Owned | 18,295 | 12.6% |
| | | Rented | 42,925 | 65.2% |

## 2.2.10 LIFE EXPECTANCY

The average life expectancy in 1986 for a male is 72 years and a female 79 years in Canada. Among older seniors a woman of 75 (1986) can expect to live another 12 years and a man another nine years on average. The attrition rate is higher among Canadian males than among females. Of male cohorts 75-79 in year 1971, 60% survived five years; 31% survived 10 years and only 15% survived 15 years. Comparing figures for the female cohorts 75-79; 73% survived five years; 47% survived 10 years and 30% survived 15 years (See Table 2.16).

Table 2.16

COHORT OF MEN AND WOMEN AGED 75-79 IN 1971, CANADA, 1971 TO 1986

| | 75-79 In 1971 | | 80-84 In 1976 | | 85-89 In 1981 | | 90+ In 1986 | |
|---|---|---|---|---|---|---|---|---|
| | COUNT | % | COUNT | % Survivors | COUNT | % Survivors | COUNT | % Survivors |
| MEN | 139,360 | 100 | 84,355 | 60 | 43,585 | 31 | 20,345 | 15 |
| WOMEN | 184,730 | 100 | 134,575 | 73 | 86,105 | 47 | 54,790 | 30 |

(Source: Gutman & Blackie 1988, 8-18)

## 2.2.11 LIVING IN INSTITUTIONS

The institutionalization of older seniors increased between the period 1971 and 1986. Of the male population 75 and over, 9% were living in institutions in 1971 compared to 12% in 1986. Institutionalization was higher among females (75+) with 14% living in institutions in 1971 compared to 19% in 1986. The projections to 2001 forecast that the proportion of institutionalized males is expected to remain stable, while institutionalization of females is

expected to continue to increase to 23%. However the actual number of institutionalized males is forecast to increase by 30,200 persons (from 45,300 1986 to 75,500), while the actual number of females to increase by 121,600, from 120,900 1986 to 242,500 in 2001. (Priest 1988, 26-30)

Table 2.17: Living arrangements of older elderly population, by sex, Canada 1971 and 1986, and projections for 2001

| | 1971 | | 1986 | | 2001 (Projected) | |
|---|---|---|---|---|---|---|
| | Number | % | Number | % | Number | % |
| MEN | | | | | | |
| Institution | 25,700 | 9 | 45,300 | 12 | 75,500 | 12 |
| Other | 255,400 | 91 | 346,000 | 88 | 581,000 | 88 |
| Total | 281,100 | 100 | 391,300 | 100 | 656,500 | 100 |
| WOMEN | | | | | | |
| Institution | 53,200 | 14 | 120,900 | 19 | 242,500 | 23 |
| Other | 333,500 | 86 | 527,300 | 81 | 811,000 | 77 |
| Total | 286,700 | 100 | 648,200 | 100 | 1,053,500 | 100 |

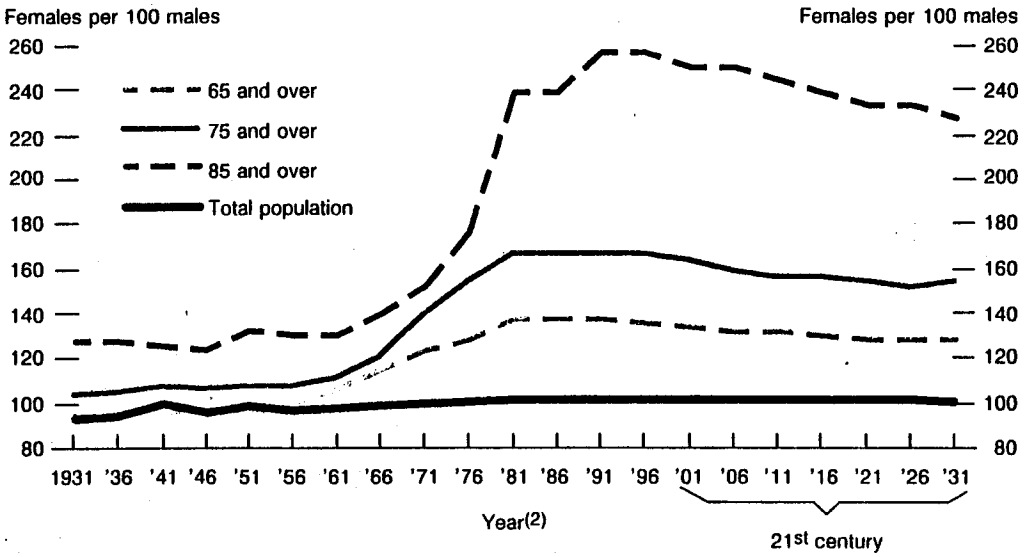
(Reconstructed from data in Priest 1988, 30)

## 2.2.12 SEX DISTRIBUTION

The proportion of males to females in the Canadian seniors population has become increasingly imbalanced. In 1956 in the 75+ age group men were slightly outnumbered by females 100 to 125. By 1981 there were 195 females per 100 males 75 and over. This trend seems to have stabilized and it is expected that the sex ratio will remain stable at 2:1 into the 21st Century.

Figure 2.03

**Ratio of Females to Males in Selected Age Groups, Canada, 1931-2031(1)**




(1) Data for 1986 and beyond are averages of the latest Statistics Canada highest and lowest projections.

(Source: Stone & Fletcher 1986, 16)

In B.C. the number of females per 100 males 75 and over was 150 in 1986.

Table 2.18 B.C. Population by Five-year Age Groups and Sex, 1986

| | Total | Men | Women |
|---|---|---|---|
| 65-69 years | 117,485 | 53,405 | 64,080 |
| 70-74 | 97,975 | 44,020 | 53,960 |
| 75 + | 134,025 | 53,560 | 80,465 |

## 2.2.13 INCOME

People 65 and over for the most part constitute the majority of the poor in Canadian society. In 1986, average annual income for population 65 and over was $13,212.00. There is a significant disparity between elderly male and female incomes: this relation diminishes if one includes hidden rents. In 1986, the average income of Canadian male seniors was $16,760 compared to $10,527 for females, for a 1.7 to 1 ratio. However, the proportional discrepancy between men and women was greater in 1971, at 2:1.

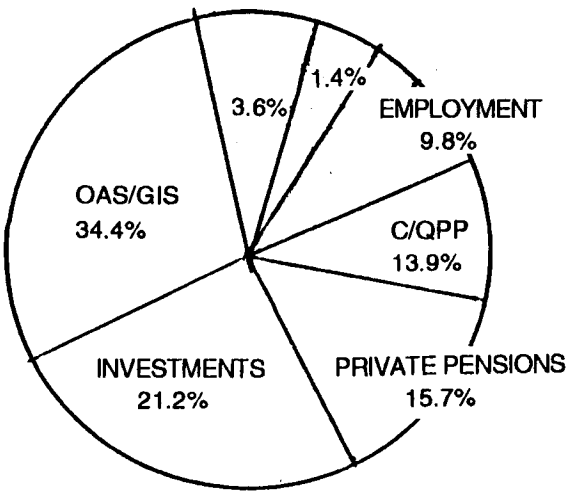
Table 2.19 Distribution of income sources of men and women aged 65 and over, 1971 and 1986.

| | Men | | Women | | Total | |
|---|---|---|---|---|---|---|
| | 1971 | 1986 | 1971 | 1986 | 1971 | 1986 |
| OAS/GIS | 28.1 | 25.2 | 59.5 | 45.33 | 9.6 | 34.4 |
| C/QPP | 2.1 | 16.3 | 1.1 | 11.0 | 1.7 | 13.9 |
| Other gov't transfers | 2.1 | 3.5 | 2.4 | 3.6 | 2.2 | 3.6 |
| Investment income | 20.2 | 18.9 | 19.6 | 24.1 | 20.0 | 21.2 |
| Private pensions | 15.8 | 20.1 | 8.5 | 10.5 | 13.2 | 15.7 |
| Employment earnings | 30.2 | 14.6 | 7.2 | 3.9 | 21.8 | 9.8 |
| Other | 0.9 | 1.3 | 1.3 | 1.5 | 1.0 | 1.4 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| Total income (constant 1986 $) | 12,554.0 | 16,760.0 | 6,183.0 | 10,527.0 | 9,122.0 | 13,212.0 |

(Source: Statistics Canada, Household Surveys Division 1986)

The main sources of income for Canadian seniors are investment income, G.I.S. and O.A.S. Additional sources of income are private pensions, employment earnings and other government transfers (Statistics Canada, Canadian Social Trends 1988).

FIGURE 2.04 CANADA: SOURCES OF INCOME 1986 65+



In the older seniors group there is a high percentage of persons who pay 30% or more of their income on shelter. This percentage is highest among women living alone who rent. For all older seniors renters are more likely to spend a high proportion of their income on shelter costs.

Table 2.20 Shelter costs as a percentage of household income of older elderly renters and homeowners (1986 spending on 1985 income)

| | No. of persons per 100 population paying at least 30% of income on shelter | | No. of persons per 100 population paying at least 50% of income on shelter | |
|---|---|---|---|---|
| | Renters | Owners | Renters | Owners |
| Women living alone | 52 | 21 | 20 | 5 |
| Men living alone | 46 | 15 | 15 | 4 |
| Couples (no other household members) | 33 | 4 | 6 | 1 |

(Constructed from data in Priest 1988, 26-30)

2.2.14 SOCIAL SUPPORT

The need for help with selected activities increased dramatically for the older seniors group. Reported need in 1985 more than doubles in most categories of activity from the under 75 seniors to the older seniors group, especially among widowed householders. In order of diminishing rated need these activities are as follows:

Help with yardwork 64%,

Heavy housework 46%,

Grocery shopping 33%,

Meal preparation 17%,

Managing money 17%,

Light housework 9%

and Personal care 7%.

Table 2.21 Percent of Population 55 Years of Age and Over Requiring Some Help or Unable to Carry out Selected Activities by Sex then Age Group, Canada, 1985

| Activity | Total | Males | Females | 55-64 | 65-74 | 75+ |
|---|---|---|---|---|---|---|
| Yardwork | 33% | 18% | 46% | 20% | 37% | 64% |
| Heavy Housework | 21% | 20% | 22% | !0% | 22% | 46% |
| Grocery Shopping | 12% | 8% | 16% | 5% | 12% | 33% |
| Meal Preparation | 7% | 10% | 5% | 3% | 8% | 17% |
| Managing Money | 4% | 3% | 6% | 1% | 4% | 12% |
| Light Housework | 3% | 3% | 3% | 2% | 3% | 9% |
| Personal Care | 2% | 2% | 3% | - - - | 2% | 7% |

(Source: Statistics Canada, Health and Social Support 1985,177)

2.2.15 SUMMARY

A number of factors have been identified from the seniors population which have implications respecting the provision of seniors' multiple housing for aging-in-place. The older seniors are increasing in both absolute and relative terms and B.C.'s forecast exceeds the national average. Assuming the same percentage of seniors living in rental units (32% in 1986), then there may be a demand for approximately 45,000 more rental units by the year 2011.

Of the older seniors age sub group, demand for supportive living will be higher among women since they live longer, have a lower income, mostly live alone, pay a higher ratio of accommodation to income, and are institutionalized at a higher rate than their male counter parts.

Mobility of seniors is lower among the older seniors age sub group. This group tends to stay put. There is a high need of social support for activities of daily living within this group. The

number of older seniors with high cost of accommodation to income are renters. Health care utilization by older seniors is high and the cost of care more than doubles in this age group. In B.C. we can expect by the year 2011 that approximately 18,000 more seniors will be institutionalized unless other options to institutionalization are available.

From the preceding discussion, it appears that the demand for supportive living environments for seniors will continue to increase; housing programs that accommodate aging-in-place will not only reduce institutionalization but also will serve to alleviate spiralling health care costs.

## 2.3 EXOSYSTEM CONSIDERATIONS: IMPORTANCE OF NEIGHBOURHOOD

The exosystem includes community and neighbourhood characteristics and structure. The following discussion suggests that supportive housing options should be available in one's own neighbourhood or community.

The desire of seniors to remain in one's community or neighbourhood is strongly expressed in the findings of the National Seniors Housing Consultation: "the housing and senior options available should enable us to take responsibility for ourselves in our homes and communities as long as possible. Our ability to be actively involved in our own familiar context is important to our sense of well-being and is consistent with the way we have conducted ourselves" (Corbett 1990, 15). This preference of seniors to remain in one's neighbourhood is also expressed in Gutman1988), and a more recent user survey for CMHC found that "the overwhelming majority of residents preferred their existing location and wanted to remain in their existing community" (Baldwin 1990, 6).

There are definite advantages to aging-in-place in one's own community or neighbourhood. The neighbourhood is a source of informal support from both family and friends ( Golant, 1986). Also, there are elements of association within the neighbourhood (Regnier and Gonda, 1981). Older persons also have a sense of attachment to place (Rowles 1978). Familiarity with the neighbourhood ("one's cognitive map") assists orientation as one's mobility and memory declines. "It likewise is of considerable importance to learn more about maximising the ability of older people to make ongoing use of already developed cognitive maps. This might mean increasing efforts to maintain independent living in familiar settings" (Lawton, Windley and Byerts 1982,76).

(Before my father was institutionalized, he was constantly picked up by the local police at a vacant site which once was the location of his parents' house in which he grew up. He was finally

institutionalized after being repeatedly removed from the arterial highway which once was the "main street" of the older neighbourhood. The old neighbourhood was a victim of urban renewal in the late 1960's. The point being made is that large scale renewal in existing neighbourhoods may destroy the cognitive maps of the older residents.)

The neighbourhood may even provide a strong support respecting one's sense of self; "the subjective sense of self is defined and expressed not simply by one's relationship to other people but also by one's relationships to the various physical settings that define and structure day-to-day life" (Proshansky et al. 1983, 58) when the onset of memory loss occurs.

Although there are benefits to remaining in one's neighbourhood, it is not always possible to do so as one's competence declines. There is a lack of housing options in local communities for those persons who presently are "overhoused" in single detached family homes (Mendritzki1983; Whiting and Woodward 1985). In looking at small towns in Canada, Gerald Hodge identified a similar problem and concluded that these small towns will require innovative solutions to meet the needs of small town aging seniors for more services and housing options (1987). Given the high proportion of seniors in these populations, which in towns of 500 and less was 20% in 1981, the need to provide sufficient options and services is critical to avoid institutionalization.

The lack of housing options in the local neighbourhood may also be a function of the "Nimby Syndrome" i.e., Not In My Back Yard. Attempts to provide multiple seniors housing facilities and even congregate housing facilities are often met with opposition from local neighbours, especially when three-storey seniors' apartment buildings or greater are proposed in single family neighbourhoods. The objections usually concern the scale and density of development proposed.

However, small scale and low density presumably entail higher unit costs. It is therefore both prudent and considerate to address concerns of the neighbours and also to raise the level of understanding of future needs for neighbourhood based supportive housing. Recent inclusion of local community participation programs in seniors public housing is a move in the right direction (Baldwin 1990).

Another reason why supportive housing may not be available in the local neighbourhood are site selection criteria in which cost of land is given primacy. "Many times what happens is that a site is chosen on economic grounds with the sponsoring group not thinking seriously enough as to what location is going to mean for the residents" (Gutman 1979, 2).

Social isolation of the elderly in the neighbourhood or community is another potential problem of aging-in-place; the negative effects of social isolation may result in poor social adjustment and cognitive functioning. Resocialization programs are a means of reversing these negative effects. Ruth Bennett emphasizes the need for social policies, practises and programs to combat involuntary isolation (Bennett 1973).

Diversity (1), options (2), mobility (3) and security (4) have been identified as the four major dimensions to be addressed in planning for successful aging-in-place in the community or local neighbourhood (Hodge 1990, 23).

The first dimension refers to the diverse nature of the senior population as a special needs group. (This fact has been discussed in Macrosystem Section and is subject to further discussion in the section below on individual level.) This main concern is that irrespective of one's specific circumstance, changes will occur due to aging; thus it is important that diverse housing options, diverse public transit and diverse support services are available.

Availability of options is the second dimension, options for housing, goods and services within the community. The third dimension, mobility, the ability to get around the neighbourhood, is arguably the most important of all. A lack of mobility can result in individual isolation and loneliness. The availability of local transportation and an accessible neighbourhood environment are critical in assisting seniors getting around.

Fourthly, security is broadly defined to include financial security, security of tenure in housing, security of movement as well as personal safety. Security of tenure in housing is a critical concern for those seniors in the community who have already made the move to multiple rental housing from owner-occupied dwelling.

Summary

Remaining in one's community or neighbourhood is both desirable and advantageous for most seniors. The neighbourhood provides proximity to family and friends for emotional and physical support. Familiarity with local surroundings assists orientation and sense of place and self.

Problems of aging-in-place in one's neighbourhood include social isolation, lack of housing options and services, and land costs. The four dimensions of diversity, options, mobility and security are suggested to assist in planning for aging-in-place in the local community.

## 2.4 MICROSYSTEM CONSIDERATIONS: COMPETENCE/PRESS: INSTITUTIONALIZATION: HOUSING OPTIONS

The interaction of older persons with their more immediate living environment is dealt with in the microsystem section which follows. The microsystem is concerned with person-environment relationships and relates to what are the functional and space requirements to assist aging-in-place at the building level?

By far the majority of study in gerontology and housing has taken place at this level. The following works have been included as they most closely relate to the context of aging-in-place in seniors social housing.

### 2.4.1 COMPETENCE/PRESS MODEL.

An important general theoretical work concerning the relationship between aging and the environment is the Competence Press Model. (Lawton & Nahemow, 1973) M. Powell Lawton has developed an ecological model of aging which "suggests that behaviour is a function of the competence of the individual and the environmental press of the situation" (1977, 8).

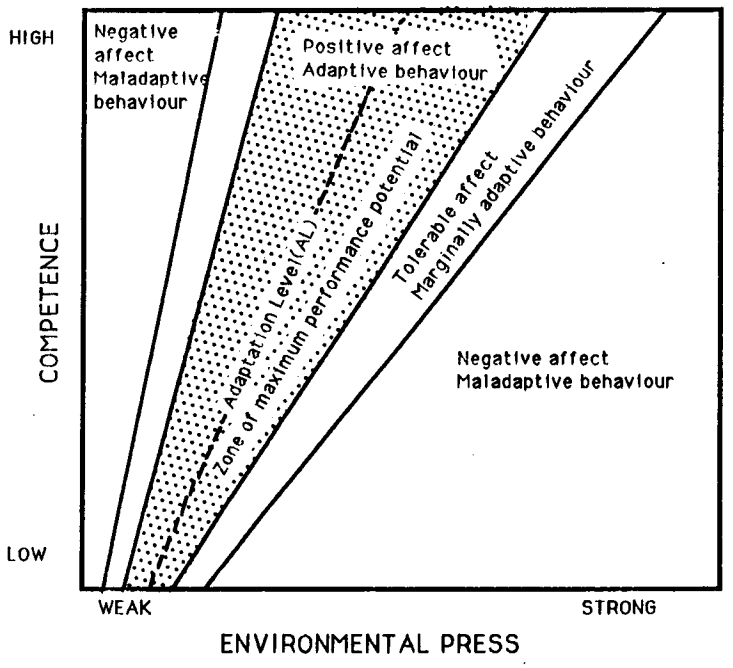
The concept of competence was introduced by Robert W. White "to describe a person's existing capacity to interact effectively with his environment". (White 1963, 39) Building on this concept a number of related theories linking the effect of the environment on behaviour of older persons have been developed. The Press-Competence model developed by Lawton and Nahemow combined the concept of competence with Murray's definition of environmental "press" (1938, 37).

Both competence and environmental press have a range of dimensions from low to high. Competence represents all of the attributes of the individual physical and mental framework and

includes ego strength. Many older seniors may display a low level of competence due to changes in physical, sensory or mental condition.

The aspect of the environment which has a potential demand character is "press", which refers to attributes which are known to be behaviour activating. The range of dimensions of environmental press is classified by strength. It may be negative, positive or neutral in effect. Fig. 2.05 graphically illustrates the competence/press model. At a given level of competence a person's reaction to environmental press has various possible behaviour overtones. The adaptation level represents the normal balance one would attain in engaging in activities of daily living. Marked changes in press may result in maladaptive behaviour by the person at the same level of competence, and may ultimately reduce competence. These demands may be of stronger or weaker environmental press either of which may have negative affect when occurring to extremes (outside the shaded area in the diagram).

Figure 2.05 Competence/press model




Source: Lawton, 1977, 9

The "zone of maximum performance potential" is where the level of environmental press is kept slightly above the individual's adaptation level, resulting in growth behaviour. That is, by lightly increasing the demands, competence may be enhanced. The marginal area of behaviour or affect is where the normal level of environmental press is uncomfortable for the individual. The range of environmental press has to be reduced to achieve the individual's comfort zone.

The model also suggests that at a high level of competence an individual's adaptation level spans a much wider range of environmental press than at a low level of competence. Therefore, much more care is required in considering the environmental setting within which the older, less competent, senior is placed.

As environmental designers our task "is to create situations that are modestly demanding on an individual without being excessively demanding. We can than elevate the behavioural outcome, and hopefully the level of competence, an increment above whatever level the individual started with no matter what level of individual competence we have chosen to deal with" (Lawton1977,9).

The competent/press model has been criticized for its generality and its inapplicability to scientific testing. Some researchers have responded by developing sophisticated typologies of competence and press which may result in the development of usable specific design criteria for planning and facilities programming for older seniors (eg., Kahana, 1982).

Notwithstanding the theoretical problems, the environmental press model serves as an important conceptual model because it acknowledges the individual differences among seniors when considering implications of aging-in-place and the environment and because it introduces the basic idea that a certain amount of press is desirable.

## 2.4.2 INSTITUTIONALIZATION

"Canada has one of the highest rates of institutionalization in Western Society: 8.4% of the population 65 and older are in some form of institutional care, as compared with 5.1% in Great Britain and 6.3% in the United States." (Cohen1984,194) Environments in which the press delimits the individual's competence level are excessively monotonous. Institutional environments may often generate too little press for some older seniors.

Goffman wrote the classic sociological study on institutions from the view of the "inmate". He introduced the concept of the total institution which he defined as "a place of residence and work where a large number of like-situated individuals cut off from the wider society for an appreciable period of time, together lead an enclosed, formally administered round of life" (Goffman 1961, xiii). Hospitals and homes for the aged are among the facilities defined as institutions by Goffman. The bureaucratic organization and its formal regulations are a key feature of total institutions. Exclusion from decision making for the resident is also a key characteristic and one that often prevails in institutions for the elderly.

Forced moves to institutions occur when the environment or home/community support systems fail to meet all the needs of persons of reduced competence. The resulting rigid routines of institutions can have negative effects (Tobin and Lieberman 1976). Moves into care facilities can be a traumatic experience for the elderly and may even be linked to mortality rates (Gutman 1982).

Admission of older seniors to institutions has been linked with early death. The high rate of deaths in the first year of admission to long-term care was investigated and recommendations for supports to mitigate these conditions (Gutman et al. 1982). Further study in this area pointed to

the large proportion of deaths which occurred in the first six months of admission to an institution and posited the possibility of admission stress effect ,i.e. too little press (Gutman et al. 1986), leading to increased mortality rates (Gutman et al 1986; Wershow 1976).

Studies on the effects of institutionalization of the older seniors on psychological wellbeing and physical integration have been reviewed (Lieberman 1969). Leiberman acknowledged the negative effects of institutionalization, but concluded that it may be that distinctive effects are more associated with radical environmental change (from dwelling to institution) than with institutionalization per se. However he qualified his conclusions as highly tentative due to methodological biases.

The institutionalization of older persons is likely made palatable to society given the argument of the low percentage (~5%) of institutionalization of this group at any one time. However, the error of these statistics has been called the 4% (or 5%) fallacy (Kastenbaum & Cardy 1973; Wershow 1976; Lesnoff-Caravaglia 1978). All of these research studies demonstrated that the actual percentage of persons annually dying in these institutions far exceeded the reported figures for institutionalization of 4% to 5%. The main reason given for the discrepancy is the fact that the statistics are based on a cross-sectional sample at any one time and therefore annual turnovers (i.e. short-term admissions and separations) are overlooked.

Given the preceding discussion, there is sufficient evidence to err on the side of caution respecting premature institutionalization of older persons. Overseas, the whole concept of institutionalization of the elderly has been questioned. In Denmark present nursing homes will be phased out by the end of the century, and in Sweden present care institutions are being completely remodelled. Control over the environment and security of tenure is being provided to the residents through government leases ( Gutman 1988). In British Columbia, the provision of small care

facilities (e.g. Abbeyfield house) has been recommended as one means of humanizing institutions (Philips 1977; Murray et al. 1988).

### 2.4..3 HOUSING OPTIONS

The preceding discussion emphasizes the desirability of keeping older seniors out of institutions. Although keeping them in their own homes serves to provide some of the benefits of aging-in-place, there are numerous problems. In single family dwellings, whether owned or rented, many older seniors are overhoused and land-poor i.e., living in accommodation too large for their needs. In this form of housing there is usually a high maintenance required for outside yards. In multiple housing accommodation the yard and maintenance problems are usually eliminated as this function is usually performed by the management group.

However, all of these forms of housing are usually designed for "independent living" which, simply translated, means that there is no accommodation in the physical environment for changes in competence of the occupant. This problems has been addressed to some extent through a number of programs at the national and provincial level, for example, RRAP program. For those persons who rent, the rental RRAP programme is limited, since the funds go to the landlord. This means that the control of what is done or when, is not in the hands of the occupant (Cosh et al. 1986).

There are planning guidelines with special design features to accommodate aging-in-place published by CMHC and others which are periodically updated. However, as Gloria Gutman reported in her study of 10 seniors housing projects, the level of implementation of these guidelines in the Vancouver area was minimal. "In the majority of suites there was little in the way of special design features that might protect or enhance the functioning capacity of the elderly..." (Gutman 1975, 18).

Housing options and adaptations to accommodate aging-in-place are discussed in Gutman & Blackie 1986. Also, programming for detailed adaptations to assist physically impaired elderly to stay put are covered in Maltais 1989. CMHC has published a document listing the many available housing options and programs for seniors (CMHC1988; CMHC 1985; Brink 1984). However, for those seniors in independent living environments who rent, a number of the preceding options are unavailable.

Also, for elderly renters there is a paucity of housing options for A.I.L. (assisted independent living). Since the B.C. Government stopped providing for the delivery of personal care homes in 1979, the need for supportive housing, especially for those older seniors at the lower income end, is more critical. Congregate housing and multi-level continuum care accommodation is provided mainly by the private sector at quite expensive rates. For example, Parkview Manor in Coquitlam, B.C. presently charges $1,900 per month for providing congregate support including meals and some housekeeping.

The physical environment is only one part of the equation in looking at options for older seniors. Support systems are also in place which provide assistance with daily living and health care to those in need. For example, the B.C. long-term care program provides for professional care services in the home. The local health unit operates the home care nursing program. However, provisions of service is subject to Physician's Referral; in-home services might be terminated for a person assessed by the health unit for institutionalization who refuses to go. Also, a financial assessment determines how much a person will pay. A variety of community support services are available through volunteer agencies and organizations, including Meals on Wheels, telephone contact services, and Red Cross loan service for sickroom equipment. Special treatment centres, adult day care centres and information centres also provide out-of-home services.

Homemaker services are also available but free service is subject to income limitations. Also, the number of homemaker hours are limited. Additional hours may be purchased at competitive market rates (Hoppenrath 1981, 1982). Private home support help is also available for those who can afford it. The problem at the lower income level again is the availability of sufficient support.

Emerging Options

The Abbeyfield model, a room-and-board variant of congregate housing, provides "small group living" (6-9 persons) in a home-like environment for older single seniors who are lonely. The key ingredient is the provision of a "housekeeper" who runs the household, prepares meals, provides some assistance and serves as a friend. This is a British concept which is over 30 years old, and which has made its way into Canada in recent years. Presently there are nine facilities across Canada, six of them in British Columbia. A conversion/ renovation Abbeyfield project is underway in the Marpole area of Vancouver, to be completed in the Spring of 1993 (Abbeyfield 1993). The present Abbeyfield projects in Canada are not targeted to low income persons only; the focus is on mitigating loneliness.

Group living is not for everyone. A survey by the American Association of Retired Persons concluded that the "majority of older people who are living alone prefer it that way" (1986, 28). However the analysis was not broken into age sub groups. The survey had only one age category of 65 and over, so this conclusion could be misleading regarding older seniors who need support.

## 2.5 INDIVIDUAL: COMPETENCE AND CONTROL

The last level in Lawton's ecological model is the individual. Housing design guidelines at this level have been developed to accommodate changing needs (Pastalan1977; Goldsmith1967; Maltais1988). For the most part the emphasis has been on special design details to compensate for diminishing physical competence among the elderly. This emphasis is underscored by the emergence of the term "prosthetic environment" in designing for the elderly (Hiatt 1985).

Less attention has been given to the changing needs related to changes in other competencies of the elderly. Pastalan's emphathetic model goes a long way in giving the programmer or design a hands-on sense of the diminishing physical competence that older seniors experience, and some of the feelings generated by coping with these losses (Pastalan 1977,77-84). Susan Howell goes a step further by providing the first study linking theories of environment and behaviour to designing for older persons (1980).

The preference for independence mentioned earlier, reflects a desire of older persons to be in control of their life events. The need for control over one's environment has been considered to be "an intrinsic necessity of life itself" ( Adler 1930, 398). At a more subtle level, it might be that the feeling of being in control enhances competence of older seniors. The following discussion focuses on changes in competence the individual might experience in later years and the implications of these topics of control and competence for programming seniors' housing projects for aging-in-place.

### 2.5.1 AGE & AGING

Most of us think of age and aging in chronological terms. That is, a senior is a person of 65 years of age or older. But age can be defined in a number of other ways, such as biological age,

psychological age and sociological age. This broader view of aging is very helpful in appreciating the heterogenieity of older seniors. An older individual of say, 80 years of age may have a physical impairment yet have a high self-esteem. This individual would likely socially interact with other seniors and appear much younger than another individual who is in better physical condition but lacking in psychological or social competence. Although an older senior's physical competence may be impaired, his or her ability to successfully age-in-place may also be a function of other competencies.

### 2.5.2 TYPOLOGY OF COMPETENCIES

A typology of competencies which are important to the well-being of the individual is given by Butt (1989). This includes physical competence, intellectual competence, emotional, social competence, and spiritual/existential competence. Although declines occur in these competencies in one's later years there are individual differences in the severity and timing of decline. Also there are individual differences in one's abilities to adapt and cope.

#### Physical Competence

Although chronological aging does not affect each individual in quite the same way in terms of biological aging, there are certain changes that generally take place as we age which affect physical competence. Deterioration in hearing, vision, sense of taste and smell, sense of balance, and onset of arthritis occur.

Presbycusis, (hearing loss), affects one third of the population over 65, while presbyopia (loss of ability to see close), affects one fifth of the population over 65. Loss of hearing is generally in the high frequency range. Arcus senilis is the deterioration of peripheral vision due to the development of an opaque band around the cornea. The major complaint of the elderly is with

arthritis. Contrary to what one might expect, presbycusis, not presbyopia, is the most socially debilitating sense loss for the elderly (Belsky 1984).

Intellectual Competence

Getting older does not necessarily result in loss of intellectual competence. A theoretical review is given in changes in intellectual functioning in *The Journey of Adulthood* (Bee 1987). Bee gives the optimistic general suggestion that... "There is little significant loss in intellectual power or reasoning, or problem solving ability until quite late in old age, perhaps as late as 70 or 80 on the average, and perhaps not until a few years before death" (1987, 136). Bee qualifies this statement by saying that well-practiced, familiar skills are likely to be retained into old age while less-practiced skills and skills which demand speed decline earlier. Even more important is the observation that there are striking individual differences in changes in intellectual functioning in adulthood. The theory of terminal drop suggests that there is very little decline in the intellectual capabilities of older persons until a few years before death, when a sudden rapid decline occurs (Bee 1987, 135-6). However, findings are indeterminate. Likely the most reliable conclusion is that cases vary among individuals with some persons experiencing little or no decline, while others might experience dramatic decline. However, memory loss, due to illnesses such as Alzheimers disease and Korsakoffs Syndrome, affects intellectual performance. It is estimated that Alzheimers disease affects 5-10% of seniors 65 years and over (Sarason & Sarason 1987).

Emotional Competence

The ability to cope in later life may be influenced by biologically inherited personality traits, differences in coping strategies, personality type, personal development and even one's self-esteem.

The personality trait of "hardiness" has been identified as important in one's ability to cope with stressful events. The merits of this trait is discussed by Brown in his article on health and behaviour. "There is a personality resource called *hardiness,* which includes control as one of its components, that seems to be especially important in distinguishing, among individuals subjected to the same high stress, those who will fall ill from those who will not. It is clear that hardiness is thought of as a highly desirable thing" ( Brown 1987, 638).

In the study of age differences in coping with stress, the researches found that there were clear age differences in both types of stress and coping. The findings suggested the developmental interpretation "that there are inherent changes in the way people copy as they age" (Folkman et al. 1987, 171), although the contextual interpretation, that age difference in coping are the result of changes in what people must cope with as they age, also applied. Older persons used more passive, intra-personal emotion-focused forms of coping (distancing, acceptance of responsibility and positive reappraisal) than did the younger people" (ibid., 182). Two gender differences were that men used more self-control than women, women used more positive reappraisal than men.

A landmark field study in a Connecticut nursing home by Langer and Rodin suggested that "some of the negative consequences of aging may be retarded, reversed, or possibly prevented by returning to the aged the right to make decisions and a feeling of competence" (1979, 198). Perceived personal control over one's environment was seen as a critical factor in well-being. On encouraging the residents to take responsibility of caring for themselves, improvement was measured in active participation in events, alertness and a general sense of well-being. Although the results of the study are not generalizable due to the small sample size population (47 persons in the responsibility-induced group), the findings suggest that enhancement of perceived control may improve well-being of older persons.

Social Competence

During the lifespan, especially in older years, one experiences a number of losses: loss of social role, loss of friends, family and possibly the loss of one's spouse. As a result, an individual may end up living alone and in some cases experiencing extreme loneliness. Loneliness is defined as "the unpleasant experience that occurs when a person's network of social relationships is deficient in some important way, either qualitatively or quantitatively." (Perlman 1988, 191).

One lifespan study of loneliness suggests that predictable loneliness in old age may be a myth, and that a large proportion of old people are not lonely. "To present only portraits of old people who are isolated and severely lonely is to paint a false picture of aging" (Revenson and Johnson 1984, 84). However, an analysis of the scores on the loneliness scale in this study shows that only 13 persons comprised the age subgroup 75+ and over, indicating that findings are very tentative.

In the Canadian national survey, although the stereotype of old age as a time of loneliness is rejected, the exception is pointed to the group defined as the old old (over 80). Among this group, loneliness is common (Government of Canada 1982).

In discussing why loneliness occurs, Perlman makes a distinction between precipitating events and predisposing factors contributing to loneliness, the former relating to an event such as a loss of a loved one, or loss of friends due to moving residence, and the latter relating to the personality characteristics of the individual, early parent-child relations, or the situation or cultural values (Perlman 1988). One may suddenly be left with no emotional support or have no companionship.

An experimental program aimed at helping individuals in coping with loneliness was developed in Sweden (Andersson 1985). The researchers reported that "ancillary data showed that the program changed the participants' sense of perceived control, and that perceived control correlated with post treatment loneliness scores. Presumably these changes in perceived control were a key ingredient in the intervention's success in alleviating loneliness" (Brown 1988, 214).

For those single persons who have no relatives or friends, home visitation programs provide the opportunity to socialize and access emotional support. Companionship may also be provided by pets. The therapeutic value of pets to older persons was investigated by Cusack & Smith 1984, who concluded that pets provide important emotional support for those elderly seniors who are lonely or alone. In our study of BCHF Lion's View facility, where the median age was 81, most of the tenants had pets. Cats and dogs are easily accommodated at this facility because units have direct access to outside at ground level ( Assoon et al. 1989).

### 2.5.9 SUPPORTS AT THE INDIVIDUAL LEVEL FOR AGING-IN-PLACE

As discussed earlier, a number of guidelines and standards are available which deal with requirements for losses in physical competence. These "accessible environment" publications are of a hardware nature, i.e., the focus is on physical elements such as slopes of ramps, heights of handrails, dimensions between fixtures for wheelchair circulation etc. Although these items are important to consider in supporting aging-in-place, supports relating to the other competencies are at least as important, if not more so. Also these competencies are interrelated and interactive so enhancing one of the competencies enhances others.

The discussion on control suggests that supports to enhance all of the competencies for aging-in-place should focus on the issue of individual control. By this, I mean removing obstacles

that would limit the individual's opportunity of choice. At the exosystem level this means the provision of sufficient alternative living arrangements in one's neighbourhood. At the microsystem level this means not only having supportive housing which accommodates all the competencies, but also supportive management which allows individuals to stay put when competence declines. This aspect of control is already being recognized in Sweden and Denmark through the provision of security of tenure for tenants (discussed earlier in the microsystem section).

Provision for accommodation of pets; a guest suite for visitors from out of town, family or friends, and communal space for opportunities to interact with others could help alleviate loneliness among older seniors.

The motorized "wheelchair" is a technical innovation which is becoming very popular among seniors. Although aimed at the enhancement of physical competence, this innovation provides the opportunity for seniors who might otherwise be homebound to get out into the neighbourhood to see the world around them, go shopping and visit friends. Thus, it provides a means of controlling one's personal environment and enhancing all the competencies.

## 2.6 SUMMARY

In attempting to answer the questions relevant to facilities planning for aging-in-place, Chapter 2 has taken a broad view of these issues using the ecological housing model as a framework. At the macrosystem level, we saw that the seniors population is growing both relatively and absolutely, especially in older seniors category. Growth in British Columbia continues to exceed the national average and the need for supportive living environments is higher among the female population. The discussion on organizations argued that organizational

characteristics vary by size. At the micro system level, we discussed the importance of locating supportive living options for seniors in the local neighbourhood: at the microsystem level, keeping older persons out of institutions by assisting aging-in-place was emphasized, and the competence/press model discussed as a means of conceptualizing changing person/environment needs.

At the level of individuals, the discussion on individual competencies and control underscored the diversity among individuals of the older population, and suggested directing attention to the provision of options in the living environment that enhance individual control.

Two critical themes emerge from the background research: one the theme of change, the other the theme of diversity. In consideration of the supportive living environments for aging-in-place, one implication is for environments that can accommodate changes in the characteristics of the population as they age-in-place, the other is for environments that provide for "both/and" rather than "either/or" solutions ( Venturi 1966), to recognize the individual differences of older persons and their need for control over their environment.

Chapters 3, 4, 5 discuss case studies which investigate the changes occurring in the seniors' multiple housing facilities of three organizations in the Vancouver area. The background study and case study findings are integrated in Chapter 6.

## CHAPTER 3: CASE STUDIES: METHODOLOGY

The opening two chapters provided a general overview of the implications of aging-in-place in seniors' multiple housing facilities. The following chapters 3, 4 and 5, investigate in detail what is happening in present seniors' multiple housing facilities in the Vancouver area. The approach used is modelled in part after a study of two congregate housing buildings in Philadelphia (Lawton, Greenbaum and Lieowitz 1980), which measured how the relative independence of the tenants changed over time. Chronological age and physical health were the two indicators of tenant independence used.

The approach for the case studies in this thesis differed from the other study in three principal ways. First, physical health data of tenants were not readily available so this independence measure could not be included. Second, this study included a comparison of three independent housing organizations. Third, comparisons by building type were included, both larger high-rise and smaller low-rise. Specifically, three questions were asked. " Is the median age of the tenants increasing over time?", "Are there differences in median age of tenants by organization?", or "Are there differences by building type, larger high-rise or smaller low-rise?". Inherent in the first question is the assumption that the higher the median age the better the success. The second question implies that different types of organization may have different outcomes due to the nature of these organizations. The third question relates to size of facility since for the most part low-rise buildings mean small populations and high-rise buildings mean large populations. At the same time, the question as to whether there is an association of success to building form is being asked.

## 3.1 SELECTION PROCESS

A multi-stage purposive selection process was used to establish the six buildings examined. The three organizations chosen are the principal providers of housing for seniors in Vancouver and vicinity. Selection of high- and low-rise buildings was done by matching across organizations; where identical building options were present random choice applied. Both 100% sampling and 50% systematic sampling were used to obtain tenant characteristics within buildings.

## 3.2 STUDY BOUNDARIES

The City of Vancouver and the Corporation of the District of Burnaby were chosen as the boundaries of the study. This choice was made due to ease of access .

## 3.3 THE CASES

Three organizations were selected: British Columbia Housing Management Commission (BCHMC), British Columbia Housing Foundation (BCHF), and New Vista Society (NVS). BCHMC is the public housing agency responsible for the delivery of all social housing programs in the province. Although BCHMC no longer directly builds and operates new projects, it owns and operates many projects throughout the province built prior to 1978.

BCHF is a private non-profit society. It is the largest owner/operator of seniors' private non-profit housing for independent living housing in the City of Vancouver. I had established a prior contact with BCHF when we conducted a study for the Lions View Project (Assoon, Cairns & Marek 1988).

NVS is also a private non-profit society, and is the largest owner/operator of seniors' private non-profit housing for independent living in Burnaby. Also, NVS owns and operates a personal care home adjacent to some of the independent living units. I had prior contact with NVS when programming requirements for Seton Villa. NVS was very accommodating at that time in providing assistance with this programming task. Access to tenant data was likely made easier because of the prior dealings with the two seniors' private non-profit organizations (See Appendix B for more background on the history and philosophy of the three organizations).

## 3.4 UNIT OF ANALYSIS

The building is the unit of analysis. The operational definition of building is a freestanding, independent structure for seniors' housing for independent living.

Selected buildings are as follows:

| | |
|---|---|
| NVS | Building 1, Apartments at 8246 - 11th Avenue, Burnaby<br>A 20 unit low-rise building.<br>Building 2, Ernest Winch Tower, 7216 Mary Road,<br>Burnaby. A 200 unit high-rise building |
| BCHF | Building 1, Soroptimist Manor, 1444 E. 13th Ave.<br>Vancouver. A 25 unit low-rise building.<br>Building 2, Gordon Fahrni House, 1630 Barclay Street,<br>Vancouver. A 44 unit high-rise building. |
| BCHMC | Culloden Court, 6265 Knight Street, Vancouver<br>A 42 unit low-rise building<br>Hall Tower #2, 7264 Kingsway, Burnaby.<br>A 113 unit high-rise building |

Selection of the buildings was purposive. Two buildings were selected from each organization in order to compare low-rise and high-rise buildings. Buildings were selected to achieve a match with respect to size among the three organizations.

## 3.5 PRETESTS

The question as to what type of data would be available was addressed through initial discussions with the three organizations. Over a period of time and after some lengthy discussions, access to primary archival data was made possible. Preliminary investigations were made to assess the availability and compatibility of the data bases among the three organizations. The original intention was to analyze data over a ten-year timespan. However, neither BCHMC nor BCHF retain data on their previous tenants other than minimal financial records for a seven-year period, as required by Provincial Statute. New Vista Society had data going back further but files were incomplete. The data were therefore limited to the past seven years commencing on July 1,1982.

Test runs of archives were conducted first for a small BCHF building and then for a small NVS building. A one hundred percent sample of tenant data was made. This procedure took much time to conduct the field work, particularly with respect to identified cases with differing filing systems of organizations, and locating indicated data gaps.

Informal interviews were conducted with management staff of each housing organization. Archives, policies and access procedures were discussed as well as staff perceptions of problems in sample buildings.

## 3.6 DATA COLLECTION

Collection of primary data on individual tenants was first obtained for the BCHMC buildings. The following extract from the computer printout indicates the form of the data provided (see Table 3.01). Reading from left to right in the first column, the type of individual dwelling unit is identified as M for a modified (handicapped) unit and S for senior's unit. The next column

indicates whether the unit is a bachelor or one-bedroom unit (O = bachelor; 1 = one-bedroom). Tenant status in the next column is represented by F = former and A = current. In the next two columns the admission and separation dates are indicated by year, month and day. The next three columns indicate the birthdate and sex of each tenant in the unit. In this extract data for the last two columns were omitted.

TABLE 3.01 BCHMC DATA

| HOUSE TYPE | NUMBER BEDRMS | TENANT STATUS | START DATE Y/M/D | VACATE DATE Y/M/D | B/DATE TEN #1 Y/M/D | SEX | B/DATE TEN #2 Y/M/D | SEX | B/DATE TEN #3 | SEX |
|---|---|---|---|---|---|---|---|---|---|---|
| UNIT 00558 | | | | | | | | | | |
| M | 0 | F | 790101 | 860731 | 510613 | M | 000000 | | 000000 | |
| M | 0 | F | 860901 | 870930 | 221216 | M | 000000 | | 000000 | |
| M | 0 | F | 871101 | 871231 | 330711 | M | 000000 | | 000000 | |
| M | 0 | F | 880301 | 881231 | 361209 | F | 000000 | | 000000 | |
| M | 0 | A | 890301 | 000000 | 150221 | M | 000000 | | 000000 | |
| UNIT 00559 | | | | | | | | | | |
| M | 0 | F | 850201 | 860228 | 000512 | F | 000000 | | 000000 | |
| M | 0 | F | 860501 | 880531 | 550713 | M | 000000 | | 000000 | |
| M | 0 | A | 880801 | 000000 | 181224 | F | 000000 | | 000000 | |
| UNIT 00560 | | | | | | | | | | |
| S | 0 | F | 780415 | 860831 | 030305 | F | 000000 | | 000000 | |
| S | 9 | A | 861001 | 000000 | 260125 | M | 000000 | | 000000 | |
| UNIT 00561 | | | | | | | | | | |
| M | 0 | A | 770501 | 000000 | 330612 | M | 000000 | | 000000 | |

## 3.7 RECONSTRUCTION OF RECORDS

Next, data were collected for the New Vista Society buildings. Data on current tenants were available on computer printout. The form of this data is indicated in the following extract (see Table 3.02).

TABLE 3.02 NVS DATA

7216 ERNEST E. WINCH TOWER

| SUITE | NAME | ADM. DATE M/ D/ YR | BIRTHDATE | BACH/COUP. |
|---|---|---|---|---|
| 0101 | | 03/01/88 | 1941/1945 | COUPLE |
| 0103 | | 06/01/86 | 1918 | BACHELOR |
| 0105 | | 01/77/88 | 1898 | BACHELOR |
| 0107 | | 03/01/88 | 1899 | BACHELOR |
| 0109 | | 04/01/89 | 1920 | BACHELOR |
| 0111 | | 02/08/82 | 1910/1918 | COUPLE |
| 0112 | | 02/15/89 | 1906 | BACHELOR |
| 0114 | | 10/10/79 | 1909 | BACHELOR |
| 0201 | | 02/01/88 | 1930/1922 | COUPLE |
| 0202 | | 12/01/87 | 1915 | BACHELOR |
| 0203 | | 08/10/88 | 1910 | BACHELOR |
| 0204 | | 11/01/77 | 1900 | BACHELOR |

Reading from left to right, column one indicates the suite number. The next column indicates the name of the tenant (deleted). Column three indicates the admission date by month, day and year, followed in the next column by the tenant's birthdate by year only. The last column indicates the suite type, bachelor or one-bedroom. One bedroom units are identified as "couples", whether or not they are so occupied.

Since only data on current tenants were provided on this computer printout, data on former tenants had to be collected from NVS files. The NVS files on former tenants are stored in two facilities. NVS 1986 to 1989 files are kept in the Housing Department office of NVS ,and 1975 to 1985 are kept in the NVS Care Home offices. Tenant files are filed alphabetically by tenant name and are not ordered by building. There are 18 files boxes in all.

In order to extract the pertinent information for the study buildings the tenant files in each file box first were colour coded to identify former tenants by building. Next, the former tenants of sample buildings were listed alphabetically by building for the 1986-89 period and then for the 1975-85 period. From the computer printout on current data, "original" tenants were first identified by highlighting. Next, the data on former tenants were identified by tracing building and unit numbers. The data on former tenants no longer current were next listed by each unit number. A final summary of buildings and units was made identifying whether missing data on former tenants were completely reconstituted by unit number, coded C - complete, and I - incomplete, respectively.

Data were next collected for the BCHF buildings. BCHF does not have a computer data base so data were first constructed by hand in tabular form from files on current tenants stored at the BCHF downtown office. Following this, data on former tenants were reconstructed similar to the approach used for NVS. BCHF maintains no particular order for storing data on former tenants other than a "loose" order by chronology. Tenant files were first ordered by building. Next, data on former tenants were listed by each unit number and summarized Complete or Incomplete by unit number, as with NVS data.

Access to BCHF financial records was granted which facilitated tracing of occupancies of units by building back to January 1982 (to fill data gaps). Access for BCHMC and NVS financial records was not necessary for this reconstruction.

## 3.8 COMPARABILITY OF DATA

Data for all three organizations are current to June 20, 1989, although the computer printout for BCHMC current tenant data is actually dated June 26, 1989. Unlike the other two organizations, NVS records gave current tenant dates of birth only by year. For ease of calculation, all NVS tenants' dates of birth were assumed to be on or before June 30th of the year of their birth. This means that analysis of age data for current NVS tenants will tend to bias the results slightly upward since the age of such tenants born after June 30th would be one year less than the assumed age. This problem however, does not arise with respect to NVS former tenant data or data from the other two organizations.

Access to financial records of BCHF allowed an exact account of the number of tenancies in the buildings back to January 1982. However, since similar data were not available for BCHMC and NVS, the earliest tenancy of a unit during the study period 1982-1989 was assumed to have commenced on July 1982.

A similar assumption about dates was made for computing duration of occupancy of a given resident. An error of underestimate might occur under such an assumption, since more than one occupancy could have occurred in a unit within the period from last-known occupancy back to January 1982. Furthermore, some occupancies likely extended further back than January 1982.

When sets of unmarried people (2-3) lived together in a given dwelling unit, their individual attributes (sex, age, etc.) may tend to "cluster" and thus not be as fully independent of each other as those of persons living in separate units.

## 3.9 MISSING DATA

In general, the data cover or exceed the seven-year period. However, there are some missing occupancy data about some units , and these increase progressively the further back in time we go. The extent of these missing data for all buildings is summarized in Table 3.03.

TABLE 3.03 MISSING OCCUPANCY DATA (Individual Occupants)

| Size | Building | 1982-3 | 83-4 | 84-5 | 85-6 | 86-7 | 87-8 | 88-9 |
|---|---|---|---|---|---|---|---|---|
| 26 | 11th Ave | 4 | 3 | 4 | 4 | 4 | 3 | - |
| 101 | Winch Tower | 14 | 13 | 14 | 7 | 6 | 2 | - |
| 27 | Soroptimist Manor | 5 | -* | - | - | - | - | - |
| 44 | Fahrni House | 14 | 11 | 6 | 4 | 3 | - | - |
| 55 | Culloden Court | 10 | 5 | 2 | 2 | 2 | 2 | 1 |
| 71 | Hall Tower II | 12 | 8 | 2 | 2 | 2 | - | - |

*- : indicates no missing data

Unfortunately, BCHF disposed of a number of boxes with tenant files when the Foundation changed its office location in 1988. Available former tenant files therefore only go back to 1984 and are not all complete. Gaps were filled using financial records to some extent. Also, some

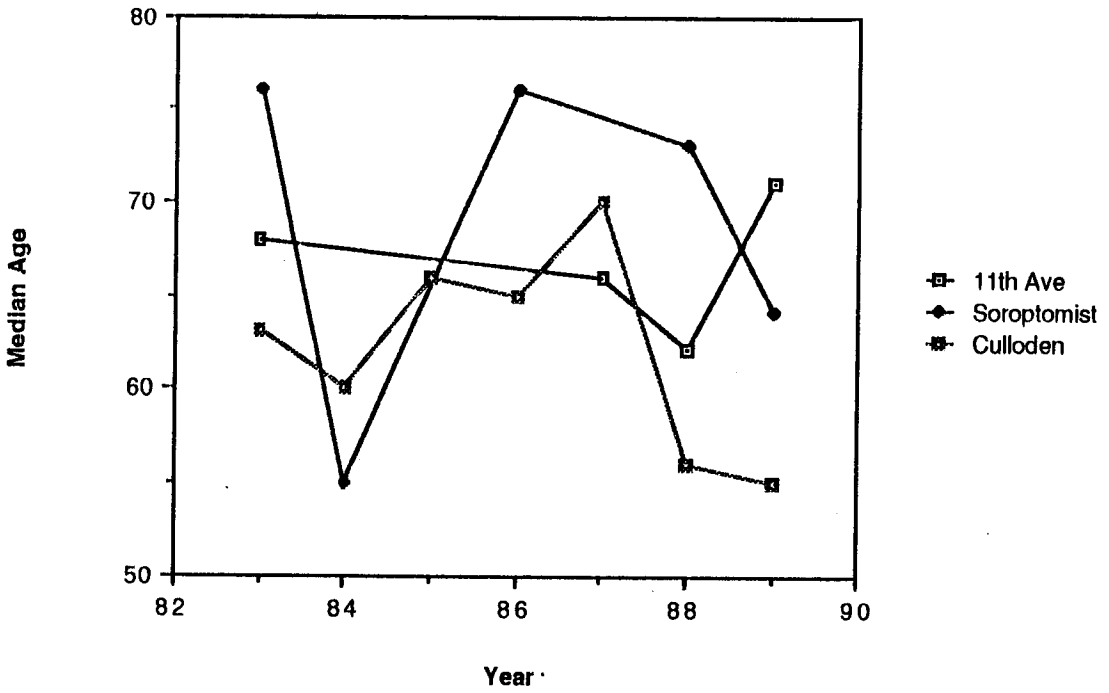
omissions are evident in BCHMC computer data respecting earlier tenancies. These now are untraceable, with the absence incalculable.

The median ages of tenants over time were calculated for the data available for each year and building. From the summary table on missing data, it is apparent that the most serious deficiencies in data are for the first three years of the study period. In terms relative to the total population per building, the most serious case of missing data is for Fahrni House, 1982-83. In this example, 32% of the tenant data is missing.

## 3.10 SMALL NUMBERS

In some instances it is difficult to identify trends from an analysis of the data due to small numbers. This is especially a problem in the data from the small buildings. For example, looking at the median age of the replacement tenants in NVS 11th Avenue Apartment Building, the graph based on annual change fails to communicate any trend due to the extreme differences generated by small numbers (see figure 3.01). To reduce the instability of small numbers as it is compounded by the problem of missing data, running averages in three-year "moving" intervals are used for the purpose of analysis.

**Figure 3.1 Median Age of Replacement Tenants - Low Rise**




3.11 SAMPLING

For four of the six buildings, the dwelling unit sample size is 100%, ie. there is no sampling error. For two of the large high rises, I chose to sample 50% of the total list of occupants. These 50% samples produced a standard deviation of approximately 2% indicating a possible error of approximately 4-5% at a 95% level of confidence. In conclusion, I have not elsewhere in the text mentioned sampling probability as the error is too small to quantitatively affect my results.

The preceding discussion defined the case study objectives, described the cases and units of analysis, the method of data collection used and some of the limitation respecting the data. In Chapter 4, the findings for each of specific variables measured are presented for all of the six buildings investigated.

## CHAPTER 4 : RESULTS

The ostensive reason for construction of social housing for the elderly can be assumed to be economics "to provide inexpensive housing for the aged". However, an assumption of this essay is that purposive housing for the aged can be appraised in terms of the longevity of occupancy: the better the housing the longer residents will be able to remain in their abodes. By implication housing for the very old will be less effective if it neglects residents' satisfaction in terms of occupants' tenure of residence.

In this model, therefore, the longer that one can "age in place", the better the place. Presumably, housing should be targeted to this end. If so, it should be designed to this end, to reduce the misfortune of the very old. If so designed, and with less cost of accommodation, the very old should reside longer, growing older and older.

Comparisons of the three organizations, discussed in Chapter 3, are made to assess whether aging-in-place is occuring and if so, whether there are variations by organization or building type [high-rise (large) or low-rise (small)].

To measure patterns of aging-in-place, the following indicators were used for individual buildings: median age of tenants, median age of replacement tenants, duration of stay, proportion of original tenants to total tenants, tenant age sub-groups, annual replacement rates, sex distribution and the proportion of couples to all tenants. Data spanning a seven-year period were analyzed.

Medians rather than means are used to analyze the data to compensate for missing data and extremes in age (for example, in British Columbia any person 19 or over on a disability

pension is eligible for residency in seniors' social housing. Also, some of these persons may have children living with them). In addition, three-year running averages for values are used to generate a number of the line graphs where the data are not complete (as indicated on the individual figures).

## 4.1 MEDIAN AGE OF TENANTS

Table 4.01 indicates that among the six buildings studied, the median age of their senior tenants remained roughly constant at about 73 years over the seven-year period of study time.

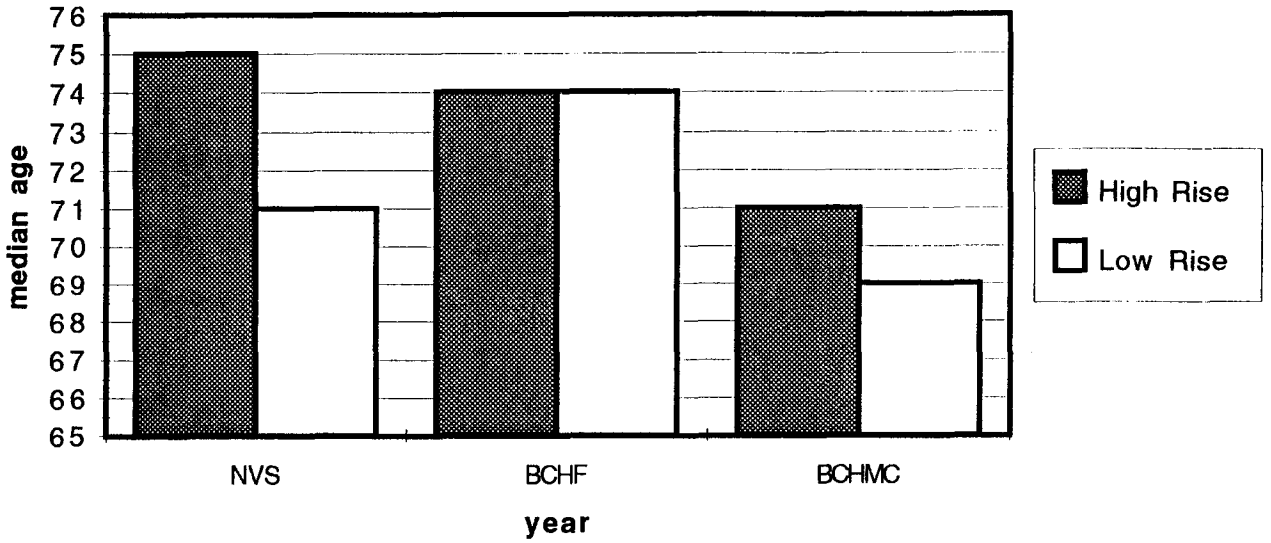
TABLE 4.01 MEDIAN AGE OF TENANTS

| Organisation & Building | Size(n) | 82-5 | 83-6 | 84-7 | 85-8 | 86-9 | 7 yr mean |
|---|---|---|---|---|---|---|---|
| NVS | | | | | | | |
| 11th Avenue | 26 | 70 | 71 | 71 | 72 | 72 | 71 |
| Winch Tower | 101 | 76 | 76 | 75 | 74 | 75 | 75 |
| Both Buildings | | 73 | 74 | 73 | 73 | 74 | 73 |
| BCHF | | | | | | | |
| Soroptimist Manor | 27 | 73 | 74 | 75 | 75 | 74 | 74 |
| Fahrni House | 44 | 75 | 75 | 74 | 74 | 73 | 74 |
| Both buildings | | 74 | 75 | 75 | 75 | 74 | 74 |
| BCHMC | | | | | | | |
| Culloden Court | 55 | 69 | 69 | 69 | 69 | 69 | 69 |
| Hall Tower | 71 | 70 | 70 | 71 | 72 | 72 | 71 |
| Both buildings | | 70 | 70 | 70 | 71 | 71 | 70 |
| Mean for high rise | | 74 | 74 | 73 | 73 | 73 | 73 |
| Mean for low rise | | 71 | 71 | 72 | 72 | 72 | 72 |
| Mean for 6 buildings | | 72 | 73 | 73 | 73 | 73 | 73 |

* year end is taken as June 30
** numbers might not total due to rounding

There were, however, distinct differences between buildings in terms of median age of tenants. Winch Tower averaged a median tenant age of 75 years while the median age of Culloden Court averaged six years younger (See Figure 4.01).

**Figure 4.01 Median age by building type**




As shown in Figures 4.02 and 4.03, the 11th Avenue apartment building and Hall Tower showed a distinct trend of increasing age over time, while median age in Fahrni House dropped somewhat over the study period.

**Figure 4.02 Median age low rise**

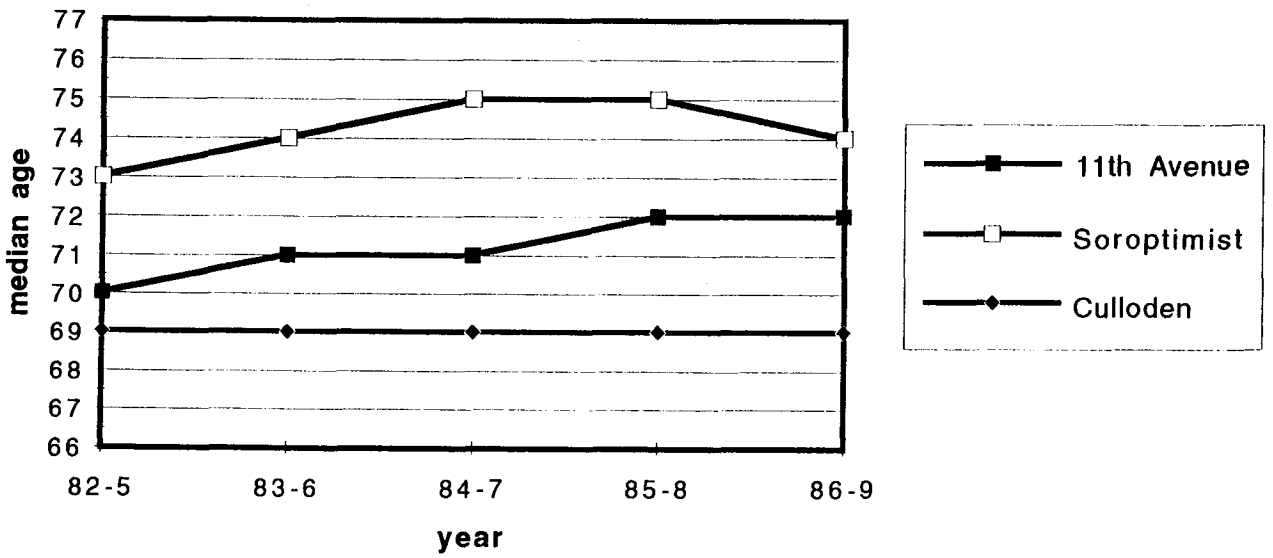
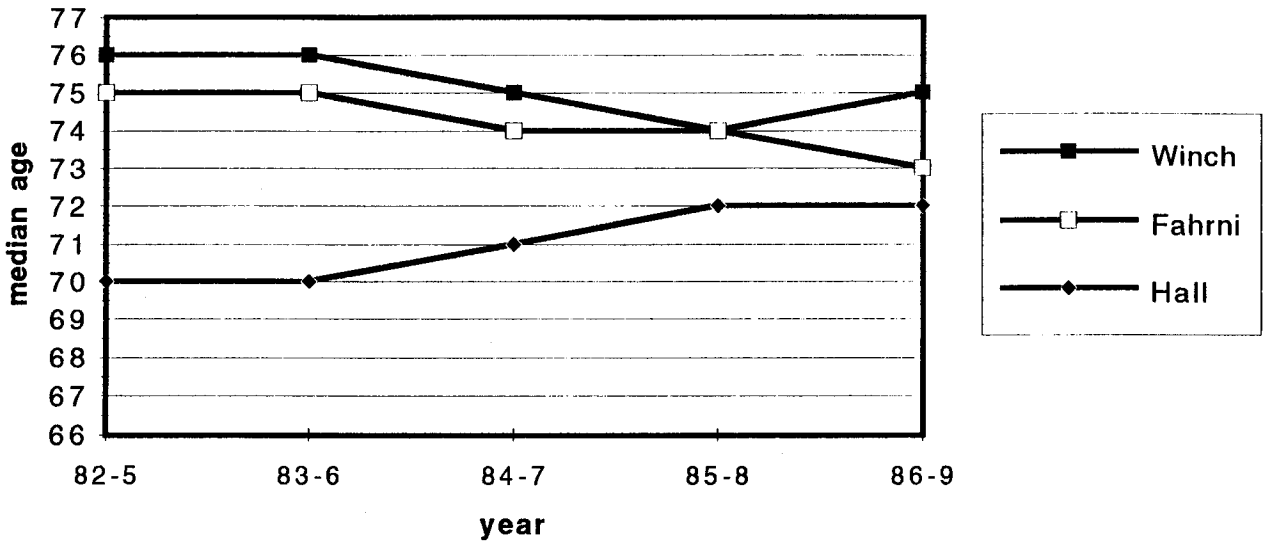
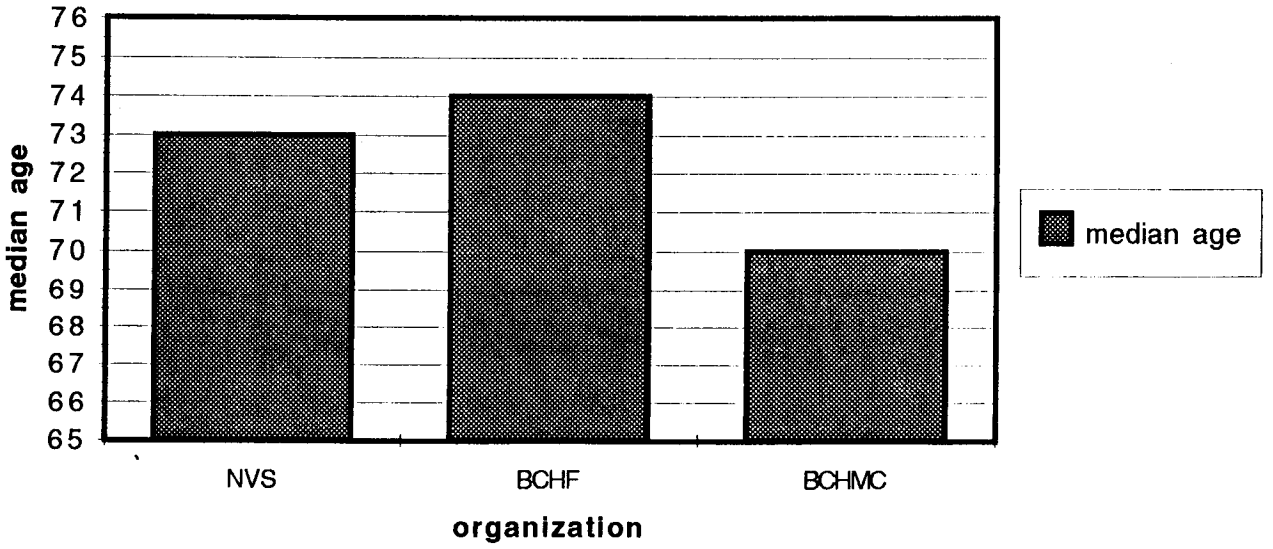


**Figure 4.03 Median age high rise**




Of the three organizations, there were distinct differences in median age of tenants. Generally, the BCHMC buildings had the youngest tenants (~70 years) while BCHF had the oldest (~74 years) averaged over the seven-year study period (See Figure 4.04).

**Figure 4.04 Median age by organization**



## 4.2 MEDIAN AGE OF REPLACEMENT TENANTS

The number and age of replacement tenants affects the median age of tenants in a building. Therefore, an analysis was next made comparing the median age of replacement tenants to median age of total tenants and the ratio of replacement tenants to total tenants for each building. The seven-year median age of replacement tenants (~67) is distinctly lower than the seven-year arithmetic mean of the annual median age of total tenants for all buildings (~73).

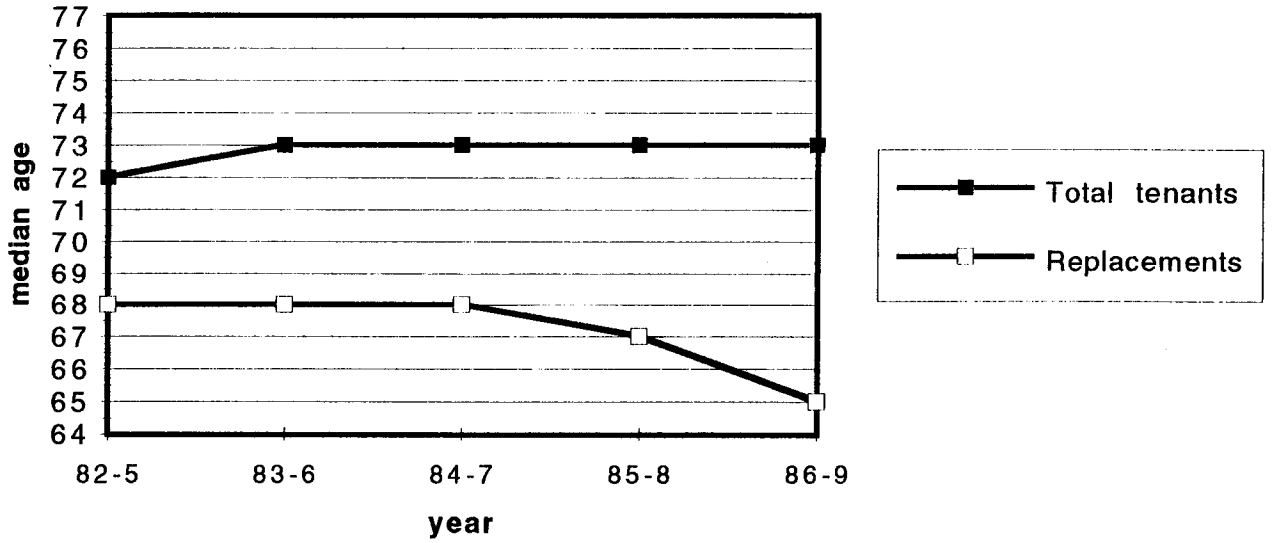
TABLE 4.02 MEDIAN AGE OF REPLACEMENT TENANTS

| Organisation & Building | Size(n) | 82-5 | 83-6 | 84-7 | 85-8 | 86-9 | 7 yr mean |
|---|---|---|---|---|---|---|---|
| NVS | | | | | | | |
| 11th Avenue | 26 | 68 | 67 | 66 | 64 | 66 | 66 |
| Winch Tower | 101 | 77 | 75 | 71 | 69 | 69 | 72 |
| Both Buildings | | 72 | 71 | 69 | 67 | 68 | 68 |
| BCHF | | | | | | | |
| Soroptimist Manor | 27 | 64 | 67 | 75 | 69 | 69 | 72 |
| Fahrni House | 44 | 70 | 67 | 66 | 63 | 61 | 65 |
| Both buildings | | 67 | 67 | 68 | 69 | 65 | 67 |
| BCHMC | | | | | | | |
| Culloden Court | 55 | 63 | 64 | 67 | 64 | 61 | 64 |
| Hall Tower | 71 | 66 | 66 | 68 | 67 | 63 | 66 |
| Both buildings | | 65 | 65 | 68 | 66 | 62 | 65 |
| Mean for high rise | | 71 | 69 | 68 | 66 | 64 | 68 |
| Mean for low rise | | 66 | 66 | 67 | 68 | 65 | 66 |
| Mean for 6 buildings | | 68 | 68 | 68 | 67 | 65 | 67 |

* year end is taken as June 30
** numbers might not total due to rounding

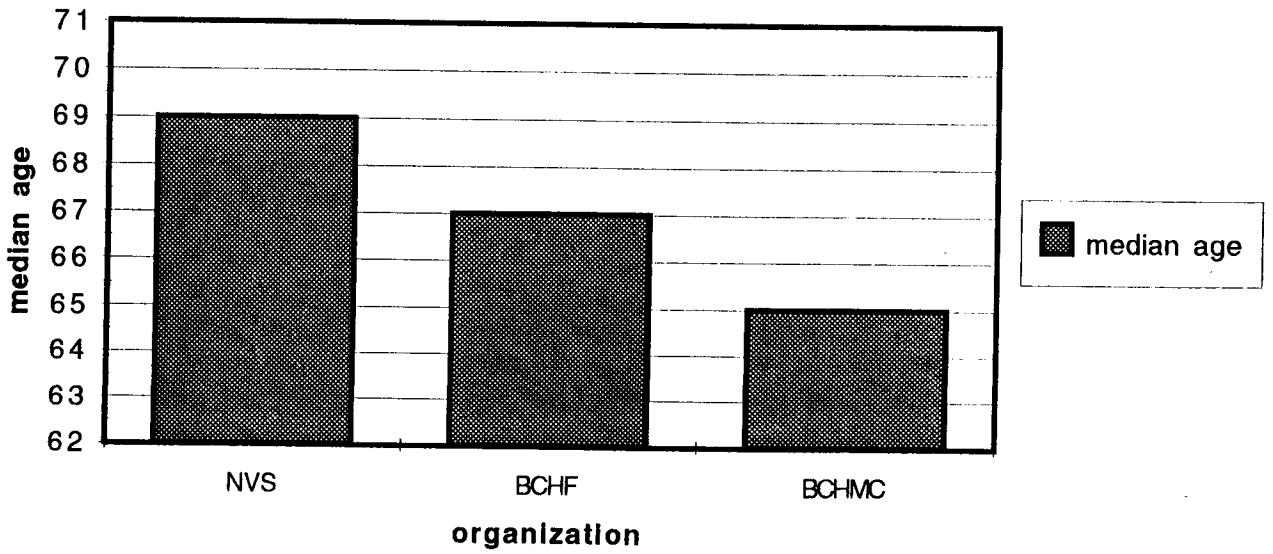
Also, a clear trend of decreasing median age of replacement tenants is evident while median age of total tenants has remained constant (See Figure 4.05).

**Figure 4.05 Total & replacement tenants**



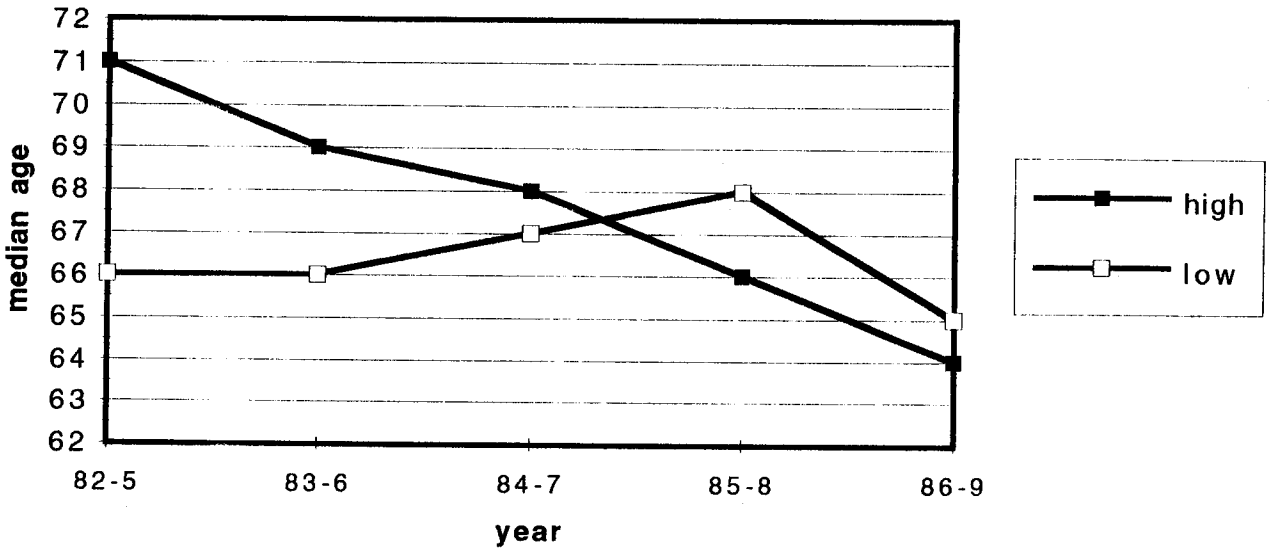

Distinct differences were apparent among the three organizations. BCHMC had the youngest average median age of replacement tenants for the seven-year study period (~65) while NVS had the oldest (~68).

**Figure 4.06 Median age replacements by organization**



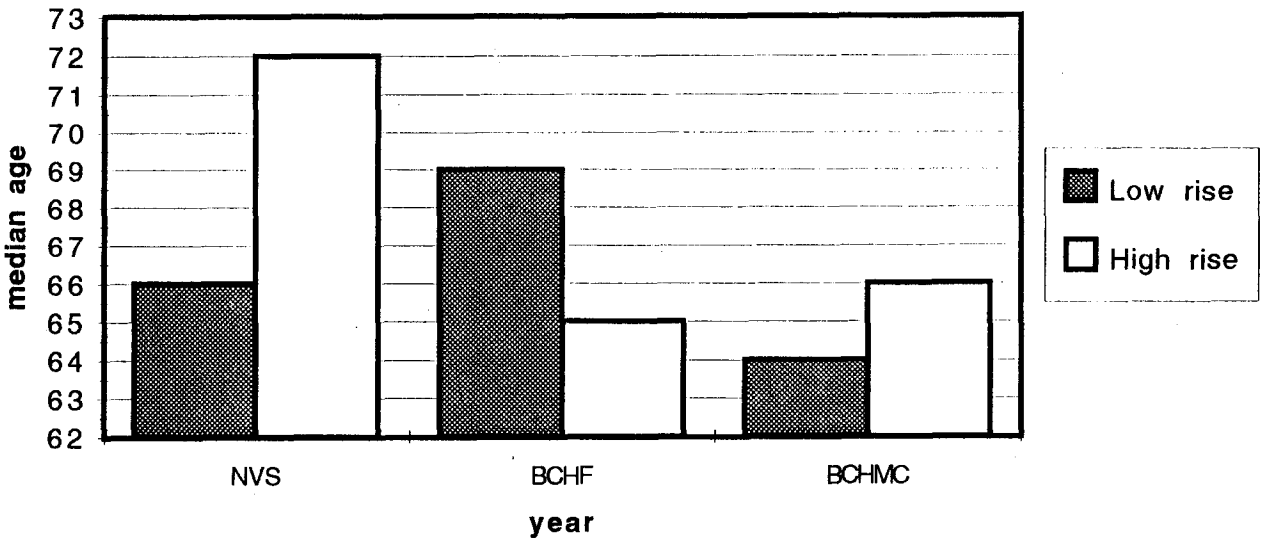
Moderate differences emerged between the median age of those replacement tenants in low-rise compared with high-rise buildings(~2 years higher in high-rise buildings). While the high-rise buildings replacement tenants averaged 2 years older, they also showed a marked decline in age of replacements down to below the average of the low-rise builidngs (see Figure 4.07). In contrast, the low-rise building median age of replacements remained constant at about 66.

**Figure 4.07 Median age replacements by building type**



Also, there were other minor differences between buildings. For example, the 7-year arithmetic mean of the annual median age of replacement tenants (see Figure 4.08) was 70 years for Winch Tower, compared to a difference of 64 years for the corresponding Culloden Court median age of replacement tenants (6 years younger).

**Figure 4.08 Median age replacements by building type**



## 4.3 TENANT REPLACEMENT RATE

The seven-year mean of the annual tenant replacement rate for the six buildings was 11%. A distinct trend of increasing replacement rate is evident with an increase from 8% to 12%. However, since the majority of incomplete data occurred in the first two to three years of the study period, the replacement rate may have been higher.

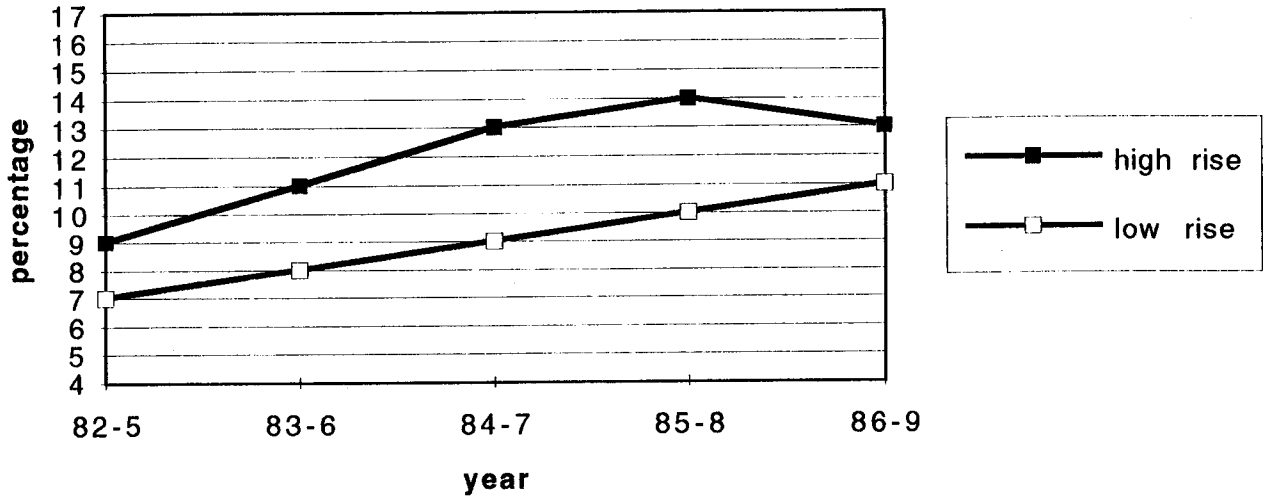
TABLE 4.03 YEARLY TENANT REPLACEMENT RATE (%)

| Organisation & Building | Size(n) | 82-5 | 83-6 | 84-7 | 85-8 | 86-9 | 7 yr mean |
|---|---|---|---|---|---|---|---|
| NVS | | | | | | | |
| 11th Avenue | 26 | 4 | 0 | 4 | 8 | 12 | 5 |
| Winch Tower | 101 | 6 | 10 | 10 | 14 | 12 | 10 |
| Both Buildings | | 5 | 5 | 7 | 11 | 12 | 7.5 |
| BCHF | | | | | | | |
| Soroptimist Manor | 27 | 7 | 7 | 7 | 11 | 11 | 9 |
| Fahrni House | 44 | 11 | 9 | 14 | 11 | 14 | 12 |
| Both buildings | | 9 | 8 | 11 | 11 | 13 | 10.5 |
| BCHMC | | | | | | | |
| Culloden Court | 55 | 11 | 16 | 15 | 11 | 11 | 13 |
| Hall Tower | 71 | 11 | 14 | 16 | 18 | 14 | 15 |
| Both buildings | | 11 | 15 | 16 | 15 | 13 | 14 |
| Mean for high rise | | 9 | 11 | 13 | 14 | 13 | 12 |
| Mean for low rise | | 7 | 8 | 9 | 10 | 11 | 9 |
| Mean for 6 buildings | | 8 | 9 | 11 | 12 | 12 | 11 |

* year end is taken as June 30
** numbers might not total due to rounding

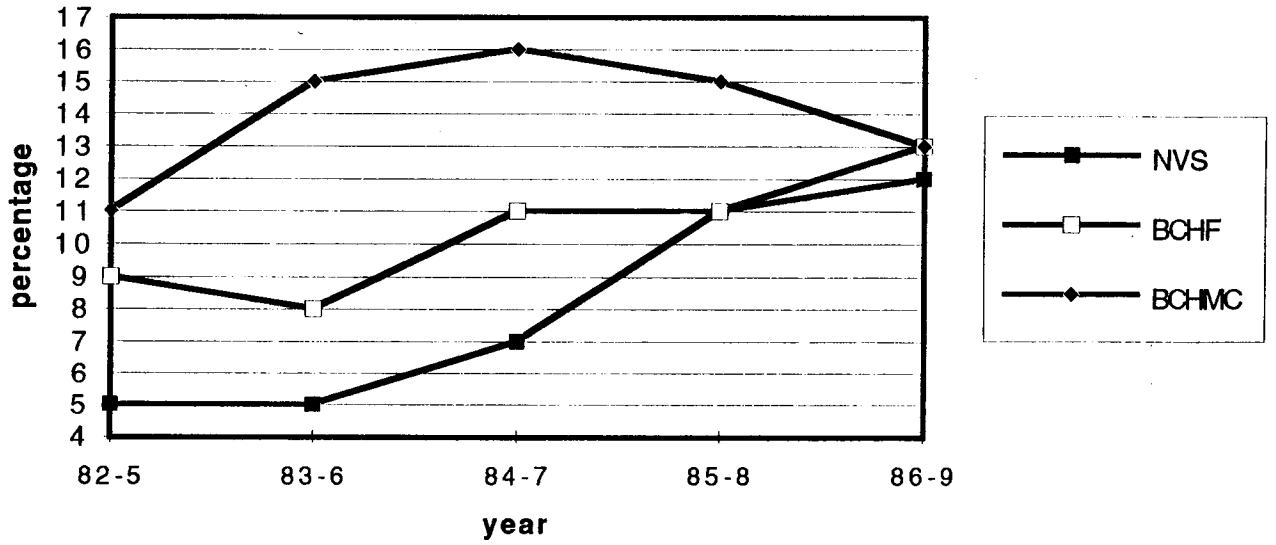
There were moderate differences between low-rise and high-rise buildings with replacement rates of 9% and 12% respectively. Both low-rise buildings and high-rise buildings showed a distinct trend of increasing replacement rates over the seven-year period. The 11th Avenue Apartments had the lowest turnover rate at 6% and Hall Tower II had the highest at 15% ; in absolute values, the number of tenants displaced (for whatever reason) must be much greater (see Figure 4.09).

**Figure 4.09: Tenant replacement rate high rise/low rise**




Significant differences were evident by organization. The highest tenant replacement rate was BCHMC at 14% and the lowest NVS at 7.5% over the seven-year period (see Table 4.03 & figure 4.10). Some significant trends were apparent. Both NVS and BCHF experienced a distinct increase in tenant replacement rate, from 5% to 12% and 9% to 13% respectively, while BCHMC experienced a modest increase from 11% to 13%.

**Figure 4.10 Replacement rate by organization**



4.4 DURATION OF STAY

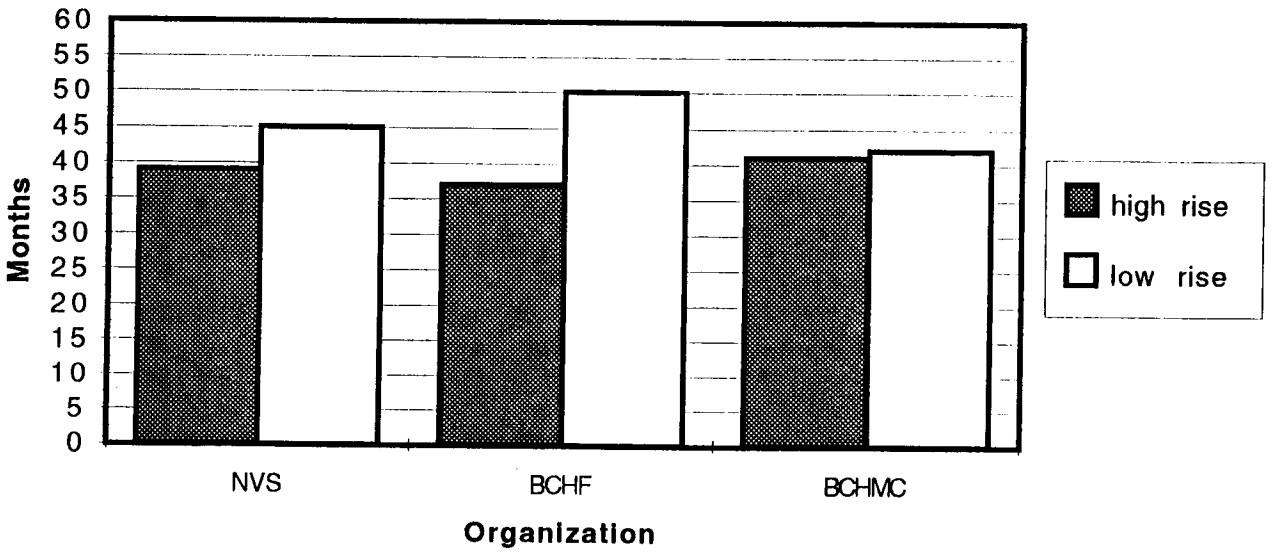
The average duration of stay is the product of the number of occupied units times 84 months divided by the number of unit occupancies for the same period.

TABLE 4.04 DURATION OF STAY (months)

| | NVS | BCHF | BCHMC | MEAN |
|---|---|---|---|---|
| High rise | 39 | 37 | 41 | 39 |
| Low rise | 45 | 50 | 42 | 46 |
| Both buildings | 42 | 43.5 | 41.5 | 42.5 |

Overall, the mean duration of stay was substantially longer among low-rise buildings (46 months) than among the high-rise buildings (39 months). Among the high-rise buildings, modest differences in the mean duration of stay were evident with a low of 37 months for Fahrni House to a high of 41 months for Hall Tower. Differences among the low-rise buildings were more distinct, with a low of 42 months for Culloden to a high of 50 months for Soroptomist Manor. Generally, differences in duration of stay by organization were slight with only two months difference between the highest BCHF (43.5) and the lowest BCHMC (41.5) ( see Figure 4.11).

**Figure 4.11 Duration of stay by organization**



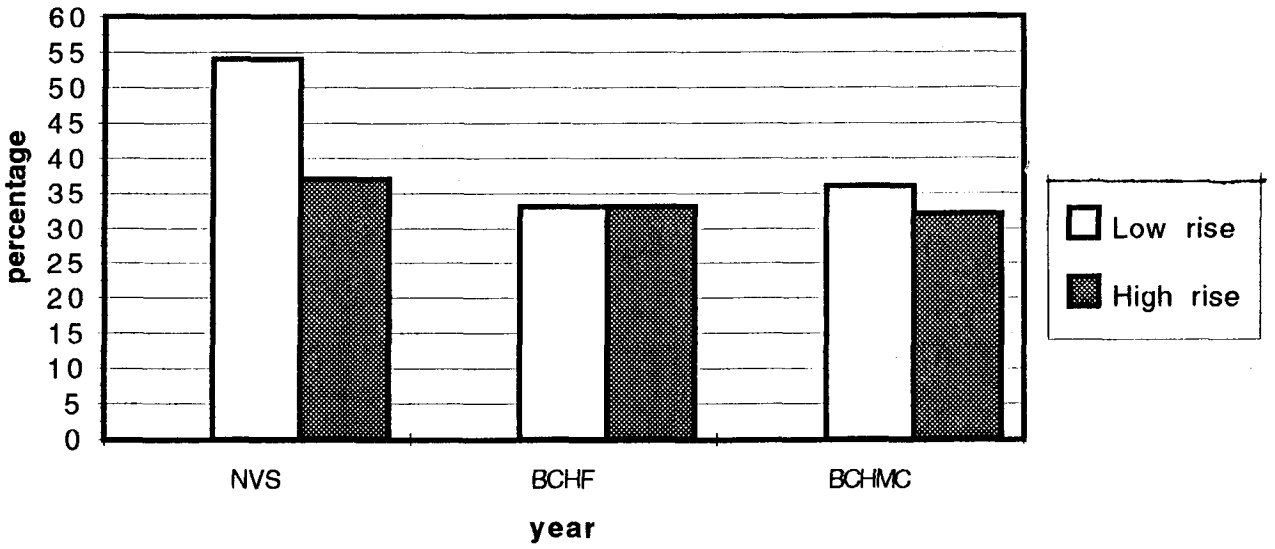
4.5 SURVIVING ORIGINAL TENANTS TO TOTAL TENANTS

As expected, given the observed differences between the high-rise versus low-rise in terms of duration of tenure of residence, it follows that the proportion of surviving original tenants to total tenants among the low-rise buildings, 40%, is generally higher than in the high-rise buildings, 37%. Also, distinct differences by building are apparent with a low of 32% for Culloden Court to a high of 54% for the 11th Avenue Apartments.

TABLE 4.05 SURVIVING ORIGINAL TENANTS ( % )

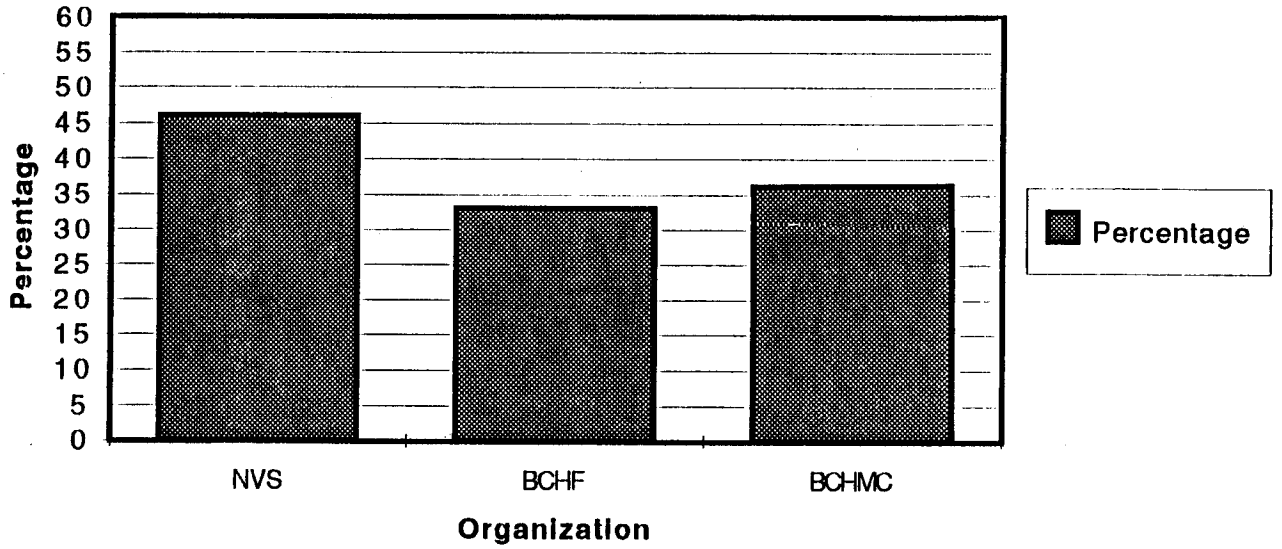
| | NVS | BCHF | BCHMC | MEAN |
|---|---|---|---|---|
| High rise | 37 | 33 | 40 | 37 |
| Low rise | 54 | 33 | 32 | 40 |
| Both buildings | 46 | 33 | 36 | 38 |

**Figure 4.12 Surviving original tenants by building type**



Distinct differences in the proportion of original to total tenants were evident by organization, with NVS highest at 46% and BCHF lowest at 33%.

**Figure 4.13 Surviving original tenants by organization**



## 4.6 SEX DISTRIBUTION

Among the six buildings, the seven-year arithmetic mean of the annual proportion of males to females is 63/100 (see Table 4.06 and Figure 4.14).

TABLE 4.06 SEX DISTRIBUTION ( Males per 100 females)

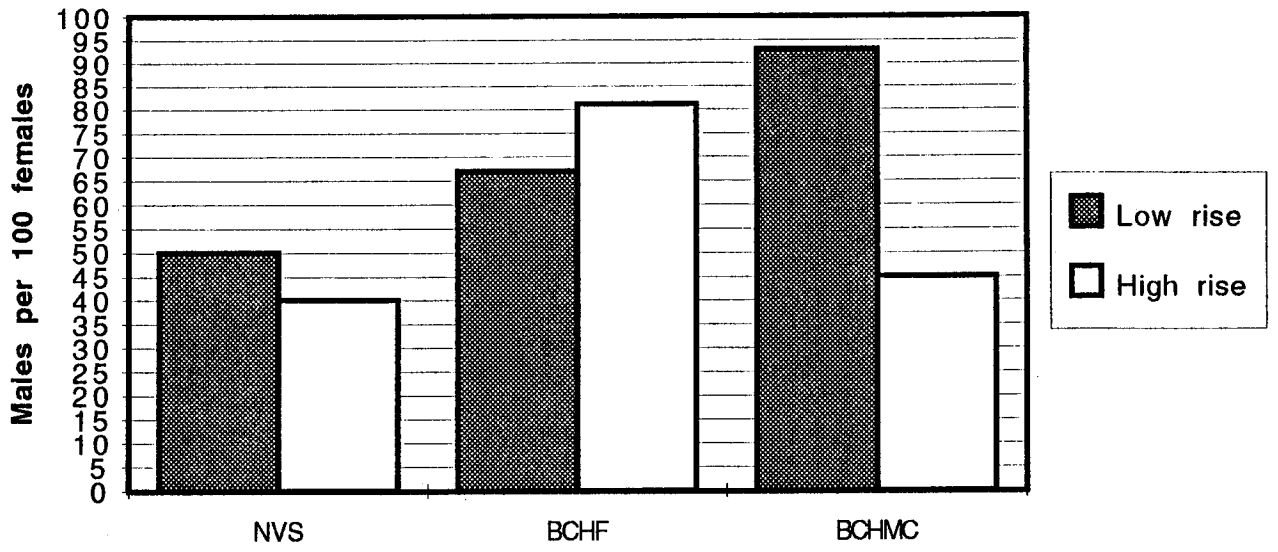
| Organisation & Building | Size(n) | 82-5 | 83-6 | 84-7 | 85-8 | 86-9 | 7 yr mean |
|---|---|---|---|---|---|---|---|
| NVS | | | | | | | |
| 11th Avenue | 26 | 58 | 57 | 51 | 47 | 43 | 50 |
| Winch Tower | 101 | 34 | 34 | 38 | 45 | 48 | 40 |
| Both Buildings | | 46 | 46 | 44 | 46 | 46 | 45 |
| BCHF | | | | | | | |
| Soroptimist Manor | 27 | 55 | 62 | 66 | 67 | 78 | 67 |
| Fahrni House | 44 | 86 | 85 | 81 | 79 | 77 | 81 |
| Both buildings | | 71 | 74 | 74 | 73 | 78 | 74 |
| BCHMC | | | | | | | |
| Culloden Court | 55 | 73 | 81 | 90 | 102 | 113 | 93 |
| Hall Tower | 71 | 45 | 46 | 48 | 47 | 44 | 45 |
| Both buildings | | 59 | 64 | 69 | 74 | 79 | 69 |
| Mean for high rise | | 55 | 55 | 56 | 57 | 57 | 56 |
| Mean for low rise | | 62 | 67 | 69 | 72 | 78 | 70 |
| Mean for 6 buildings | | 59 | 61 | 63 | 65 | 67 | 63 |

* year end is taken as June 30
** numbers might not total due to rounding

The proportion of males to females varies considerably over the buildings. The proportion of

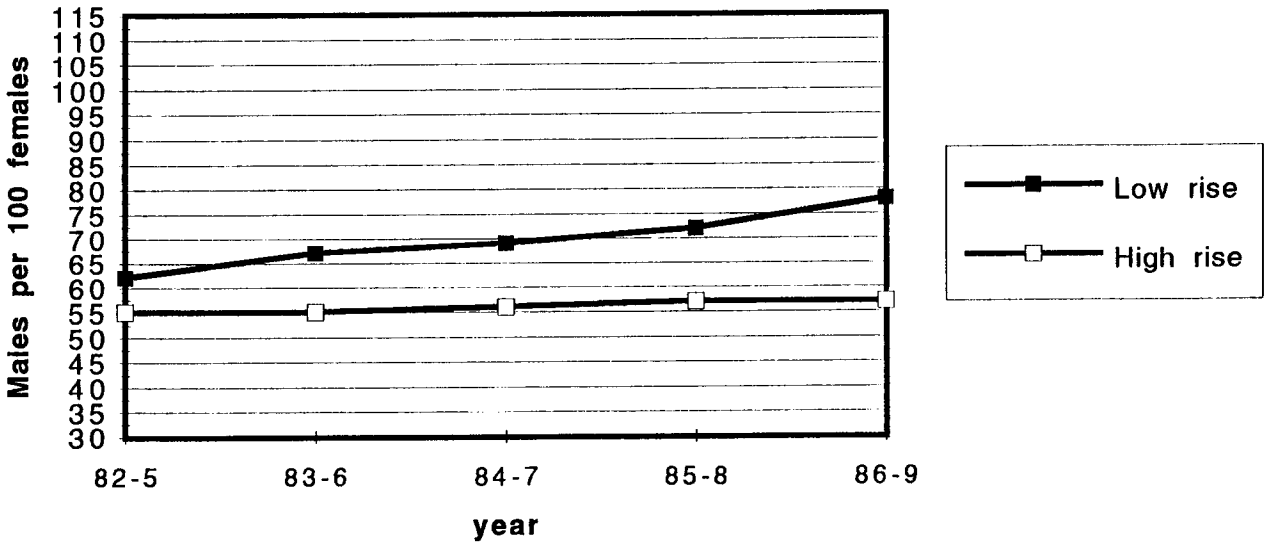
males to females is higher in low-rise (70) compared to high-rise buildings (56), except for BCHF.

**Figure 4.14 sex distribution by building type**




A steady increase in the proportion of males to females is evident in low-rise buildings while the proportion has remained constant in the high-rise buildings (See Figure 4.15).

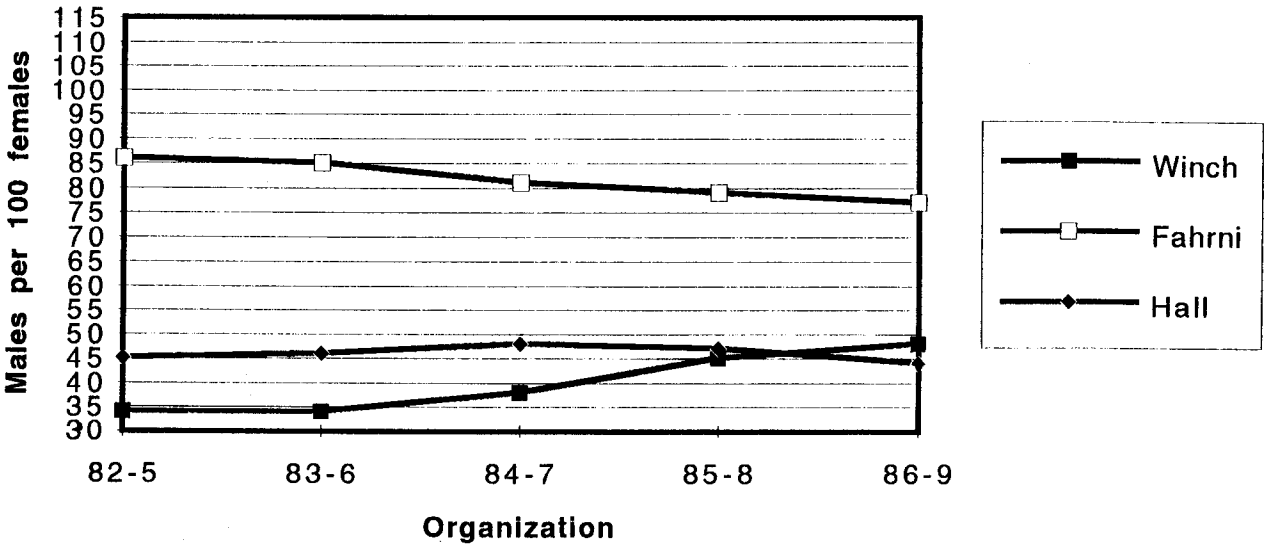
**Figure 4.15 Sex distribution by building type**




No marked trends in sex ratio values are apparent over the seven-year period for the high-

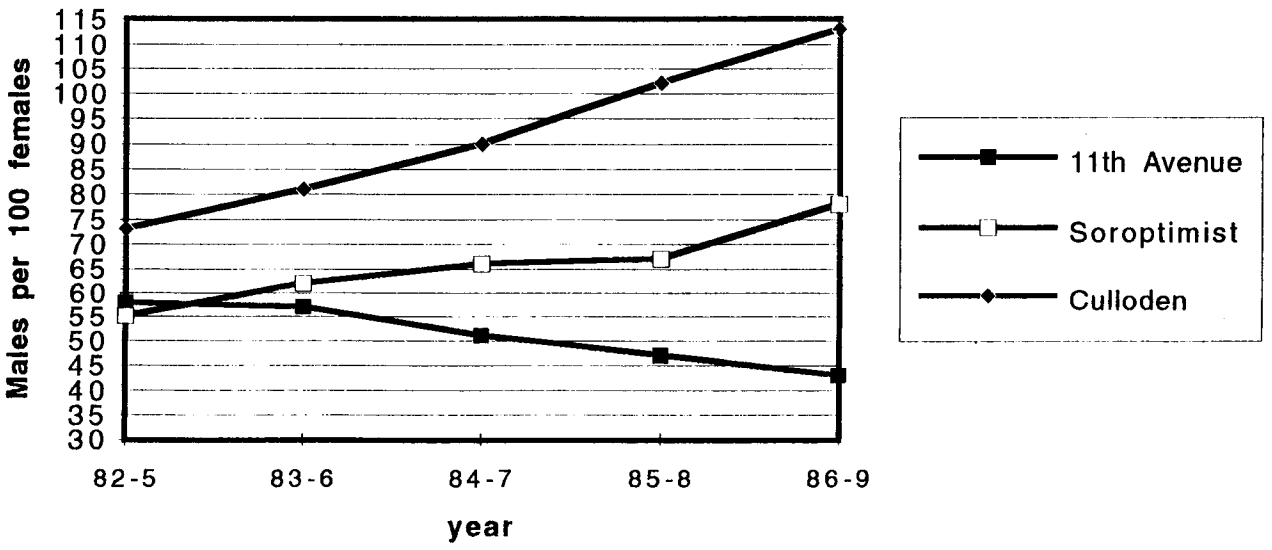
rise buildings with Hall Tower remaining stable and Winch Tower and Fahrni House registering a slight increase and decrease in sex distribution respectively.

**Figure 4.16 Sex distribution high rise**



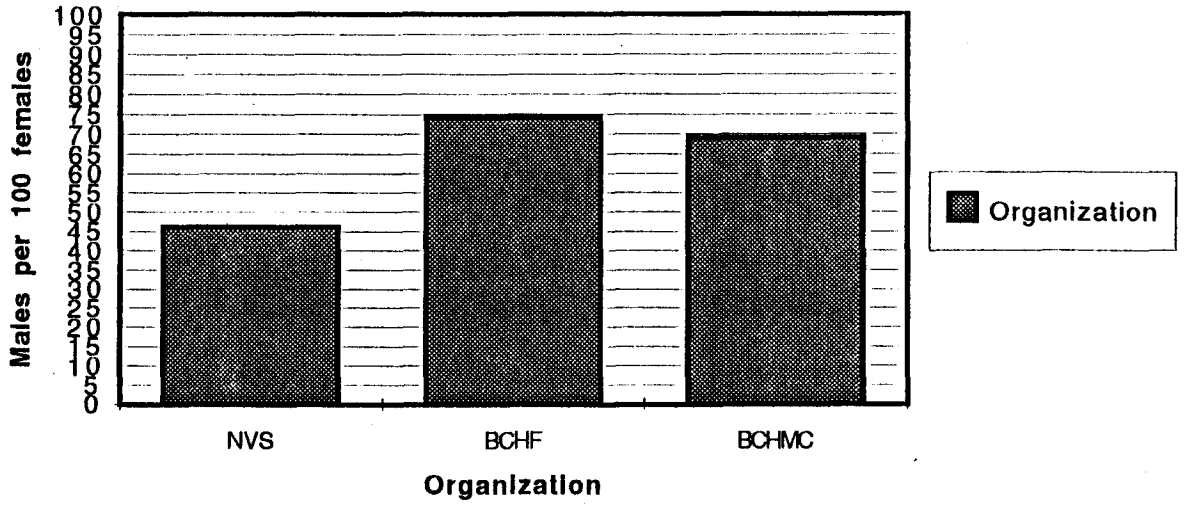

However, in the low-rise buildings, distinct increases are evident for both Soroptomist Manor and Culloden Court. The former building's sex ratio increased from 55 males per 100 females to 78 per 100 females over the seven-year study period and the latter building's sex ratio increased from 73 males per 100 females to 113 males per 100 females (See Figure 4.17).

**Figure 4.17 Sex distribution low rise**



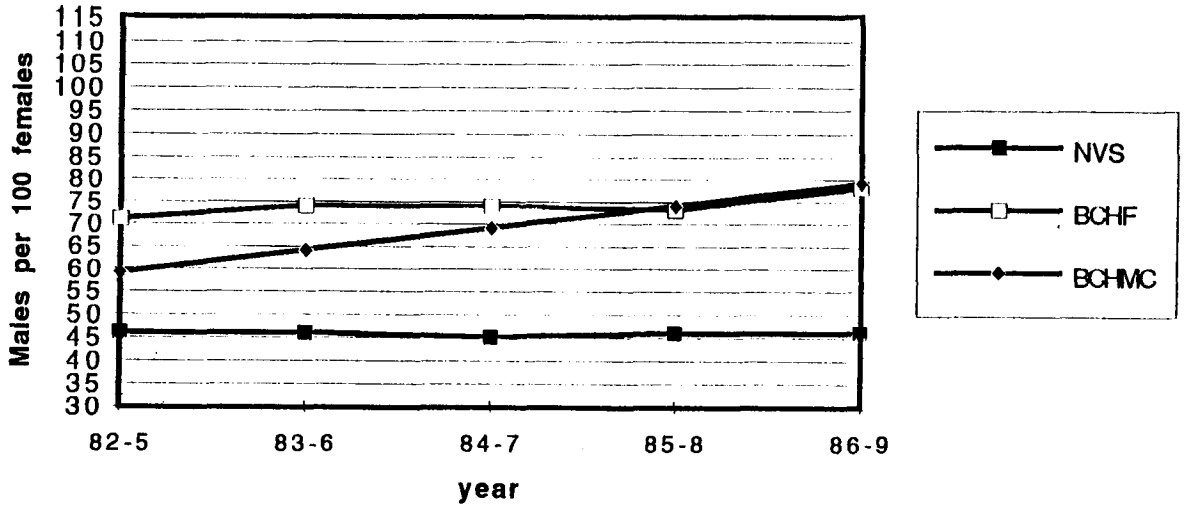
Also, there are distinct differences by individual building, with Culloden Court having a seven-year arithmetic mean of 93 males per hundred females to a low of 40 males per hundred females for Winch Tower.Among the three organizations, BCHF had the highest ratio of males to females over the seven year study period of 74 males per 100 females, while NVS had the lowest at 46 males per 100 females.

**Figure 4.18 sex distribution by organization**




A clear trend of increasing proportion of males to females is evident for BCHMC, and BCHF is showing a modest increase. The proportion of males to females has remained constant for NVS (See Figure 4.19).

**Figure 4.19 Sex distribution by organization**



## 4.7 COMPARISON BY AGE GROUP

In order to gain a better understanding of change in population subgroup over time, the population age data were analyzed in three categories as follows: under 65 years, 65 to 74 years of age, and 75 years and over. Only two of these categories, under 65, and 75 & over, are presented in the results, since these data are the most germane to my study focus.

TABLE 4.07 AGE SUB-GROUPS UNDER 65 &75 & OVER %

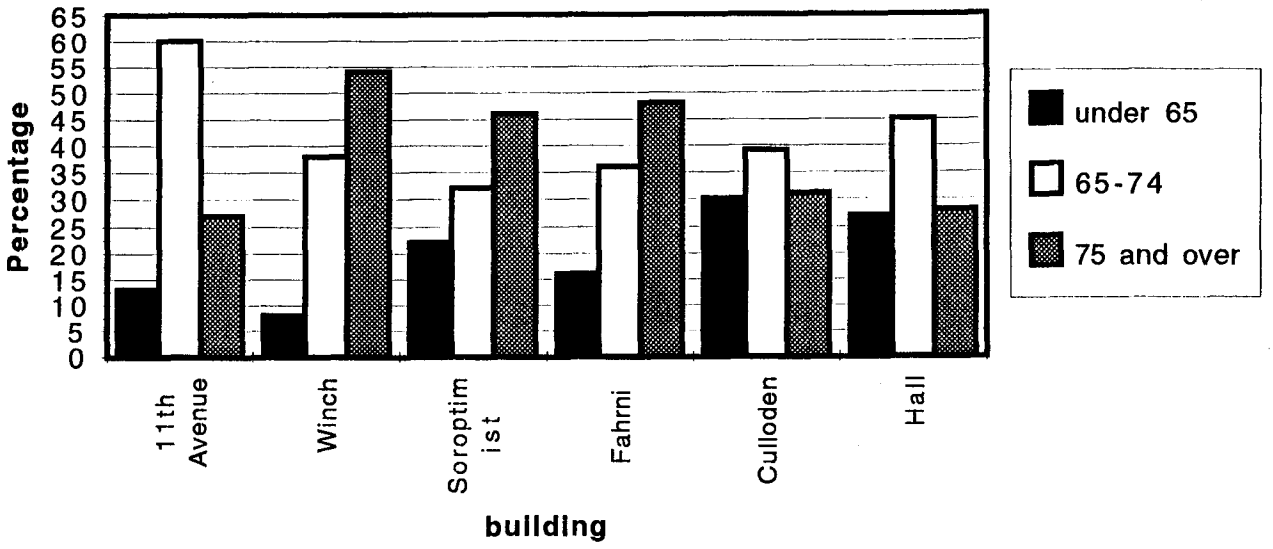
| Organisation & Building | Size(n) | 1982-5 | | 1983-6 | | 1984-7 | | 1985-8 | | 1986-9 | | 7yr mean | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | <65 | >75 | <65 | >75 | <65 | >75 | <65 | >75 | <65 | >75 | <65 | >75 |
| NVS | | | | | | | | | | | | | |
| 11th Avenue | 26 | 16 | 22 | 14 | 24 | 11 | 29 | 9 | 30 | 11 | 31 | 13 | 27 |
| Winch Tower | 101 | 7 | 57 | 8 | 56 | 9 | 54 | 9 | 51 | 10 | 52 | 8 | 54 |
| *Both Buildings* | | *12* | *40* | *11* | *40* | *10* | *42* | *9* | *40* | *11* | *42* | *11* | *41* |
| BCHF | | | | | | | | | | | | | |
| Soroptimist Manor | 27 | 17 | 42 | 18 | 45 | 17 | 50 | 22 | 50 | 28 | 48 | 21 | 46 |
| Fahrni House | 44 | 11 | 52 | 10 | 51 | 13 | 48 | 17 | 47 | 23 | 42 | 15 | 48 |
| *Both buildings* | | *14* | *47* | *14* | *48* | *15* | *49* | *20* | *49* | *25* | *45* | *18* | *47* |
| BCHMC | | | | | | | | | | | | | |
| Culloden Court | 55 | 28 | 31 | 27 | 31 | 27 | 31 | 29 | 31 | 34 | 30 | 30 | 31 |
| Hall Tower | 71 | 22 | 23 | 24 | 26 | 27 | 28 | 29 | 32 | 31 | 34 | 27 | 28 |
| *Both buildings* | | *25* | *27* | *26* | *29* | *27* | *30* | *29* | *32* | *33* | *32* | *29* | *30* |
| Mean for high rise | | 13 | 44 | 14 | 44 | 16 | 43 | 19 | 43 | 21 | 43 | 17 | 43 |
| Mean for low rise | | 21 | 32 | 20 | 30 | 19 | 33 | 20 | 34 | 24 | 36 | 22 | 35 |
| *Mean for 6 buildings* | | *17* | *38* | *17* | *39* | *17* | *40* | *19* | *40* | *23* | *40* | *19* | *39* |

* year end is taken as June 30
** numbers might not total due to rounding

Among the six buildings, 19% were under 65, and 39% were 75 and over and this proportion has remained pretty constant over the seven-year period. Significant differences were apparent by individual building with Winch Tower recording the highest percentage of old seniors

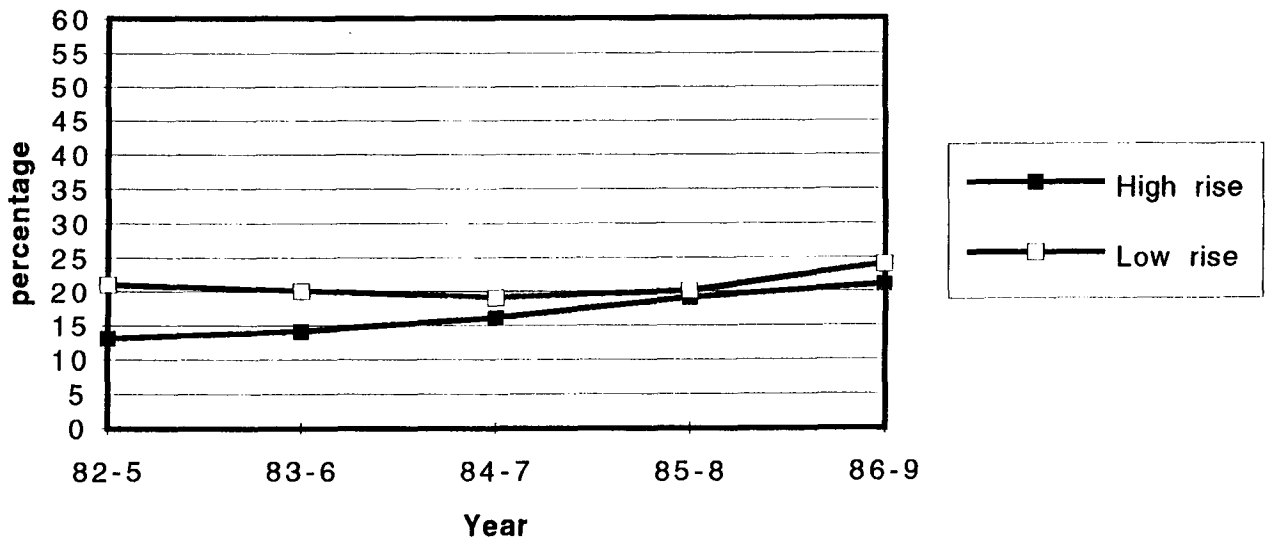
(54%) compared to Hall Tower II (28%). Similarly, differences were apparent comparing proportion of young senior tenants by individual building. Of the under 65 age group, Winch Tower had a low of 8%, while Culloden Court had a high of 30%.

**Figure 4.20 Age sub-group by building**



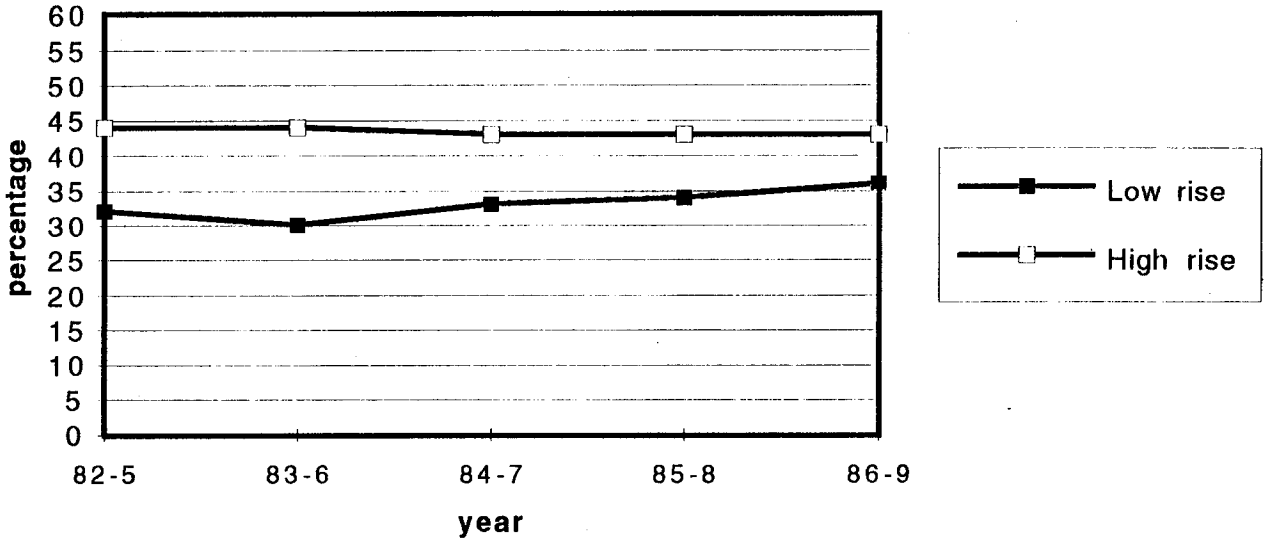

Generally, there was a slightly higher percentage of younger senior tenants (<65) in the low-rise buildings (22%) compared to the high-rise buildings (17%). The percentage of younger tenants in both high- and low-rise buildings increased over the seven-year period with the larger increase occurring in the high-rise buildings (see Figure 4.21).

**Figure 4.21: Under 65 age sub-group high/low rise**



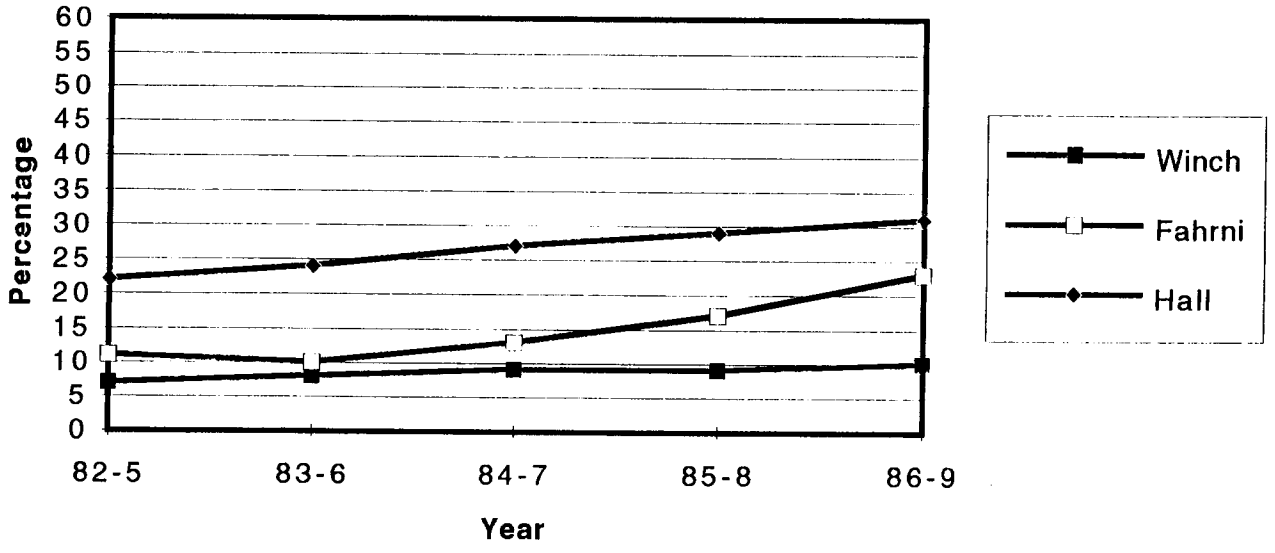
Also, there was generally a higher percentage of older senior tenants (>75) in the high-rise buildings (43%) compared to the low-rise buildings (35%) for the seven-year period. This percentage remained fairly constant for the high-rise buildings while a small increase is evident in the low-rise buildings (see Figure 4.22).

**Figure 4.22 75 and over age sub-group by building type**



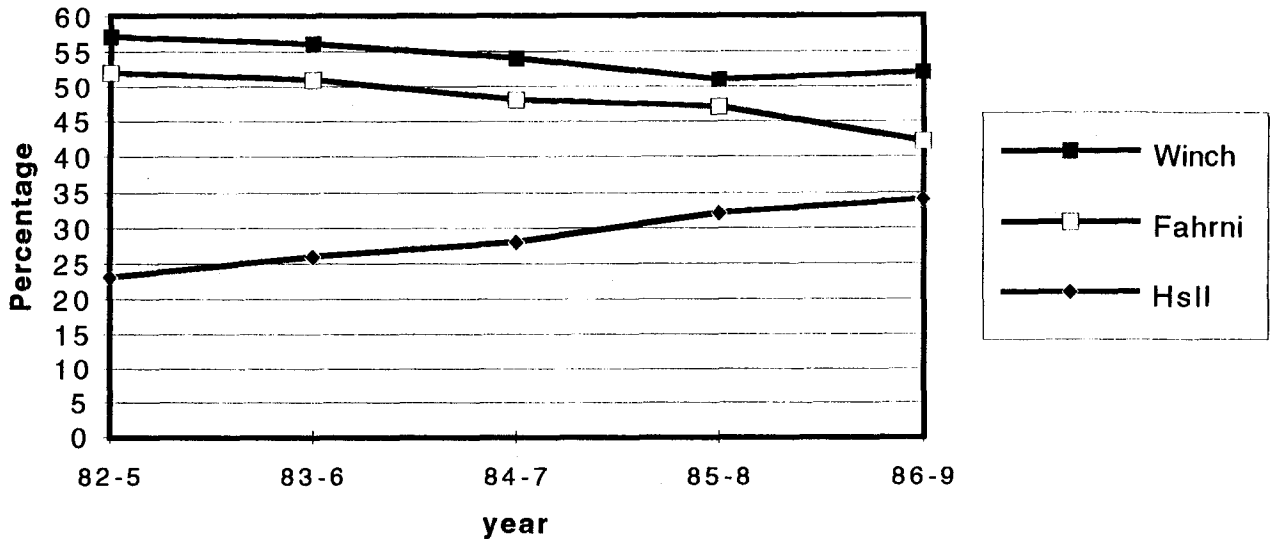

Of the three high-rise buildings, Hall Tower and Fahrni House showed a trend of an increasing percentage of < 65 age group over the seven-year period, while Winch Tower increased only slightly (see Figure 4.23).

**Figure 4.23: Under 65 age sub-group high rise**



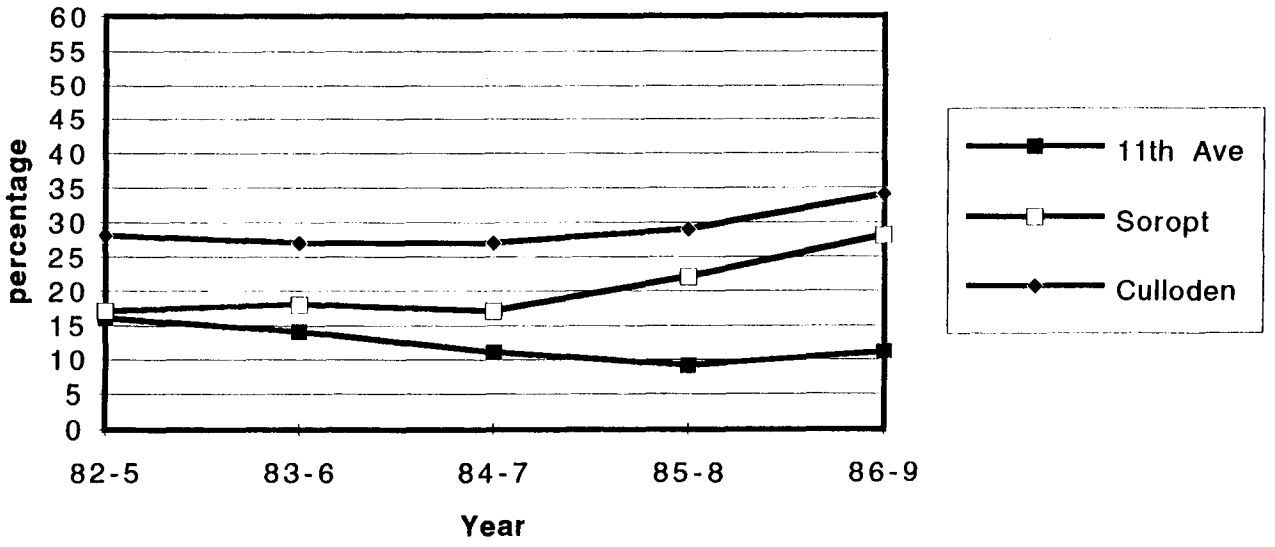
In the >75 age group, Hall Tower was the only high-rise to record an increasing percentage. The other two high-rises showed a slight decreasing trend for the same age subgroup.

**Figure 4.24 75 and over age sub-group high rise**



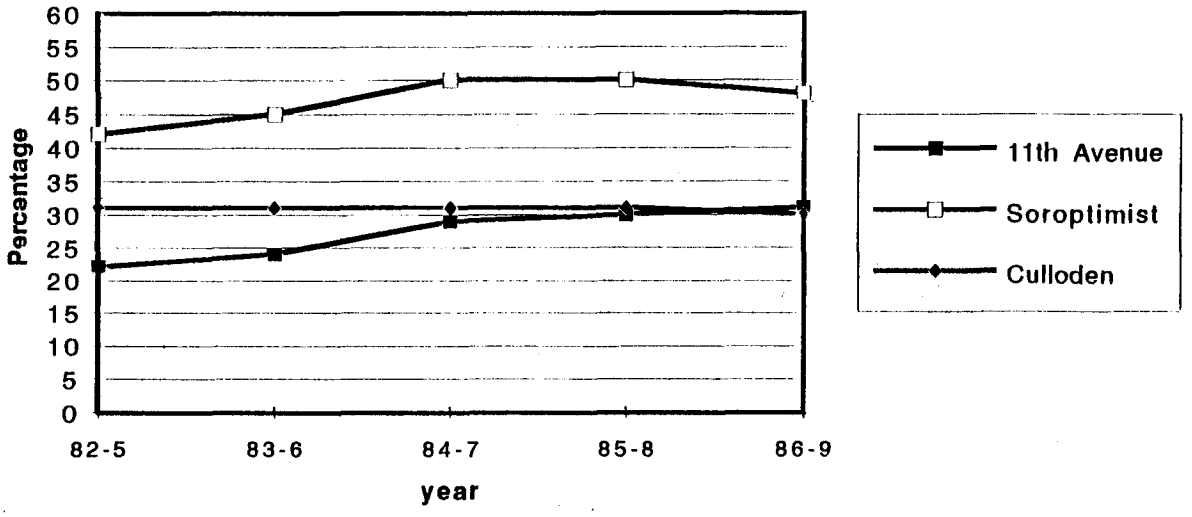

Among the low-rise buildings both Soroptimist and Culloden showed a trend of increasing percentage of younger seniors (<65 age group) over the seven-year period while 11th Avenue Apartments showed a slight decline (see Figure 4.25).

**Figure 4.25: Under 65 age sub-group low rise**



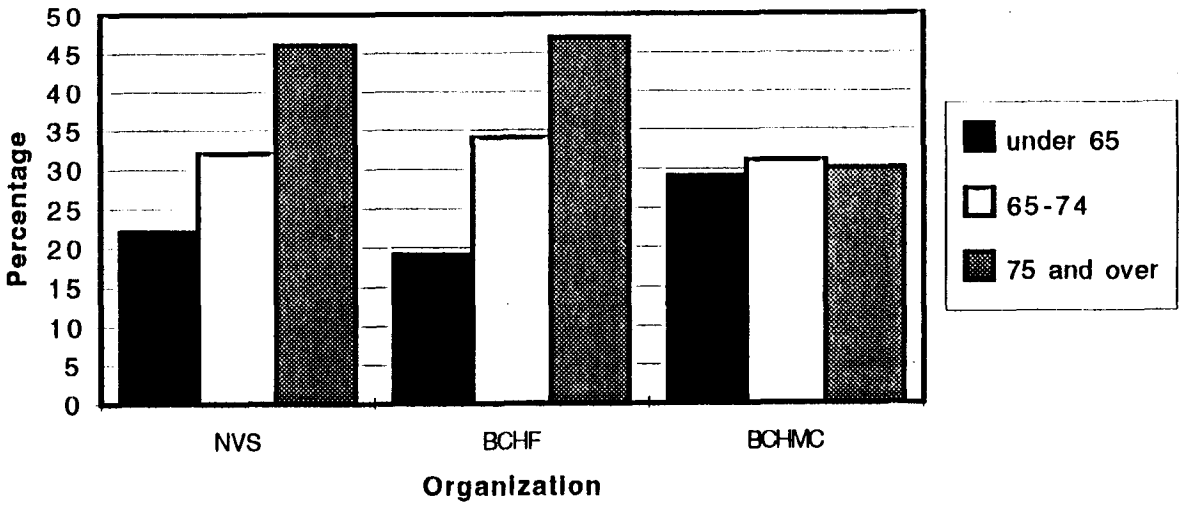
Both 11th Avenue and Sorroptomist showed a trend of increasing percentage of older seniors (>75) while Culloden remained constant.

**Figure 4.26 75 and over age sub-group low rise**




There were also significant differences by organization. The highest proportion in the <65 age group are housed by BCHMC (~29%) while the lowest proportion are housed by NVS (~11%). The highest proportion in the >75 age group are housed by BCHF (~47%) while the lowest proportion are housed by BCHMC (~30%) (see Figure 4.27).

**Figure 4.27 Age sub-group by organization**




All the organizations have shown a remarkable stability of age structures over time. Much the same also applies to the proportion of coupled pairs of occupants of units.

## 4.8 PROPORTION OF COUPLES TO ALL TENANT

Among the six buildings, the proportion of tenant couples to all tenants has remained very stable over the seven-year study period other than for BCHMC, which has experienced an increase.

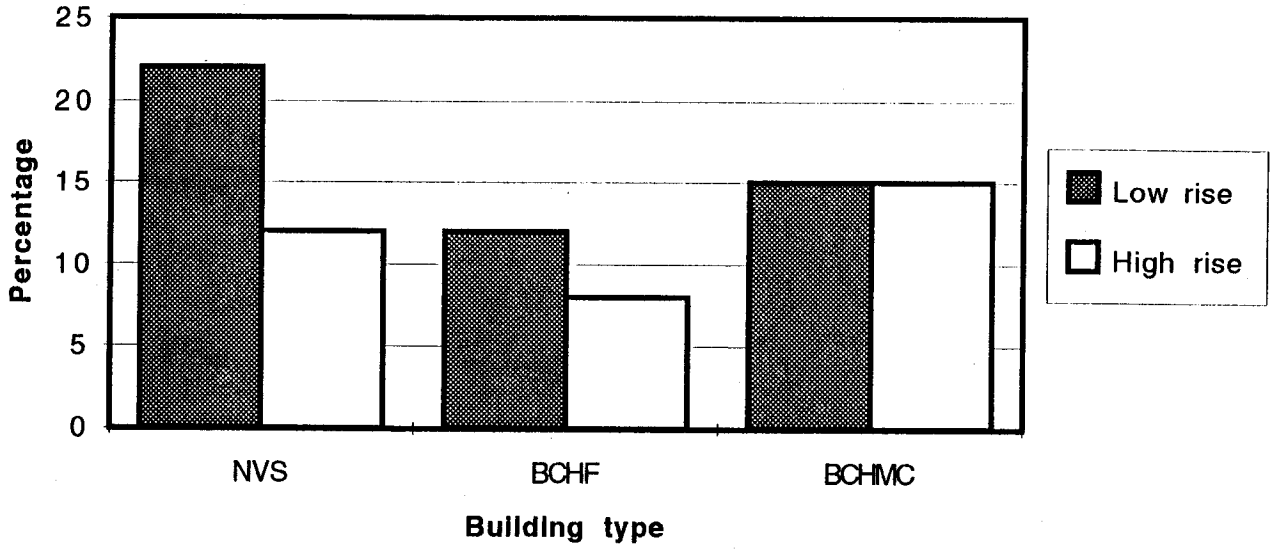
TABLE 4.08 COUPLES TO ALL TENANTS (%)

| Organisation & Building | Size(n) | 82-5 | 83-6 | 84-7 | 85-8 | 86-9 | 7 yr mean |
|---|---|---|---|---|---|---|---|
| NVS | | | | | | | |
| 11th Avenue | 26 | 24 | 25 | 22 | 26 | 22 | 22 |
| Winch Tower | 101 | 10 | 10 | 11 | 13 | 14 | 12 |
| Both Buildings | | 17 | 16 | 17 | 17 | 18 | 17 |
| BCHF | | | | | | | |
| Soroptimist Manor | 27 | 13 | 14 | 14 | 12 | 9 | 12 |
| Fahrni House | 44 | 8 | 8 | 8 | 8 | 8 | 8 |
| Both buildings | | 11 | 11 | 11 | 10 | 9 | 10 |
| BCHMC | | | | | | | |
| Culloden Court | 55 | 11 | 15 | 18 | 19 | 19 | 15 |
| Hall Tower | 71 | 13 | 15 | 16 | 16 | 16 | 15 |
| Both buildings | | 12 | 15 | 17 | 18 | 18 | 16 |
| Mean for high rise | | 10 | 11 | 12 | 13 | 13 | 12 |
| Mean for low rise | | 16 | 17 | 18 | 17 | 17 | 17 |
| Mean for 6 buildings | | 13 | 14 | 15 | 15 | 15 | 14 |

* year end is taken as June 30
** numbers might not total due to rounding

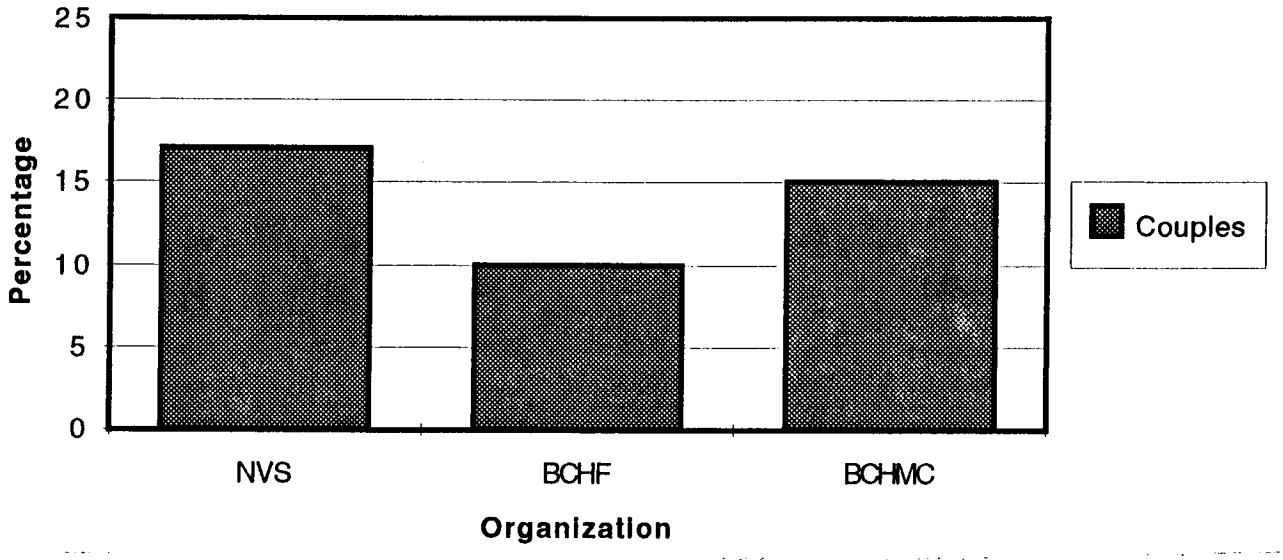
There are distinct differences by individual building, with a low percentage of tenant couples to all tenants at Fahrni House (~8%) to a higher percentage at 11th Avenue Apartments (~22%).

**Figure 4.28 Couples by building type**




There are also significant differences by organization, BCHF has the lowest percentage of tenant couples to all couples (~10%) while NVS has the highest at 17% (See Figure 4.29).

**Figure 4.29 Couples by organization**



## 4.9 SUMMARY

The preceding discussion presented the findings for the eight variables investigated for the six buildings, which are median age of tenants, median age of replacement tenants, tenant turnover, duration of stay, original to total tenants, sex distribution, comparison by age subgroup, and couples to all tenants. Critical findings are that the median age is not increasing, but there are distinct differences in median age by organization and by individual building. It appears that four of the variables are useful in explaining why these differences exist. These four variables are analyzed in more detail in Chapter 5, which attempts to explain why the differences.

## CHAPTER 5: ANALYSIS

The preceding chapter presented findings of the case studies data. The central questions addressed were, whether the median age of senior residents is increasing, and whether there are differences in the median age by organization and/or differences by building type (high-rise/low-rise). The general result for all six buildings examined indicated that the median age of occupants has remained almost constant. In other words, it would appear that no aging-in-place is occurring, i.e., that the numbers of older seniors moving out are replaced by younger replacements. Slight differences in median age are evident by organization and building type; both BCHMC and NVS have experienced slight increases in median age while BCHF has remained constant. In terms of building type, the low-rises experienced a slight increase in median age over time while the high-rises experienced a slight decrease.

These results do not seem surprising since it was expected that over time the median age would reach an upper limit at which point it would stabilize. Since all of the six buildings studied have been in operation for approximately 20 years, it is likely that this stabilization occurred prior to the commencement of the study.

However, the most striking finding is that this constant median age varies by organization. The constant median age for BCHMC is much lower than the constant median age for the other two organizations. Also, there are distinct differences in median age by individual buildings.

In this chapter, an attempt is made to explain why these differences in median age exist. The following discussion first takes a critical look at the results by individual building, and compares them to the results for all buildings. Secondly, questions are posed of four key variables to explain the differences in median

age. Can the median age differences be explained by organizational policies in the median age of replacement tenants or by the volume of replacement tenants? How is the median age affected by the volume of surviving original tenants, and how does the proportion of older seniors present explain differences in the median age? In addressing the preceding questions, results for only two of the six buildings, Winch Tower and Hall Tower, are discussed in order to avoid excessive repetition. A summary table and graph are included for all six buildings, while detailed discussion for the other four buildings is available from the author upon request.

Thirdly, Lawton's three factors which influence median age: suprapersonal environment; applicant screenings; and tenant notification to vacate, are considered in relationship to each organization.

## 5.1 DIFFERENCES BY BUILDING

### WINCH TOWER (NVS)

Median age of tenants (u=202; n=101)

In Winch Tower, the seven-year arithmetic mean of the annual median age of tenants was 75 compared to 73 years for all six buildings. The median age of tenants in Winch Tower slightly decreased from 76 to 75 over the seven-year period while it slightly increased from 72 to 73 across all six buildings. In fact, the median age for Winch was higher than any of the other buildings. To explain this difference, the first question to address is, how can this higher median age be explained by the median age of replacement tenants?

Replacement Tenants

The seven-year arithmetic mean of the annual median age of the Winch Tower replacement tenants was 72, substantially higher than the median age of 67 for replacement tenants across all six buildings. Winch showed a distinct trend of decreasing median age of replacement tenants from 77 to 69 over the seven-year period compared to only a slight decrease from 68 to 65 for all buildings. The higher median age in Winch can be explained in part by the higher median age of replacement tenants. Also, the slight decrease in median age is consistent with the decrease in median age of replacement tenants which occurred.

Replacement Rate

Winch Tower seven-year arithmetic mean of the annual tenant replacement rate was 10%, which is about the same as the rate of 11% for all buildings. There was a trend of increasing replacement rate at Winch Tower, from 6% to 12% over the seven-year period, which compares to a similar increasing trend for all buildings from 8 to 12%. This would suggest that the replacement rate is not an important variable in explaining differences in median age between Winch Tower and all buildings. The proportion of surviving tenants to a degree is related to the replacement rate. We need to next look at how the median age is affected by the proportion of surviving tenants.

Surviving Original Tenants

The proportion of surviving original tenants to total tenants for Winch Tower was 37%, which is almost the same as the arithmetic mean of 38% for all buildings. A means of testing the expected proportion of surviving original tenants is by use of the simple equation SP = 1-KR, where Sp equal the proportion of survivors from start to end of an interval; R is the annual replacement rate in the population

and K is the number of years in the interval. In this construct, it is assumed that incoming tenants replace "original tenants" and that the annual replacement rate is generally constant "Original tenants" are defined as those tenants who were tenants at study commencement date. "Surviving original tenants" are defined as those tenants who were tenants throughout the whole study period. "Non-original tenants" are defined as those persons who became tenants after study commencement.

Using our theoretical equation the expected proportion of survivors over the seven years 1982-1989, based on a 10% annual turnover rate would be as follows:

$$SP = 1\text{-}KR = 1\text{-}0.7 = 0.3 \text{ or } 30\%$$

Since the actual result for Winch Tower is 7% higher than the theoretical one, this would indicate that some of the incoming tenants replaced non-original tenants. This conclusion has to be qualified by the fact that the equation is based on a constant replacement rate which, of course, was not the actual case. We saw that there was a increase from 6% to !2% over the seven years. Nevertheless, it is reasonable to conclude that most of the incoming tenants replaced original tenants, which is to be expected given the high median age of the tenants in the building.

Age Subgroups

In the 75 years and over age group, Winch Tower at 54% had a higher proportion (based upon a seven-year arithmetic mean) than the corresponding proportion in this age group of 39% for all buildings. Also, the proportion in Winch was higher than the proportion in any of the other buildings. There was at the same time a slight trend of decreasing proportion of the older seniors age subgroup in Winch over the seven-year period from 57% to 52%, while the proportion for all buildings remained stable at 39%.

This slight decreasing trend of the older seniors age subgroup in Winch is consistent with the observed decrease in median age of Winch replacement tenants over the seven years. The same trend is also likely due in part to the fact that a personal care facility was built in the late 1970's near to Winch Tower (next block), and older seniors are moving in to the facility as they get more frail.

HALL TOWER (BCHMC)

Median Age of Tenants (u=142; n=71)

At Hall Tower, the seven-year arithmetic mean of annual median age was 71 years; ie, two years lower than the median age of 73 for all buildings. There was a small trend of increasing tenant median age from 70 to 72 over the seven-year period compared to a similar small trend from 72 to 73 for all buildings.

Replacement Tenants

The seven-year arithmetic mean of annual median age of replacement tenants was 66, being five years younger than the median age of all Hall Tower tenants. This median age of replacement tenants is about the same as the median age of replacement tenants (67) for all buildings. There was a nonlinear trend over time of decreasing median age of replacement tenants from 66 to 68 and then down to 63 years which is similar to a trend from 68 to 65 years for all buildings.

The pattern of relationship between average age of all tenants by year versus corresponding age of replacements resembles that of another building, namely 11th Avenue (see Tables 4.01 and 4.02). The difference between the median age of replacement tenants and median age of al tenants is similar to the difference in 11th Avenue, and the median ages are the same for both buildings. The small decrease

in median age of replacement tenants for both these buildings parallels a small increase in tenant median age of two years for both buildings. However, the median age of replacement tenants decreased from 66 to 63 years for Hall Tower, compared to a decrease from 68 to 66 years for 11th Avenue. All other things being equal, a lower median age for Hall Tower would be expected.

Replacement Rate

In Hall Tower, the annual replacement rate of 15% (based upon a seven-year arithmetic mean) was higher than the rate for all buildings of 11%. A trend of increasing replacement rate was evident, from 11% to 14% for Hall Tower over the seven-year study period; and a similar trend from 8% to 12% was evident for all buildings. Comparing this result to 11th Avenue's turnover rate of 6%, a lower median age than that for 11th Avenue would be expected.

Original Tenants

In Hall Tower, there were 40% original to total tenants which is above the arithmetic mean of 37% for all buildings. The expected percentage of original tenants is zero based on the annual turnover rate of 15% for this building

$$SP\text{-}KR = 1\text{-}1.05 = -0.5 \text{ or } -5\%$$

This implies a bipolar distribution of two tenant populations. The presence of 40% surviving original tenants would indicate that there was been a high turnover among the population of non-original tenants. This result may help to explain the inconsistencies discussed earlier related to the differences in median age of replacement tenants and the replacement rate.

Age Subgroup

Within the age subgroups for Hall Tower, the seven-year arithmetic mean percentage of older seniors was low at 28%, compared to 39% for all buildings. This is to be expected, given the low median age of 71 in this building There was a trend of increasing percentage of older seniors from 27% to 34% over the seven-year period compared to a very slight increase from 38% to 40% for all buildings.

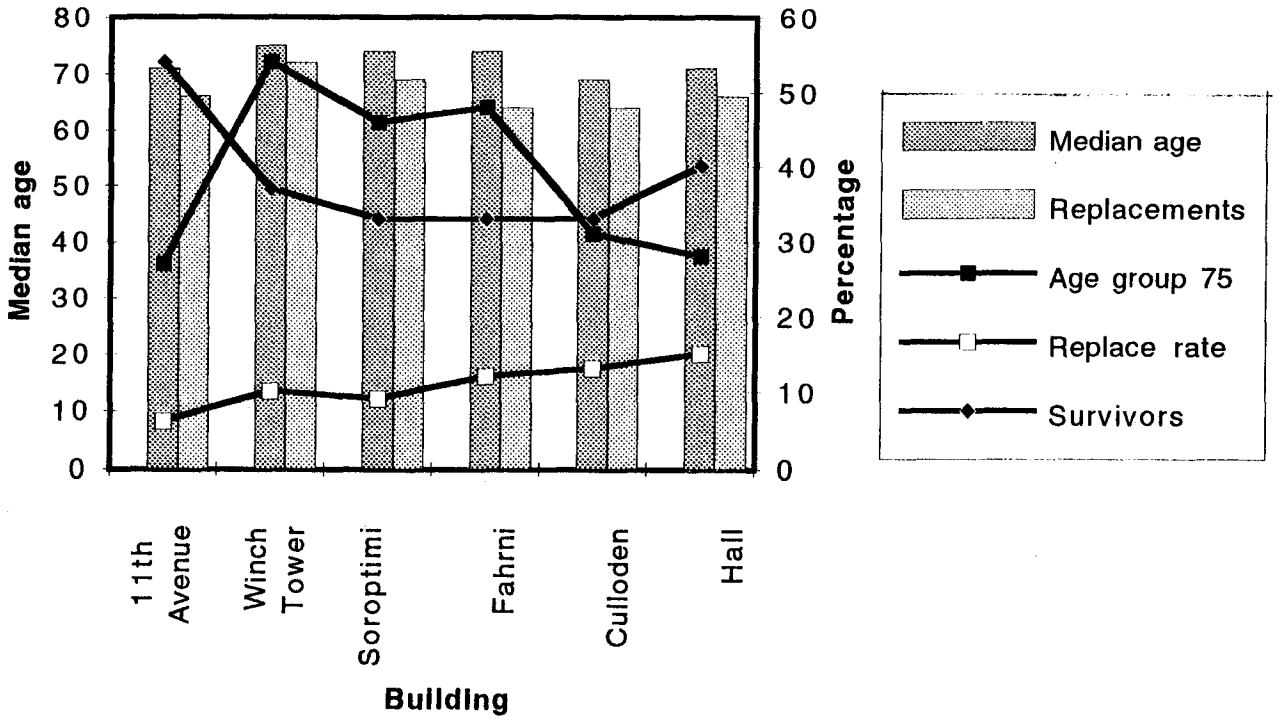
## 5.2 SUMMARY OF DIFFERENCES BY BUILDING

Table 5.01 and Figure 5.01 give a summary of differences among the key variables for all six buildings.

TABLE 5.01 CROSS BUILDING COMPARISON

| Organisation & Building | | Median age | Replacem't Rate % | Surviv'g. tenants % | 75 & over age grp. % | Median age replacem'ts |
|---|---|---|---|---|---|---|
| NVS | | | | | | |
| 11th Avenue | 7 year mean | 71 | 6% | 54% | 27% | 66 |
| (u=26) | 1-7yr span | (70-72) | (4-12%) | | (22-31) | (68-66) |
| Winch Tower | 7 year mean | 75 | 10% | 37% | 54% | 72 |
| (n=101) | 1-7yr span | (76-75) | (6-12%) | | (57-52%) | (77-69) |
| BCHF | 7 year mean | | | | | |
| Soroptimist | 1-7yr span | 74 | 9% | 33% | 46% | 69 |
| (u=27) | 7 year mean | (73-74) | (7-11%) | | (42-48%) | (64-69) |
| Fahrni House | 1-7yr span | 74 | 12% | 33% | 48% | 64 |
| (u=44) | | (75-73) | (11-14%) | | (52-42%) | (70-61) |
| BCHMC | | | | | | |
| Culloden Court | 7 year mean | 69 | 13% | 33% | 31% | 64 |
| (u=55) | 1-7yr span | 69 | 13% | | (31-30%) | (63-61) |
| Hall Tower | 7 year mean | 71 | 15% | 40% | 28% | 66 |
| (n=71) | 1-7yr span | (70-72) | (11-14%) | | (23-34%) | (66-63) |
| Mean all 6 bigs. | 7 year mean | 73 | 11% | 37% | 39% | 67 |
| | 1-7yr span | (72-73) | (8-12%) | | (38-40%) | (68-65) |

**Figure 5.01: cross building comparison**



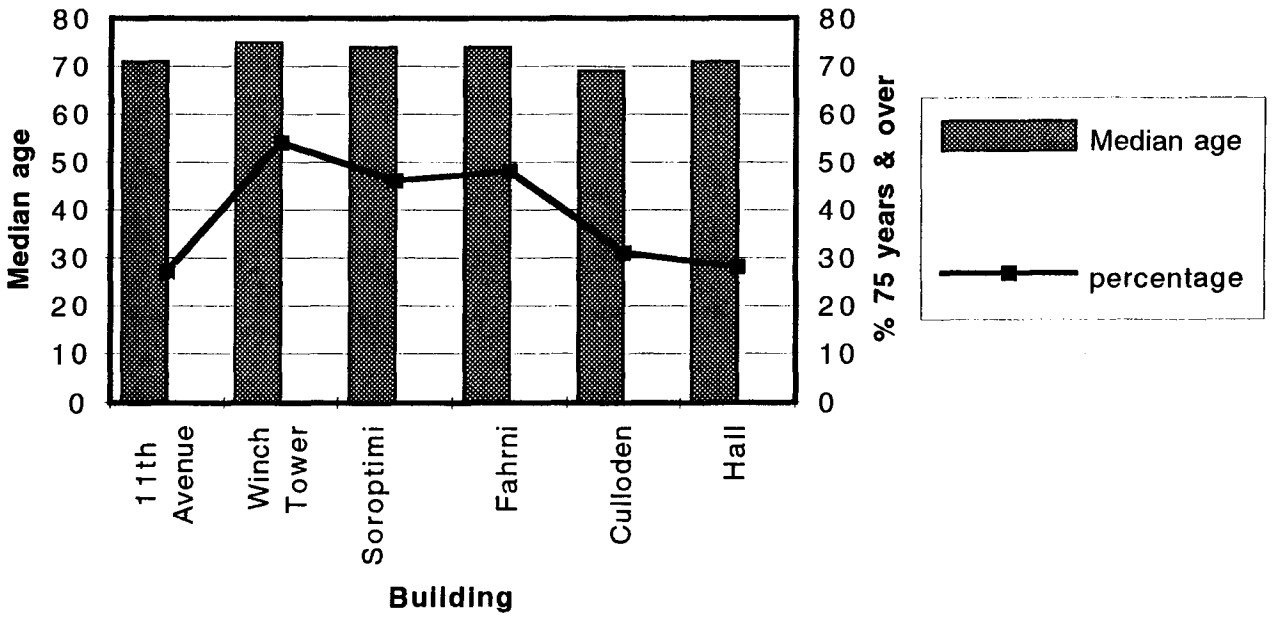

The median age of replacement tenants was consistently lower than the median age of tenants for all buildings. At the same time, there was a spread of eight years between the median age of replacements for Winch Tower (72 years) and Culloden Court (64 years). This logically followed from the fact of a six-year gap between the median age of tenants for these two buildings, ie, the median age of replacement tenants affects differences in median age by building.

It was expected that variations in the annual replacement rate would affect the median age of tenants since the number of replacement tenants as well as their median age has to be considered. For example, the replacement rate for Winch Tower was 10% versus 13% for Culloden Court. This 3% difference represents only two tenants in Culloden.

The proportion of surviving original tenants in a building was expected to have a direct relationship to the median age. This was not the case. Both 11th Avenue and Hall Tower had high percentages of surviving original tenants of 54% and 40% respectively, yet the median age of tenants in both these buildings was only 71 years.

Finally, it was expected that differences in median age would be evident in relation to the proportion of older seniors in a building. This, indeed, was true in all cases, with buildings of low median age tenants having low proportions of older seniors and buildings of high median age having high proportions of older seniors. In fact, it is evident that, with a difference of only a few years in median age, there is a substantial change in the proportion of older seniors in a building. For example, a 5% difference in median age parallels a 26% difference in the percentage of older seniors present; ie, a 5% difference between Winch Tower (75) and Hall Tower (71) in median age, results in a 26% difference between Winch 54% and Hall 38% (Figure 5.02). The implications of this discovery will be discussed shortly.

**Figure 5.02 Median age vs 75 years & over by building**



In the preceding discussion, the median age of replacement tenants was the most important variable in explaining differences in median age among the buildings. The next question is why are there differences in the median age of replacement tenants? This question will be addressed in the following discussion of the three organizations. Obviously, differences by individual building would tend to bias results when averaged by organization since only two buildings of each organization are studied. Where applicable, this point will be addressed.

## 5.3 COMPARISON OF DIFFERENCES BY ORGANIZATION

Three factors have been suggested which affect the median age of tenants in a building. Two of these factors are directly controlled by the administrations operating the facilities while the third is indirectly influenced by the administrations. The first factor concerns the control over how long a tenant can stay, the second concerns control of who is allowed in, and the third factor is the suprapersonal environment which is defined as the aggregate characteristics of all individuals populating a defined area, in this case, the housing environment. The salient characteristic is the level of independence of the tenant. Thus, the suprapersonal environment will tend to attract or repel applicants depending on the level of independence of its tenants (Lawton, Greenbaum and Liebowitz 1980). The reason for the difference in median age of the replacement tenants by organization might be due to one or more of the preceding three factors.

### Suprapersonal Environment

If we try to explain the difference in terms of the suprapersonal environment we would expect that in buildings of high median age the median age of replacement tenants would tend also to be high and also tend to increase over time similar to the results in the Philadelphia study (Lawton et al. 1980). Looking at the results by organization, a partial correlation is evident. The median ages of 74, 72, and 70

for BCHF, NVS and BCHMC respectively, correspond to median ages of replacement tenants of 67, 69 and 65. Although NVS's Winch Tower had the highest median age of 75, the median age of the other NVS building (11th Avenue) was only 71. If we consider the suprapersonal environment by individual building,

we see a clearer relationship between the median age of tenants and the median age of replacement tenants. Thus, Winch Tower and Soroptimist Manor have high median age of 75 and 74 which correspond to high median ages of replacement tenants of 72 and 69 respectively. However, only Soroptimist Manor has shown an increase in median age of replacement tenants over the seven years.

The idea that an individual applicant will screen the suprapersonal environment in seniors' housing assumes that housing options are abundant. However, in seniors' multiple housing the options are limited, at least in the Vancouver area. In addition, the tenant option to choose is limited by the controlling rules of the organizations. In the case of BCHMC for example, if an applicant for tenancy is offered a dwelling unit in a building and turns it down, the applicant loses priority position on the waiting list (earlier it was mentioned that the waiting list at BCHMC was over 1700). This does not totally negate the likelihood that some prospective tenants might wait until the desired unit is available. For most, however, the prospect of waiting for years for the ideal unit would likely by unpalatable.

This reduces the likelihood that the suprapersonal environment is a major contributing factor in explaining the differences in median age by organization. On the other hand, for both NVS and BCHF, replacement tenants are older the BCHMC replacement tenants. So some selection seems to be occurring consciously or otherwise. In particular reference to NVS Winch Tower, it would appear that the suprapersonal environment may be a factor due to the size of the facility and its proximity to the personal care facility. In comparing the NVS experience to Seton Villa, Gloria Gutman suggests that "it may wellbe

that proximity to up to 25% of persons requiring personal care, as at Seton Villa, is tolerable to the well-elderly, but that larger proportions, especially if they require more than personal care, are not" (1988, 154).

Screening of Applicants

The other two factors, screening of applicants and notifying tenants to leave are in the direct administrative control of the organizations. Given that the BCHMC median age of replacement tenants is lower than the other two organizations, it is possible that BCHMC is screening for younger applicants. On other hand, screening might be happening in an unplanned fashion. Since BCHMC is a government agency and also the largest single deliverer of seniors' housing in the province, it is likely that most applicants for seniors' housing go to BCHMC first. It may be that those tenants who are less willing to wait go elsewhere or are referred elsewhere. Older applicants are likely in more immediate need for seniors' housing. Thus older applicants by circumstance may be directed to the other two organizations. In discussions with both NVS and BCHF staff, they pointed out that some prospective tenants are referred to them by BCHMC. In the case of BCHF, it was perceived by staff that older seniors were being sent to them. It could be that given the high demand for seniors ' social housing registered at BCHMC, (over 1700 on the waiting list) the BCHMC staff provides the names of the other two organizations as alternative housing sources to prospective tenants.

A third type of screening might be occurring; screening on a specific building basis. This is, the tenants are being selectively distributed throughout the buildings that each organization operates. On-site and adjacent factors might influence why a particular building would be selected by staff for an applicant. This would help to explain why there are distinct differences by building.

Exploring this possibility, the fact that the youngest median age was in BCHMC's Culloden Court might be explained by the unsuitability of its site and surroundings for older seniors. It fronts on a road classified as a major arterial (Knight Street), which has high traffic volumes and is noisy. The site is not close to shopping or other amenities. It is not an accessible environment due to the slope of the adjacent sidewalk.

This argument gains credence when we consider than in Hall Tower, BCHMC's other building, the median age is two years higher than Culloden Court and the site and surroundings are more suitable for older seniors. The building is located in proximity to shopping and a library. On-site amenities include garden plots for residents; a community building is directly adjacent to the site; and it is an accessible environment.

Similarly, site and surroundings seem to play a role in the case of NVS. The median age in the 11th Avenue apartments is lower than that for Winch Tower. This building is located on a residential street. Access to shopping is constrained by the presence of steep slopes of adjacent roads. The site is accessible to handicapped, but the building has no elevator.

In contrast, Winch Tower, which has a median age of 75, is located in proximity to shopping and other amenities. The site is accessible to handicapped, and the building has communal recreation and entertainment facilities. In addition, NVS operates a personal care facility on an adjacent site. It is also possible that NVS management is moving older tenants from other facilities into the Towers to be close to the care facility as they become more frail.

Both BCHF buildings have a high median age. The sites and surroundings of both are contextually suitable for older seniors being located in proximity to shopping and other amenities, having elevators and having accessible sites.

The preceding argument that on-site and adjacent factors might influence why a particular building might be selected by staff for an applicant seems quite plausible and consistent except it still does not satisfactorily explain the distinct difference in median age by organization. For instance, Hall Tower is only a few blocks away from Winch Tower. Both buildings are contextually similar, yet BCHMC's Hall Tower has a median age four years less than NVS's Winch Tower. There is almost double the amount of older seniors (>75) in Winch Tower than in Hall Tower (54% versus 28%). It could be argued that the proximity to its personal care facility makes Winch Tower more attractive to older tenants, but this facility is still close at hand to Hall Tower.

The same inconsistency is apparent when we look at Culloden Court and 11th Avenue Apartments. Again, both buildings are contextually similar, yet BCHMC's Culloden Court has a median age two years younger than NVS's 11th Avenue Apartments.

Notification to Vacate

The third factor which Lawton attributes to the median age in a building is the control over how long a tenant can stay. Given the lower median age and low proportion of older seniors in the BCHMC facilities versus the other two organizations, there is little doubt that BCHMC exercises more control respecting notification to vacate than do the other two organizations. However, none of the organizations is keeping tenants as long as they might. Life expectancy (at birth) for males is 72 and 79 for females in Canada (1986). Based on the sex distribution in Winch Tower and life expectancy it might be expected that the

natural levelling of mean age would be approximately 76 years. However, life expectancy is much higher for these seniors since they already represent a select group. In 1981, a 75 year old male could expect to live another nine years and a 75 year old female another 12 years on average (Schwenger 1986, 51). In the two congregate buildings studied in Philadelphia, the mean ages were 83.4 and 83.6. Of course, these were congregate housing facilities which provide extra services.

Organizational Differences

The macrosystem section in Chapter 2 gave a definition of organization and presented some theoretical ideas on why differences in outcome by organization might occur. The following discussion examines the three organizations studied in relation to the theoretical characteristics discussed in Chapter 2 and see if there are parallels between the differences in outcome and the differences in organizations (the background of each organization is in Appendix B).

BCHF is the smallest of the three organizations consisting of a nine-member board of directors and a management staff of five (one manager, three assistants and one "field" tenant coordinator). In addition, there is one caretaker at each building owned and operated by BCHF and two caretakers at the Lionsview Project, their oldest facility. The management office is located in downtown Vancouver at the corner of Hastings Street and Cambie Street, where all of the management staff are located. The premises are small and modest; there is no computer system, all records are filed by hand. One would categorize the organization as informal, personal, non-hierarchical, and friendly. The staff seem quite familiar with tenants in their facilities and the tenant coordinator was aware of details of people and problems at all of their buildings.

New Vista Society is similar to BCHF in terms of organization size, consisting of a board of

directors of 12 persons and a management staff of five full-time and two to three part-time employees. However, there is a separate larger management unit which operates the personal care facility adjacent to Winch Tower. Not all of the NVS buildings have individual caretakers and there is no separate field tenant coordinator. The management offices is located at the ground floor of Winch Tower, so it is readily accessible to tenants in the building and adjacent buildings (the other tower and some small cottages). At the time of field work only the newest facility, Douglas Manor, was on computer (annual records) but current records for al facilities are entered on the computer. Offices are small, one for the manager and an adjacent general office space. Although NVS is a larger organization than BCHF, the housing management is informal, personal, friendly, accessible and non-hierarchical. However, from my experience collecting data stored in the NVS care facility, the personal care facility exhibits a more formal style of management.

BCHMC in contrast to the other two organizations is a large bureaucratic organization headed by six commissioners, and a six member management committee (five directors and a general manager). There are five separate branches within the commission. It displays all of the characteristics of a bureaucracy listed in Chapter 2, ie, it is hierarchical, specialized, it has a formal rule structure and it is impersonal.

It was mentioned earlier that the effectiveness of an organization has to be measured in terms of its attainment of stated purpose. Both NVS and BCHF have a stated purpose of providing housing for the elderly. BCHMC has five stated purposes, the primary one being "to execute provincial housing policies as directed by the Ministry charged with the administration of the Housing Act" (BCHMC 1987, 4). These purposes are carried out within a 12-point general policy framework. One of these policies is "to allocate housing to modest income senior citizens and disabled persons on the basis of need" (ibid., 1987, 4).

In contrast to NVS and BCHF, the primary purpose of BCHMC is the execution of a policy outside of its direct control. Additionally, within its general policy framework, the provision of seniors' housing is not its primary function. Furthermore, housing for the disabled is accommodated within seniors' housing. Although the general purpose of all three organizations is the same, i.e. the provision of seniors' housing for independent living, the emphasis is different. It is the primary goal of NVS and BCHF, while it is only one of many for BCHMC.

The differences in outcome appear to be associated with differences in organization characteristics and purposes. Differences in median age seem to be more of a function of the control of the organization than a natural occurrence through aging, although the screening of the suprapersonal environment by applicants may still play a role, as seems the case in Winch Tower. The difference in median age seems to have an inverse relationship to the level of bureaucratization of the organization. Thus, the lowest median age is present in BCHMC, the biggest organization and the highest median age is present in the smallest organization, BCHF. This is consistent with DeLulio's findings that differences in management style was the critical variable in explaining differences in outcome (1987, 95). Of course, we must consider that only two buildings of each organization have been studied, which is not necessarily representative of what is occurring in all the buildings of these organizations.

It is difficult to define the degree of screening occurring respecting applicants and notices to vacate exercised by each organization. What we can say is that since replacement tenants are younger and median age is lower for BCHMC, this organization exercises more selective control over who enters and remains in their buildings than do the other two organizations, perhaps because policies and guidelines are more formally followed than in the other two organizations.

The fact that the median age of tenants is lower in BCHMC buildings has another implication. The majority of tenants in the BCHMC buildings studied are not in the older seniors category, unlike the case for the other two organizations. As was mentioned earlier, relatively small differences in median age between buildings can result in dramatic differences in the proportion of older seniors being housing in the buildings. The characteristics and needs of this older seniors age group are quite different from those of younger seniors age groups.

When seniors demographics were discussed in Chapter 2, a problem identified was that there is a tendency for facts on seniors to be presented in one general category, i.e. for those persons of 65 years of age and over. There is a related problem in the development of facilities programming criteria for seniors' housing. For example, in a study for BCHMC the conclusion was that the majority of the tenants were satisfied with their accommodation and were not in need of additional services. However, if the older seniors age group is considered independently, it is evident that most of this group expressed a need for extra services (Gaudin-Reis 1987).

Similarly, a recent CMHC study concluded that most seniors will trade off extra services and communal spaces for larger housing units (Baldwin 1990). The conclusion fails to address the future needs of tenants aging-in-place and also overlooks the fact that younger seniors do not anticipate their future needs for aging-in-place (Kalymun 1985, 8; Rosow 1974, 126). Also in a survey of health status of seniors in public housing it was suggested that there is a "tendency on the part of elderly seniors in public housing to under-report health problems" (Denton and Davis 1986, 149).

It is important to develop criteria that recognizes the changing needs of the tenant population in seniors' housing in the planning of these facilities. Educating the seniors population to anticipate and pan for these changing needs is a part of this program. More immediate is the need to provide extra services for those older seniors presently housed in seniors' multiple housing for independent living if the provincial aging-in-place policy is to be successful in keeping older persons out of institutions.

In Chapter 6 both the background studies and the case studies are reviewed and evaluated in terms of the stated thesis objectives. Limitations are identified and suggestions to assist aging-in-place in the light of the study findings are discussed in the conclusions.

## CHAPTER 6 : SUMMARY, EVALUATION & CONCLUSIONS

This thesis has two distinct parts, one being the broad question concerning the implications of aging-in-place, the other addressing questions specific to the case studies. The first part asked "which factors are important to consider in programming for aging-in-place." The second part asked three questions. " Is the median age increasing over time ?"; "Are there differences by organization?"; and "Are there differences by building type?".

Lawton's ecological housing model provided the framework for the broad question as to the implications of aging-in-place in part one. Factors important to consider (for aging-in-place) were presented from a) the macrosystem, b) the exosystem, and c) the microsystem , and the individual level.

Part two presented findings from the case studies and attempted to relate these findings to the broader context of part one. The following discussion considers how successful the thesis is, in meeting defined objectives and the validity of the findings.

### 6.1 BACKGROUND STUDIES

In part one, the material presented is both qualitative and quantitative . The quantitative material presented is mainly analyses constructed from statistical data both historical and predictive.

The qualitative material covers an array of studies from many disciplines with varying methodologies. No attempt at detailed criticism of these studies is made in terms of their scientific validity. Rather the emphasis was upon integrating a number of those concepts and findings germane to the issue of aging-in-place in order to raise the awareness of both the

reader and the writer on the subject. This overview therefor by no means represents a systematic survey of the literature.

In presenting the factors to consider at the macro level, the analyses tried to emphasize older seniors, however certain statistical data were not always available for this group. For example, data on marital status, mobility, cost of care, living arrangements, income and institutionalization are all either incomplete or not available for the 75 years and over group. The problem is underscored by Herbert Northcott... "rather substantial percentages of the oldest elderly (80 years of age and more) are lost to the analyses. This means that the Census mobility data underrepresent the geographic mobility of the older elderly and, in particular, underestimate moves into institutional settings - moves which are often forced by circumstances of declining health" (1988, 28).

At the macro system there were a number of relevant findings concerning aging-in-place. The number of older seniors is increasing and at a higher rate than other seniors sub-groups. The majority of older seniors are women. Income is lowest among older seniors. The need for assistance with daily living more than doubles in most categories of activity from those under 75 to those 75 and over. Of older seniors, annual cost of medical care is approximately 3 times higher than that in the general population. At the same time, the rate of institutionalization is increasing.

Macrosystem factors excluded other societal forces, and values such as changes in social structure eg. single parents, gay couples, or ethnic subgroups, which all have implications for special housing needs.

Similarly, economic and political decisions were not discussed other than the aging-in-place policy at the Provincial level, and the general observation that organizational size may influence outcome. Other issues, such as seniors involvement in the decision-making process will ultimately have implications for aging-in-place in terms of the needs and wants of older seniors. To some extent awareness of this need for seniors involvement has been addressed (as discussed in Kathler 1987), and is being acknowledged in current planning (Baldwin 1990); but there is need to have user input from the *older seniors group.*

At the exosystem scale, the importance of remaining in one's neighbourhood to assist aging-in-place was emphasised. Yet there is a lack of options to allow older seniors to age-in-place in their neighbourhood. "Policy makers and program personnel should give higher priority to appropriate siting of purpose-built housing for the very old" (Havens 1988, 40). The "nimby" ( not in my backyard) syndrome is one barrier to the provision of appropriate options such as granny suites and congregate housing. The problem of physical obstacles in the neighbourhood weren't addressed in this thesis; these issues are already discussed in publications on site planning ( CMHC vol.2 1982, CMHC 1987).

The microsystem investigation first acknowledged the plethora of studies in Gerontology at this level. I discussed the problem that in the area of aging/environment studies "research findings are often contradictory" ( Datan & Lohmann 1980, 38), and also lack generalizability (Lawton et al. 1982,157). Thus a comprehensive set of theories isn't available to those individuals directly responsible for the delivery of seniors facilities to assist them in formulating guidelines and design criteria.

A definition of institutions was presented which included hospitals and old age homes (Goffman 1961). The negative Impact of institutionalization was emphasized. Keeping people

out of institutions is one strong reason for supporting an aging-in-place policy. Lawton's competence/press model was introduced showing the dynamics of person/environment relationships. In the absence of a comprehensive set of theories, this model serves as a useful tool for both programming and designing seniors facilities for aging-in-place. The general implication is that a range of opportunities should be available in the environment in order that environmental press does not exceed resident diminishing competence levels. At the same time opportunities should be provided that demand some press.

From the viewpoint of the programmer/designer, the section on microsystem doesn't deal with space planning issues, or provide information respecting design details within the dwelling unit. These issues have already been dealt with in a number of other studies (Goldsmith 1967; Howell 1978,1980; Lawton 1975; Maltais 1988). Rather, this section focuses on the need to provide supportive environments for aging-in-place to avoid institutionalization and introduces a conceptual model for doing so.

In a list of factors at the individual level to consider for aging-in-place a typology of competences was introduced, and the notion of maintaining all of the competences for successful aging-in-place was discussed. Enhancement of psychological, social and emotional competence are some of the factors to consider for aging-in-place which are not emphasized in present seniors' multiple housing. In particular personal control of one's environment, and opportunities for social interaction to mitigate loneliness, are factors requiring attention at the individual level. All of the competences may be considered when using the competence/press model. Thus opportunities to socialize may be conceived at various levels. An example of this is in the Captain Clarence Eldridge House, Massachusetts ( Belsky 1984, 140). In this building

the main social gathering space is linked to the circulation spaces which access all residential units. The resident may sit near her/his unit and watch social activities or enter the central space and join in. A similar arrangement is provided at the Weiss Institute of the Philadelphia Geriatric Centre where the resident and staff circulation borders the central social space (Lawton 1980, 128-131).

The thesis did not deal with details for individual need from a designer's viewpoint This section of the thesis really addresses factors to consider to avoid institutionalization and enhance the quality of life of older persons.

## 6.2 CASE STUDIES

The second part of the thesis asked questions: "Is the median age increasing in seniors' multiple housing projects? Are there differences by organization, or by building type?" The assumption was that if the median age is increasing then older seniors are being kept out of institutions. At the outset, the expectation was that a clear indication of aging-in-place would be evident through increasing median age. It was also expected that low-rise buildings would have a higher median age than high-rise buildings, and that there would be distinct differences by organization.

The findings that the median age did not increase, and that there is little difference in terms of low-rise vs high-rise buildings, therefor came as a surprise. However, a distinct difference by organization in the median age of tenants was revealed. Given this finding, its validity has to be considered in terms of statistical probabilities.

## 6.3 LIMITED STUDY PERIOD

One possible reason why an increase in median age was not apparent was the limitation of the study time of seven years. All of the buildings have been in operation for at least 20 years and the median age had reached a constant level prior to the commencement of this study, 1982. Therefore, Lawton's hypothesis is likely correct - that a process of stabilization has occurred at a lower level of tenant competence.

With the passage of time and aging, it can be assumed that a lower level of competence has been reached by many tenants in all of the facilities . Unlike in Mr. Lawton's study, I was unable to assess changes in health status over the study period. Data respecting health status of the tenants in the six buildings studied were not readily available. Both the Burnaby and Vancouver health units have data on persons receiving home care from the Provincial Long Term Care Program. The data are only filed by person not building and are not yet computerized (McGowan 1989; Leutkehoter 1989). Assembling these data was therefor beyond the scope of this study. However, the assumption of reduced level of competence is reasonable considering the facts on health care utilization provided in Chapter 2 (pages 25-28). Also, the actual number of seniors who have moved from the buildings studied into institutions are not presented in this study since these data were unavailable. One can only refer in relation to available data for Canada as a whole, or British Columbia.

## 6.4 INCOMPLETE DATA

One reason for differences in outcome by organization discussed in Chapter Two was innacurate or biased data (Di Lulio 1987). The fact of incomplete data was discussed in Chapter 3. The most critical paucity of data was for Fahrni House - 30% of the data is missing for the first two years.

Secondly, we had a problem dealing with small numbers in two of the low-rise buildings, in analysizing trends in certain variables such as replacement tenants; couples and original to total tenants. Erratic changes in trends from year to year were thus experienced. The incomplete data were mainly for the early years 1982-4. To compensate, some data were analyzed in terms of three-year running averages. As discussed in Chapter 5, the median age variable had likely stabilized prior to the study period.

## 6.5 ORGANIZATION COMPARISONS

Only three high-rise buildings and three low-rise buildings were analyzed in total. The question is can the results of this handful of buildings reliably be generalised to different performances among the three organisations studied. Since only two buildings from each organization were analysed, it might be argued that the findings are not representative of the whole (organization). NVS has a total of 517 housing units and BCHF a total of 387. For both NVS and BCHF the findings are quite representative since the samples taken represent 25% and 20% of the whole seniors populations of the respective organizations. BCHMC has a total of 3496 seniors' housing units in the GVRD. In the case of BCHMC therefore, the findings are less representative since the study sample of about 100 units from BCHMC buildings represent only approximately 3.5% of the total seniors population (GVRD) administered by BCHMC.

## 6.6 GENERALIZABILITY

The selections were purposive, so findings are not generalizable outside the individual organizations studied. Specific findings by individual buildings are valid since data was 100% for all buildings with populations of 55 or less, and sampling was 50% for those populations greater than 55.

Irrespective of how representative the findings are by organization, the fact remains that the median age is substantially lower for both BCHMC buildings . All of the buildings studied were built within a period of three years of each other (1969-72). There is no reason to believe that the two BCHMC buildings investigated are so atypical of BCHMC standards as to produce such a low median age after 20 years.

## 6.6 CONCLUSIONS

The background exploration revealed a need for neighbourhood based supportive living environments for seniors. From the six cases studied, the median age in the BCHMC facilities was four years less than the other two organizations, and the proportion of older seniors housed by BCHMC was about half of that of the other organizations. Variation in these two key variables and by organization was explained by differences in organization size, suggests that BCHMC is less effective in providing supportive environments contributive to aging-in-place.

On the other hand, none of the organizations kept older seniors as long as they could to avoid forced institutionalization. This is, of course, due to the policy of all three organizations to provide seniors' multiple housing for independent living. So persons have to leave when they are not independent any more, ie. when supportive environments become necessary to occupants. In other words, the organizations control aging-in-place rather than other factors. Thus the programming, design, and operation of these facilities reflect this policy.

### Constant/Accommodating Environments

Two models are suggested in the planning and administration of seniors' housing. The aim of the constant model is to preserve the original character of tenants and the general housing environment. The aim of the accommodating model is to allow tenants to maintain residence

despite declining competence. Admission requirements may be relaxed in this model (Lawton et al. 1980, 62-3).

The constant model forces residents to leave when they exhibit declining competence. Thus tenants' lives may be disrupted by early enforced transfer, and in some cases premature institutionalization may occur. This model benefits the administration to the extent that there is no need for additional services over time.

The accommodating environment may occur at three levels. First, facilities and services may be included at building inception as at Seton Villa multi-level facility in Burnaby. Second, spaces and services may be added over time as declining competence occurs. New Vista Society added unit alarms in Winch Tower and added a personal care facility adjacent to the two Towers. Third, there may be accommodation due to lax administration policy on admissions and separations without the addition of spaces and services. This is the case with BCHF. However, the commissioning of the study for their Lions View project resulted from the need to address the growing problem of aging-in-place in their seniors' multiple housing facilities.

Existing Housing Considerations

To support the Provincial aging-in-place policy, the accommodating model is the more appropriate one to adopt in the future planning and administration of seniors living environments in order to keep seniors out of institutions. More immediate is the need for accommodation in the existing inventory of seniors' multiple housing built for independent living. To meet this need there could be a relaxation on evictions when tenant become frail. This would, in turn, necessitate evaluation of the potential impact on existing facilities on an individual building basis.

Given the difference in median age of tenants in BCHMC facilities, a large number of seniors tenants presently housed could extend their stay by at least four years without significant changes to the facilities. Of course there would be increased demand on caretakers for support which if not available would put tenants at risk. At BCHF's Soroptimist Manor, caretakers changed almost every year, due to repeated demand for help from tenants, and Lions View has two full-time caretakers for 63 tenants. There is also additional help available for all of the BCHF facilities from Helen Cove, the itinerant tenant coordinator. NVS has installed emergency alarms in all of the units in their two towers and tenants take turns serving as monitors on each floor to check that tenants continue in good shape.

Future Housing Considerations

Next, the policy of housing for independent living requires reassessment. It is not reasonable to imagine that an aging-in-place policy and a policy of independent living can coexist when dealing with seniors accommodation. The fact is that many of the seniors who move to seniors' multiple housing expect to live there for the rest of their lives (Leung, no date). Either housing has to be sited and designed for aging-in-place at the outset to accommodate future needs, or policies have to be developed which will provide the means to modify these environments as the tenants age-in-place.

The British experience has shown that the provision of sheltered housing (assisted independent living) has resulted in keeping approximately 80% of older seniors out of institutions. These persons instead have been able to remain at home for the rest of their lives (Goldenberg 1981, 74; Townsend 1964). This is consistent with the experience of the Abbeyfield Society which estimates that "about one in five residents in the ordinary supportive care houses eventually require extra care" (Wright, no date, 13). For the remaining 20% of older seniors, Abbeyfield Extra Care facilities provide a non-institutional alternative.

Providing adequate housing economically for the poverty level occupants is one of the primary missions of BCHMC. This objective creates the argument for economies of scale which influences site selection and housing programs. By only looking at the need to provide shelter economically, limitations are being built into this housing in terms of the ability to accommodate changing needs as the tenants age-in-place. These built-in (program) limitations are ultimately responsible for tenant premature moves to institutions. Investigating premature institutionalization in the United States, the researchers found that "of the ten cases, for only two did one-half or more of the Judges recommend that the resident-to-be actually be admitted at this time" (Tobin & Lieberman 1976, 223).

A similar problem with seniors' public multiple housing is being experienced in Manitoba by the Winnipeg Regional Housing Authority. "The changing circumstances of EPH (Elderly Persons Housing) has caused problems for the Winnipeg Regional Housing Authority. Established primarily as a manager of public housing, the mandate of the WRHA is linked to matters directly related to landlord and tenant affairs. The WRHA is not responsible for addressing the care-related needs of its elderly tenants. Without a mandate to deal with such issues, the WRHA can do little to assist those seniors who have aged-in-place and now find themselves in a housing situation that no longer meets their needs" (Badiuk 1990, 30).

If the provision of seniors' housing is conceived holistically, then even if only the cost of care is brought into the housing equation, (aside from consideration of other social values) there is a fair budget available to spend on the provision of supportive living environments per tenant who might otherwise be institutionalized. While recognizing the need to control economic costs, this criterion is not only one to consider in the provision of seniors' housing "Obviously, economic costs can only be one consideration in planning for people. Human costs are certainly of more importance" (BCRC 1981, 224).

Earlier it was discussed that the actual number of institutionalized older persons far exceed the reported number. One can only presently speculate as to the extent of human costs associated with forced moves to institutions due to society's inability to provide supportive housing options. Future study of where tenants move to after leaving seniors' multiple housing facilities would establish the actual dimension of these forced moves. Standardization of records by housing organizations would help to facilitate this investigation.

The Abbeyfield model provides supportive housing for frail elderly who might otherwise be institutionalized. This model, which is easy to integrate into residential neighbourhoods, also provides opportunities for enhancing all the competences, and personal control over one's environment. Given the increasing demand for supportive housing and changing expectations of younger senior cohorts, it is likely that the Abbeyfield model will gain in popularity as a viable neighbourhood-based supportive housing option in the future.

BCHMC is only a sub-unit of the larger bureaucratic organization the Provincial Government. We have to look further up the hierarchy for a solution to improving public housing agency performance in supporting aging-in-place. The policy of aging-in-place is a mission of the Ministry of Health. The dilemma of competing and contrasting missions of seniors public housing and seniors public health will only be resolved by the embodiment of an aging-in-place policy throughout the agencies responsible for seniors' living arrangements.

"Housing the very old is truly a multi-disciplinary, multi-dimensional and multi-faceted area of concern within gerontology, within society and within the older population"(Havens 1988, 42). The implication is for an interdisciplinary approach to the delivery of appropriate living environments for seniors, in other words, competent environments.

# APPENDIX

## A: REFERENCE LIST

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## B: ORGANIZATIONS: NVS; BCHF; BCHMC

ORGANIZATION: NVS

The New Vista Society is a non-profit organization founded in 1943 with the objective of providing housing to low income individuals in Burnaby. It is registered under the Societies Act in the Province of British Columbia. The earliest housing projects were built to house convalescing single women with psychiatric problems. Later, the focus shifted to low-income seniors housing. In 1975, the Society built a care home and became a Service Provider in 1978 under the Provincial Long Term Care program. This facility provides health care to residents requiring Personal and Intermediate Care.

In its mission statement the NVS lists the following philosophical beliefs:

A That every resident is entitled to receive optimum care in an environment of dignity, respect, understanding, and concern, with regard to their individual social, mental, spiritual, and physical needs.

B That the family and support groups are an integral part of the resident's life and therefore will receive every encouragement and opportunity to share in the decision making of the resident's care.

C That recognizing every resident is a physical, emotional, intellectual, social, and spiritual person, the care process will address the total needs of the resident.

D. That the personnel, recognizing the unique aspects of gerontology, will base their care on current accepted principles of gerontological care.

E. That the ongoing provision of an adequate and competent staff is essential in maintaining optimum care. The Society should encourage the promotion of appropriate continuance of education and upgrading of staff.

F. That sound management is essential to support the determined standards of health care. Effective utilization of human, material, and financial resources is dependent on the participation by the Board, Administration, and all employees in meeting the changing needs of resident care.

G. That regular monitoring of the quality and quantity of services provided in each individual department/clinical area will effectively promote the maintenance of recommended standards and continual improvement of established and new services.

H. That individual resident independence, through good health habits, physical, mental, and social stimulation, must be encouraged for the well being of the residents.

I. That the availability of residential accommodation at reasonable rates to the low income, senior population is essential.

J. That the New Vista Society as a non-profit community organization should work with government and other community organizations towards improved quality of life for all seniors, particularly the economically under-privileged.

K. That progressive labour relation practices are an integral part of any successful operation (NVS 1987, 2,3).

The Society is located in Burnaby and has a board of directors consisting of 12 members. There are two major departments, Care Home Services and Finance & Housing. The former is the large department with the most staff. The residential department has five fulltime and 2-3 part time staff. The Society might be categorized as mid-size between the BCHF and the BCHMC. However, in terms of operations of the residential independent living component, staff size is similar to BCHF. There are six seniors projects for independent living owned and operated by NVS providing a total of 517 units. All projects are located in Burnaby. There is one live-in caretaker per project, except for the Cottages and Douglas Manor which share caretakers from the 11th Avenue Apartments and Towers respectively.

ORGANIZATION: BCHF

British Columbia Housing Foundation was established in 1952 under the Societies Act of B.C. The stated objectives of the BCHF are as follows:

A. To provide housing for elderly and handicapped persons of low income and for that purpose to acquire land by purchase, lease or gift.

B. To buy and sell land and other property and to construct, manage and operate low rental housing projects and to rent or lease the same or any units thereof to such person or persons and on such terms as the Directors may deem advisable.

C. To repair, alter, demolish and reconstruct any buildings owned or operated by the Society.

D. To enter in arrangements contracts or undertakings with any Government, Federal, Provincial, Municipal, Local or otherwise, and any person or persons or any corporation, whether incorporated or not, that may seem conducive to the Society's objects or any of them, and to obtain from such Government, person or corporation, grants, rights, privileges and concessions which may further the objects of the Society.

E. To carry out, exercise and comply with such arrangements, contracts or undertakings, and any rights, privileges, concessions or obligations arising or resulting therefrom.

F. To dispose of any surplus assets upon winding up the affairs of the Foundation to a recognized Canadian charitable organization or organizations, this provision of the Constitution to be unalterable (BCHF Constitution 1953 1984, 4).

Compared to the BCHMC, BCHF is a small organization. The board of directors consists of nine members and there is a management staff of five persons. The various members of the board

serve on five working committees along with the management staff. These committees are finance; building, social services, admissions and new projects.

Although the BCHF has the mandate to operate throughout British Columbia, to date the area of operation has been limited to the City of Vancouver. Since inception, BCHF has constructed a total of 387 seniors housing units in Vancouver. There are ten projects owned and operated by the Foundation and two projects operated only. All projects are located in the City of Vancouver. There is one live-in caretaker at each project except for Lions' View which has two. Management and maintenance of these projects is administered by the management staff which includes a field supervisor.

Similar to BCHMC, the Foundation's policy is the delivery of independent living units for seniors and the handicapped.

## ORGANIZATION: BCHMC

### HISTORY OF BCHMC

Presently, BCHMC is the primary deliverer of social housing in the Province of British Columbia. Programs for the delivery of social housing in B.C. are complex. It is necessary to briefly review the evolution of social housing at the national level to better understand the present system in B.C.

In 1949, Section 40 of the N.H.A. provided for the delivery of social housing through Federal/Provincial agreement whereby 75% of the project capital and 75% of operating losses were funded by the Federal Government and the remaining 25% capital costs and operating deficiencies were funded by the Province. The Province had the option to pass on a share of its cost to the municipalities if it so chose. Sections 43 and 44 of the N.H.A. introduced in 1964 provided for Federal loans up to 90% of capital funds and a 50% Federal contribution to offset operating losses. The assets were put in the hands of the Province.

Further amendment to the N.H.A. were introduced in 1973, aimed at encouraging provision of social housing through non-profit societies and co-ops. Rent supplements were also introduced at this time (Sections 34.18 and 15.1).

In the late 1970's a simplified program for social housing was introduced. Section 56.1 of the N.H.A. provided for interest reduction grants which effectively reduced interest on project capitol costs to 2%. These 100% loans were now provided through private lending institutions.

Major modifications to social housing programs were again introduced in 1986. A new non-profit social housing program was targeted to 100% of units for core-need tenants.

Operating subsidies are provided to the societies for the difference between operating costs and rent revenues. Also rental RRAP was introduced in addition to the existing RRAP program.

The May 1986 "global agreement on social housing" is a joint Federal/Provincial planning and funding program to cover a three year period.

Additional social housing programs include Province-only programs and municipal programs. These programs have been broadly categorized as supply side and demand side programs.

BCHMC was set up as an agency of the British Columbia Provincial Government in December 8, 1967 under the terms of the Provincial Housing Act to coordinate and manage all low cost housing projects in the Province (Vancouver Sun October 22, 1969). On March 25, 1968, the Provincial Government authorized the dissolution of the Vancouver Housing Authority (set up in August, 1953), and its absorption by the BCHMC. The public-funded projects expedited through Section 40 of the National Housing Act in the Lower Mainland and formerly operated by the Vancouver Housing Authority were taken over by the BCHMC (Vancouver Sun, March 15, 1968). The first Board of Commissioners consisted of two appointed by the Province, two appointed from CMHC and City of Vancouver Commissioner Gerald Sutton Brown.

In 1974, following a period of critical review at the municipal level, the Provincial Government replaced civil servants with appointed citizens as BCHMC commissioners. The first appointees were Paul Grieve, President of Askethorne Construction Ltd. and Mayor of North Saanich; Rosemary Harveton, Assistant Director of Research and Social Policy for United Community Services in Vancouver; Frances Huot, resident of BCHMC Rupert Lane project, Vancouver; and Peter Stratton, honorary treasurer of British Columbia Housing Foundation (Vancouver Province June 20, 1974). David Davies, former Director of Ontario Housing Commission was appointed as chairman of the Board of Commissioners.

Around the same period of 1974, the Provincial Government purchased the Dunhill Development Corporation. This Corporation was renamed the Housing Corporation of British Columbia and incorporated as a Crown Corporation. The new role of BCHMC was the provision of rental accommodation in cooperation with the Crown-owned Dunhill Development Corporation as well as through the private building industry (Vancouver Province June 20, 1974). This was initiated through the new Proposal Call Programs.

Following an intensive development program for the next few years the Provincial Government put up the Housing Corporation of British Columbia for sale in 1978 to private investors. The Minister of Housing, Hugh Curtis, explained that the sale was due to the lull in housing demand (Vancouver Sun 1978).

In 1979, with a resurgence of demand, the delivery of social housing was put in the hands of the Ministry of Lands Parks and Housing. At the same time, the age limitation on qualification as senior for entry to seniors housing projects built under the program was reduced from 65 to 55 ( Vancouver Sun 1979).

In August 1985, the Ministry of Lands, Parks and Housing asked the Provincial Government to resume responsibility for the operation and delivery of social housing in the Province (M.L.P.H. 1985). During this period the Federal government had underway a review of social housing policy and programs with all the Provinces with especial reference to CMHC (CMHC 1985).

BCHMC completed a report as of January 1986 to the Ministry of Land, Parks and Housing with recommendations respecting social housing policy and programs (BCHMC 1986).

The role of BCHMC at this time was to provide advice and direction as to screening of applicants for the accommodation, operating management and accounting and other necessary

requirements (Annual Report, BCHMC 1986). From the 1986 changeover BCHMC took on the responsibility from the Ministry of Lands, Parks and Housing for handling both the operations and delivery of social housing in British Columbia.

The Commission has five branches within its organization which carry out day-to-day operations. These branches are Financial and Administrative Services, Field Operations, Social Housing, Development and Technical Services, Personnel and Labour Relations Services. The present Board of Commissioners are Mary H. Kerr Chairman; Duncan McDougall, Noramata; Betty Shandro, Richmond; Audrey Laboucane, Fort St. John; Douglas Mowat MLA, Vancouver and Samuel Travers, Ministry of Social Services and Housing. Senior management are J.C. (Ian) Leman, General Manager; Peter Robinson, Director, Field Operations; Richard Staehli, Director, Development and Technical Services; Enid J. Buchanan, Director, Social Housing; R.L. (Lin) Matthews, Director, Financial and Administrative Services; Sylvia Porter, Manager, Personnel and Labour Relations (BCHMC Annual Report 1987). The Directors of each branch, along with the General Manager, make up the Management Committee "which establishes operating policies and provides leadership and direction to the organization" (BCHMC 1987, 5).

In 1986, following the Provincially initiated Commission of Inquiry into social housing in British Columbia, new Federal-Provincial "Global and Operational Agreements for Social Housing" were established in B.C. (Cosh et al. 1986 57-58). A key finding of the Inquiry was that "there is no Provincial agency responsible for overall planning and initiative on behalf of those most in need of social housing. Rather, what we found was a series of separate programs, each with its own rules, interests, perspectives and clients" (ibid., 1986, 137). The Inquiry recommended the "establishment of a Social Housing Committee responsible to a committee of Cabinet Ministers and chaired by a senior administrator with deputy minister status" ( ibid., 1986, 21).

This review serves to explain in part the complexity of social housing programs in B.C. and the role of BCHMC within the system. However, as of 1986 seven Provincial agencies had a role in social housing delivery in the Province of B.C. These were BCHMC; Ministry of Lands, Parks and Housing; Human Resources; Health, Municipal Affairs; Consumar and Corporate Affairs; and Finance (ibid, 25). Some consolidation of responsibilities has recently taken place, such as BCHMC taking primary responsibility for social housing over from Lands, Parks and Housing and also the administration of the SAFER program. The social housing system still can be described as "a patchwork of Federal, Provincial and Federal/Provincial programs and services" (ibid., 1986, 13).

British Columbia Housing Management Commission was established as an agency of the Province of British Columbia in 1967 to manage provincial and federal-provincial housing and property. The mandate of BCHMC was expanded in 1985 "to incorporate the development, delivery and administration of all provincially led subsidized social housing and the development of social housing policy." (BCHMC 1987, 4) The Commission's home office is in Vancouver, in addition to which there are five regional offices and two area offices in British Columbia. The Property Management Portfolio (1987) consists of 8,157 units throughout the Province. Of these, 398 units are managed by the City of Vancouver and 126 units are managed by the Penticton and District Retirement Centre. The balance is managed by the Commission. In the Greater Vancouver Region there are 3,496 units for senior citizens managed by the Commission (1987).

Unlike the other two organizations BCHMC provides both family and seniors housing and its area of operation is the whole province of British Columbia. The delivery of seniors housing is limited to units for independent living under present policy.

The stated purposes of the Commission are as follows:

A. To execute provincial housing policies are directed by the Ministry charged with the administration of the Housing Act (Social Services and Housing).

B. To manage provincial and federal-provincial housing and property on behalf of the Ministry.

C. To administer rent supplement programs of the Ministry in:

- housing managed by the Commission;
- housing operated by non-profit societies and;
- housing owned and operated in the private sector.

D. To monitor the performance and value of programs under its jurisdiction.

E. To develop social housing policy and also to recommend to the Ministry policy or program changes related to matters under the Commission's jurisdiction.

F. To provide the Ministry with housing program services as required (BCHMC 1987, 4).

These purposes are carried out within the following general policy framework:

- To determine housing needs in the Province.
- To ensure that the funds available for social housing are targeted to those most in need and managed conscientiously and economically.
- To allocate housing to modest income senior citizens and disabled persons on the basis of need.
- To provide a living environment for tenants that is safe, secure, and provides quiet enjoyment.
- To pursue maintenance standards that produce modern, safe, sound, and aesthetic properties.
- To ensure that new social housing developments are consitent with neighbourhood design, meet quality standards, and are built to minimize long term operating costs.
- To ensure accountability by staff and tenants to the terms of the Tenancy Agreement and the Residential Tenancy Act.
- To asset positive, fair, and consistent relations with tenants and the larger community.
- To foster the idea and practice of local tenant associations and resident groups.
- To inspire professionalism, innovation, and accountability in staff performance.
- To encourage skilled management in the non-profit housing sector.
- To be a cooperative resource in relations with the Ministry of Social Services and Housing and other agencies with which the Commission is associated (BCHMC 1987, 6).

**C: PRETESTS**

**BCHF PROJECT: Soroptimist Lions Manor, Vancouver**

This project was selected to provide a model for research design. It is located at 1444 East 13th Avenue, Vancouver. The project is a two-storey building with 25 units, 20 bachelor and five one-bedroom. It has a small lounge on the ground floor. There is no elevator. There is a live-in caretaker. Available records consist of financial records going back seven years to 1982, current project files, and miscellaneous records on all projects going back to 1986. (This info might be available for 1984, but Lynn Brewer who looks after this material is in hospital and won't be back at work for about two weeks.)

Pertinent information from the financial records include names of tenants, units they occupy on a per-project basis, and rents paid per unit. Also, vacancy periods show up in these files. Current project files include data on current tenants. These data are documented on tenancy agreements, tenants personal records and tenant application forms (as per data base: BCHF - see April 10 submission). Correspondence to and from tenants is also included in these files (eg. complaints from tenants, notices to vacate etc.). The miscellaneous records are loosely kept in boxes and contain the same information as the project files. However, these records are incomplete.

Review of the currrent project file for Soroptomist Manor revealed that the occupants of 10 of the 25 units had been in the project since 1982 or before. From the financial records it was possible to trace the changes in the other units by name of tenant, but not the tenant's age. This miscellaneous file filled the gap for some of the tenant ages (eight in total).

Discussions with BCHF staff raised the possibility of tracing (ages) of the remaining tenants through the caretaker or previous caretaker who is now a tenant at the facility. Some of the caretakers of the projects maintain their own tenant records which might extend back farther than the BCHF miscellaneous files.

Another source might be discussions with present long-time tenants. The local health unit might be another means of tracing some of the former tenants particularly since the names of the individuals are on record. Contracts with the Vancouver City Health Unit so far have been unsuccessful. The Health Planner who is the recommended source for assistance is out of the office til Tuesday, May 2, 1989 (Information respecting sex of previous tenant is available from the financial records). Following up with these sources will be the next step of this investigation. Prior to final commitment on the scope of field investigation a similar dry run will be done for a small New Vista project and a small BCHMC project (if at all possible). This work is targeted for completion on May 5, 1989.

**NVS PROJECT: Apartment Building, 7581 - 4th Avenue, Burnaby.**

This project was selected as a model for investigation of NVS projects similar to the investigation of Soroptimist Manor (BCHF). The project is a two-storey building with 12 units, four one-bedroom and eight bachelor. There is no elevator.

New Vista Society records go back to 1975, for all projects. Current records and file box records back to 1986 are kept in the housing management office. Pre-1986 records are kept in a storeroom in the New Vista Care Home. Current records are filed by project. Recently, data for

current residents in all of the projects have been recorded on the NVS computer system. Only project, unit, admission date, birthdate and unit type are included on computer.

Data in box files are filed alphabetically by tenant name. There are a total of 18 file boxes. In order to facilitate sampling, the files were colour-coded by the researcher by project for each tenant. The project categories used are as follows:

i) Cottages - white

ii) Apartment complex - yellow

iii) 4th Avenue Apartment - green

iv) Winch Tower - blue

v) New Vista Tower - red

This initial categorization allows data collection for the selected apartment building back to 1975. Further refinement may be necessary for the cottages and/or apartment complex. Data in the files includes tenancy agreements, tenant personal record files, application forms and correspondence, and notices to vacate.

First, box files were reviewed at the New Vista Society housing management office. Next, box files back to 1975 were reviewed at the New Vista Care Home. Following this, the box files at the NVS housing management office were colour coded (back to 1986). Next, current files were reviewed. During this time NVS entered data for current projects on computer. Printouts were obtained by the researcher for all projects. Access to files in the NVS Care Home was cut off for the week ending May 27. Colour coding will be completed by June 3.

Only one occupant of the 12 units has been in the 4th Avenue Apartment project since 1981 or before. The current median age of the tenants is 74.

Analysis of current data for change in median age is tabulated for the 4th Avenue project.

**NVS: 4th Avenue Apartment, Burnaby**

| | | Unit Number | | | | | | | | | | | | Median Age |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Year | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | Age |
| First | 1989 | 71:75 | 83 | 77 | 84 | 64:69 | 81 | 59 | 73 | 76 | 57 | 63 | 78 | 74 |
| File | 1988 | 70 :74 | 82 | 76 | 83 | 63:68 | 80 | 58 | 72 | 75 | 56 | | 77 | |
| Set | 1987 | 69 :73 | | | 82 | 62:67 | 79 | 57 | | 74 | 55 | | 76 | |
| | 1986 | 68 :72 | | | 81 | 61:66 | 78 | 56 | | 73 | | | 75 | |
| Second | 1985 | 67:71 | | | | 60:65 | 77 | 55 | | 72 | | | 74 | |
| File | 1984 | 66:70 | | | | | 76 | | | 71 | | | 73 | |
| Set | 1983 | 65:69 | | | | | 75 | | | | | | 72 | |
| | 1982 | 64:68 | | | | | | | | 70 | | | | |
| | 1981 | | | | | | | | | | | | 71 | |

This analysis indicates the extent of data collection required to complete age data for the project.

## D: ANNOTATED BIBLIOGRAPHY

1 Allen, N.R. The transition to institutional living: the experience of elderly people. 1985.

Examines experience of institution amongst elderly subjects. Convenience sample of five subjects admitted to ECU within previous year. Up to four interview occasions. Analysis ... using "grounded theory" Glaser & Strauss (1967). Discusses five phases of transition - 1. anticipation; 2. reaction; 3. interpretation; 4. negotiation; 5. integration. Good intentions - findings not reliable: Can't make recommendations based on them. Discusses Life Stage Theory - (Ericksen) - Accepts concept of institutionalization - has some useful literature review material on institutionalization.

2 British Columbia Housing Management Commission. A Social Housing Report for B.C. Burnaby, B.C.: The Commission, 1986, Jan. Kerr, Mary H. Chairman.

Discusses the Federal Provincial partnership concept for future social housing. Exposes the disparity between the number of those in need who are recipients of social housing and the number of non-needy currently being housing by the programme. The concept of income mixing and social integration is supported. Max. 40 unit family developments are reccommented. Co-operation with M.O.H. and H.R. is established for projects catering to physically and mentally disabled. Includes table showing percentage of households paying more than 30% of income for rent by region. (use this p14). Also includes distribution of total units allocated for province by group (p16 copy).

3 British Columbia Housing Management Commission. An Inquiry into Social Housing for British Columbia: Common Ground in Meeting Core Need. James C. Cosh. Chairman. Victoria, B.C.: Ministry of Lands, Parks and Housing, 1986, August.

A Commission of Inquiry into the effectiveness of the delivery of social housing in B.C. in serving those most in need of assistance in obtaining affordable housing. Includes 10 major recommendations. Primary recommendation is for the creation of a system for the management of the provincial social housing sector (see p 191) Calls for establishment of a social housing committee and Social As. Advis. Committee. Defines need in terms of level of income. Has useful analysis of adequacy of "Safer" benefits. (use this p100) Also has useful summary tables of Fed/Prov. Social Housing programmes.

4 British Columbia Research Council, Community based planning for seniors B.C. Hospital Employees Union. Long term care in British Columbia: the union members' perspective. Vancouver, B.C.: Hospital Employees Union, Local No. 180, May, 1981

Provides a view from a staff perspective rather than organizational perspective. Exposes a number of problems related to delivery of care to the elderly. Discusses drug abuse still a problem ... indicates the monitoring of care that can effectively take place by staff ... reporting through union protection .. (a voice) - checks and balances.... Point out that no uniform standards exist; guidelines not regulatory.

5 City of Vancouver. Who Lives in Non-Market Housing? An Evaluation of the City of Vancouver Housing Program. Planning Department of Vancouver: 1983. pp. 11-21. 22. McAfee, Ann.

Study precipitated by 1981 newspaper article showing high income households living in City assisted (through the land programme) co-op housing. Findings showed that most non-market units are occupied by modest income households. Some imaginative analysis tables included. eg. rent to income ratios.

6 Cusack, O., and Smith, E. Pets and the Elderly: The Therapeutic Bond. 1984

Key research studies concerning therapeutic benefits of pets to the elderly are discussed. Issues concerning in-house pets well addressed. Optional programmes and range of pets are included and recent housing institution policy changes provides list of organizations involved in pet therapy in USA and Canada.Good indication of the emotional support potential of pets.

7 Heumann, L. Identifying the Housing and support service needs of the semi-independent elderly, 1977.

Comprehensive study on housing support services needs for Dept. on Aging, State of Illinois. Purpose was to define elderly with functional and social problems not requiring institutionalization; to define their needs respecting housing, environmental and supportive services, and attempt to enumerate this population at the local level for planning of the necessary housing and support services programmes.

Functional disability level is the measure of "semi-independent" needs. Info at local level not available, presently crude estimates are held. Problems of lack of coordination identified. Makes important distinction between market demand and social need. Provides a needs analysis model; a subarea quality analysis model (4 factors), try to identify priority areas for programme implementation. Includes support service model (hrs/month avail/needed). Basic unit is elderly household.

Uses area agencies in aging, (AAA) to measure market areas. Problem... doesn't deal too much with psycho social. or emotional concerns. Presents 5 measures of functional disability (including social) - p54. (need to check if info is available at local level.) Also provides subscales for each measure by degree of problem. - Gives good list of support services (p99).
- Includes in Characteristics ....% of older seniors with functional disability.

8 Heumann, Leonard F. Principal Investigator. A Cost Comparison of Congregate Housing and Long-Term Care Facilities in the Midwest. Housing Research and Development Program, University of Illinois, Urbana, Illinois. September, 1985.

Study for Illinois Housing Development Authority.....
Look at whether significant cost savings in providing congregate housing vs. long term care facilities for elderly capable of assisted independent living.
Study shows that savings are possible both in terms of human cost and economic cost. In terms of quality of life ... also vast improvement.
Good detailed analysis. Provides useful definitions of terms.
Framework for facility analysis by size, year built, etc.....
Good tables for comparing care and attentive costs.
Discusses quality of life/congregate vs. long term care briefly.
Also includes conversion of seniors apartments to congregate facilities .... & CHSP program Also has an inventory of congregate facilities

9 Lawton, M.P. Windley & Byers. Aging and the Environment. 1982

A review of some prominent theories in man-environment relations. Identifies early source of essays (Preiser 1973). Discusses the problems of non-universality of theories, of particular interest is the Competence, Press discussion by Lawton and Congruence Model of P.E. interaction by Kahana. Good summaries and critiques of models presented are included by Pastalan and Archea.

10 Newcomer, R.J., Lawton, M.P., and Byerts, T.O., eds. Housing an aging society: issues, alternatives and policy. New York: Van Nostrand Reinhold, 1986

A broad look at housing the elderly. Discusses housing needs and influences including policy, demography, common characteristics, location. Also covers alternatives and opportunities, references and choices; retirement communities (including continuing care); supportive living and neighbourhoods. Of particular importance are chapters on housing for frail and marginal elderly. Also discusses the housing continuum
- good table on chronic illness
- good chart on growth of the older elderly
- includes cohort-based housing consumption - projections
- good chart on housing programs and who delivers
- good chart on owners-renters receiving assistance
Residential supportive aspect of attaining personal-environ. congruence
Important discussion on moves and model
- definitions of board and care
Doesn't address age difference among elderly as problem of data analysis and findings

11 Newton, E. This Bed my Centre. Virago, 1979

A diary account of one well-educated elderly woman's experiences in institutions. Gives poignant sense of the psychological effects of institutionalization and the despair, loss of independence, control, disruption, drug abuse, etc. Also points out that being physically impaired doesn't mean mental impairment and documents how she finally managed to get back into the community on her own.

12 Phillips, J.M. Examination of optimal sizing of geriatric facilities, with a view of consideration of building smaller units and decentralizing to neighbourhoods in urban and suburban area. M.A. Thesis, Public Administration, University of Victoria, 1977

Thesis ... argues for small decentralized care facilities as viable options to large facilties converted to hospitals. Lists rationale for small facilities including less costs and social consequences. Considers that administration can oversee a number of small facilities to realize operational "economies of scale". Gives three scenarios using James Bay as a test cast. Useful model for neighbourhood planning. (Considers 75 bed max. as small facility - little justification for this number.)

13 Prior, J. Mapping census tract data: the case of the aged population in the Vancouver, British Columbia census metropolitan area. In: N.M. Waters(Ed), Current Issues in Canadian Human Geography - The Lethbridge Papers, 1982. Vancouver, B.C.: Tantalus Research Ltd., 1983

Provides four distinct measures of mapping census tract data. Data emphasizes the aged population. Uses 75 percentile age as the single measure to represent the older segment of the population by census tract for mapping purposes. This is an imp. measure if a more refined measure of the aged population is needed. The three census tracts with 75th percentile eg... 70+ are in Arbutus, Strathcona and Essondale areas of the Vancouver CMA. Could use this tool for Neighbourhood Planning for Seniors.

14 Tobin, S.S. and Lieberman, M.A. Last home for the aged: critical implications of institutionalisation, San Francisco, CA.: Jossey-Bass, 1976.

Discusses the effects of institutions on the old, (including preconceptions) adjustments to institutionalization.
Studies good quality institutions, care homes.
Also considers good innovative institutions
(Attacks institutional model for long term care - calls for comprehensive community care..) Has press/competence model and ecological change model (Lawton) in it.
Has useful tables in income/income sources. Also interesting article on "competent older woman" indictment of "double standard of aging". Argues for advantaged women in coping "successful aging".
Article on life satisfaction research in Aging .. good references.
(Age segregating-integrating argument non-conclusive) constraining vs. non-constraining environment..... higher level of satisfaction.
"Transitions of Aging"

15 Watt, J. & Calder. Taking Care: A Self-help Guide for Coping with an Elderly, Chronically Ill or Disabled Relative.

Practical guide to day-to-day caregiving for (informal support)
Useful discussion on attitudes and feelings and practical ways of responding.
Has useful hist. of Canadian and USA societies, organizations and associations.