THE PROBLEMS OF OUTDOOR SPACES FOR THE ELDERLY

VERTECHS DESIGN INC.
1983

"This project was carried out with the assistance of a grant from Canada Mortgage and Housing Corporation under the terms of the External Research Program. The views expressed are those of the author and do not represent official views of the Corporation."

RESEARCH TEAM

Mary Jane Lovering

Inese Bite

Dr. Linda Fischer

TABLE OF CONTENTS

CHARTS

TABLES

THE PROBLEMS OF OUTDOOR SPACES FOR THE ELDERLY

Final Report

INTRODUCTION

Elderly people in long-term care facilities have just as much need and desire for fresh air and sunshine as anyone else. The fact that they do not use the outdoor spaces provided as much as expected has led administrators of these homes to ask for reasons.[1] This suggests that there are some problems with motivation to go outdoors or with the outside spaces themselves which need to be addressed. This study is a systematic attempt to ascertain which of various potential factors are the most important in facilitating or discouraging the use of exterior space and to prioritize these factors. Interviews with and observations of residents and staff were used to accomplish this.

Little systematic thought has been given to the design of outdoor spaces of long-term care facilities for the elderly.

> "The outdoor spaces of many housing environments frequently seem so bad as to defy any probability of their having simply occurred by chance. There is a universal insensitivity to the use of outdoor areas which automatically makes difficult or impossible the physical exercise component of good health."[2]

In fact, there is not a definitive publication which demonstrates the proper planning of exterior spaces for the elderly based on objective research.

The purpose of this study is to do the basic research which is a pre-requisite for establishing design principles.

A three step process was used in this study to determine the most important factors. The steps were:

- listing the physical, sociological and psychological factors which could affect residents' use of outdoor spaces adjacent to long-term care facilities for the elderly (see Chart 1);
- studying three sites (Case Study Phase) which have been planned and where the designs were deliberate. These three sites are used to various degrees. The purpose was to refine the list of factors identified in the first step; and
- studying in ten other sites which had been randomly selected from a specified geographical region with a homogenous climate. The purpose was to start with the list of factors generated from the case study approach described above and hone it down until a manageable set of factors had been specified and prioritized.

For both the case study sites and the random sample of ten sites, the investigation had three parts:

1. interviews with administrators and staff;
2. interviews with residents; and
3. observation of the use of outdoor spaces.

The research took place in Southern Ontario in a stratified random sample of nursing homes for the elderly, and homes for the aged (both municipal and charitable).

All homes eligible for the sample had outdoor spaces, but no other restrictions were placed on the sample.

SCOPE AND OBJECTIVES OF THE PROPOSED RESEARCH

The primary aim of this research is to determine the most important motivations, facilitators, and barriers to use of outdoor spaces of long-term care facilities for the elderly (Nursing Homes and Homes for the Aged, referred to in the following text as "Homes") by elderly mobile residents (including the wheelchair bound), in a climate similar to that of Southern Ontario in summer.

REVIEW OF THE LITERATURE

There are numerous publications which deal with architectural considerations in housing for the elderly. These provide information and detailed specifications for design and planning of the buildings.[3]

The major focus of these publications is on the building and interior environments of these facilities. Despite the generally accepted principle that the exterior environment is of equal importance to the health and well being of residents, limited information is available.

Exterior spaces are dealt with in a very general manner. The emphasis is on the creation of a pleasant and accessible site with suggested activities and furnishings for the outdoors.

There is little information available as to which areas, special features, or site elements contribute to the use or non-use of outdoor space. There is also a lack of knowledge as to the motivating factors behind use. No post occupancy evaluation has been reported.

Lawton[4] and Hiatt[5] do address the importance of outdoor spaces in some detail. The former stresses the importance of the social and personal needs of the consumer versus the current literature emphasis on physical issues such as landscape design, maintenance and administrators' needs. Hiatt provides examples of common problems associated with the use of outdoor space as a direct result of the aging process, such as the tendency of some residents to wander and the inability of some to deal with glare from the sun. Both are working from their impressions and non-systematic observations. They are not incorrect, but they are quite incomplete.

Rapelje, Papp and Crawford[6] have reached similar conclusions to those of Lawton and Hiatt. They have implemented some of these ideas in the form

of therapeutic park for the mentally-frail elderly in Welland, Ontario. This environment was completed with successful results in terms of staff response and positive improvements within the user group. Rapelje has stated in an interview that objective observations and interviews are now needed to determine how, why, and to what extent the environment is successful.

There is no definitive publication which demonstrates the proper planning of exterior spaces based on objective research.

Cluff[7] stresses that physical conditions do influence the resulting behaviours and should be fully understood so that future designs will be appropriate for the intended users. We need to understand the relationship between the users' needs and influencing factors of their physical surroundings.

The development of outdoor spaces for therapeutic and recreational processes requires more astute specifications of predicted elderly behaviour, objective observation, recording of use and a greater emphasis on the accurate analysis of activity.

RESEARCHERS' EXPECTATIONS

While this research has been designed as exploratory research, the researchers have had expectations of the findings that might bear on the results.

In general, we expected that the principal motivations for using outdoor spaces would be getting fresh air and exercise. For the agile, we expected that gardening would be a strong motivation.

In terms of facilitating variables, we expected that easy access to the outdoors, organized activities and comfortable furniture would be most important. Barriers that would inhibit the elderly from going outdoors were expected to be the negative attitude of staff, the lack of staff or volunteers to help dependent people outside, heavy doors, uneven footpaths, uncomfortable chairs, and surfaces that exaggerated glare.

As will be seen, some of these expectations were found to be supported by the research, but some of them were not and some new factors emerged as most important.

As this is the first research project in this field, there are many factors which had to be considered as relevant to the use of outdoor spaces by elderly residents of Homes. These factors are listed below.

- Type of population of the Home
- Physical limitations of residents
- Attitudes of residents
- Availability of staff
- Attitudes of staff, administrators and owners
- Characteristics of the furniture of the outdoor space
- Characteristics of the construction of the access paths to and through the space and of patio areas
- Characteristics of other accessibility features in the outdoor space, e.g., heavy doors
- Microclimate, e.g., noise level, glare, wind, shade
- Type of activities possible and experienced in the outdoor space.

Each of the above factors can be divided into several variables, each of which could be investigated separately. Hence, the research plan was to start from

a comprehensive list of factors and variables and produce a manageable set of high priority variables. See Chart 1 for all of the variables which were considered as part of each of the factors. They are not in any particular order.

CHART 1

COMPREHENSIVE LIST OF FACTORS AND VARIABLES

- TYPE OF POPULATION OF HOME
    - cultural background
    - socio-economic background
    - previous lifestyle
    - age
    - health status
- PHYSICAL LIMITATIONS OF RESIDENTS
    - independent
    - dependent on assistance of attendant for mobility
    - dependent on walking aids
    - wheelchair-bound
    - limited strength and endurance
- ATTITUDES OF RESIDENTS
    - concern for personal safety
    - fear, e.g., of falling, getting lost
    - design for privacy or socialization
    - territoriality
    - feeling of confinement or freedom
    - concern about readily available washrooms
    - perceived ability to cope with distance from interior rooms to outdoor space
    - perceived isolation or interaction with surrounding activities of Home
    - perceived choices for activity in outdoor space (passive and active)
- AVAILABILITY OF STAFF
    - to assist dependent residents
    - to integrate indoor and outdoor programming
    - to encourage outdoor use
- ATTITUDES OF STAFF
    - indifference to use of outdoor space by residents
    - convinced about the benefits of the outdoor experience
    - concern about the monitoring of residents' safety while using the outdoor space
    - overprotectiveness
    - sympathetic to the special needs of elderly residents e.g., vulnerability to glare, shelter from sun, wind
    - concern about the availability of communication link between indoors and outdoors, e.g., telephone or call system

- CHARACTERISTICS OF THE FURNITURE OF THE OUTDOOR SPACE
    - availability of seating, tables, foot stools
    - organization of seating arrangements for privacy, conversation, small groups, large groups
    - comfortable seating, e.g., back rests, arm rests, appropriate height of seat for ease of rising and lowering oneself
    - quality of construction materials, e.g., avoidance of rough materials, materials which get too hot or too cold for sitting or touching
    - avoidance of construction materials that produce glare, e.g., shiny metal furnishings, bright white
    - use of colour contrasts between ground and furniture

- CHARACTERISTICS OF ACCESS PATHS TO AND THROUGH THE SPACE
    - type of surface, e.g., rough, uneven, firm, smooth
    - condition of surface when wet, e.g., non-slip
    - width of joints (to avoid catching cane tips)
    - shiny pavements (glare-producing)
    - width of path, e.g., 1-way or 2-way to accommodate wheelchairs
    - length of route
    - choice of routes and destination points
    - resting stops along the path

- CHARACTERISTICS OF OTHER ACCESSIBILITY FEATURES
    - orientation to outdoor space, e.g., cues, signage
    - accessibility of outdoor space from building, e.g., doors, steps, ramps, handrails
    - elevation changes, e.g., availability of handrails, ramps, steps
    - access to drinking water and washrooms
    - colour contrasts to differentiate focal points, edges of walkways, plantings, top of stairway
    - accessible site features and furnishings
    - night lighting

- ENVIRONMENTAL FACTORS
    - protection from winds, strong breezes
    - availability of shade
    - protection from glare
    - protection from extremes of temperature
    - adequate lighting
    - noise level
    - proximity to vehicular traffic and exhaust fumes
    - views

- TYPES OF ACTIVITIES POSSIBLE AND EXPERIENCE IN THE OUTDOOR SPACE
    - physical exercise
    - walking
    - sitting, e.g., alone, in small groups or large groups
    - entertaining visitors
    - nature appreciation

- feeding birds and wildlife
- gardening
- partipating in organized activities of Home, e.g., barbeques
- picnics, parties
- games
- entertainment
- community gatherings
- contemplation

RESEARCH PLAN AND METHODS

The research team was advised that the Selection Committee for the External Research Program had reviewed and approved the research application by letter on May 5, 1983.

In the Application of Research Grant, Schedule of Work (page 7B) we assumed the starting date of the project would be April 15, 1983. The applicant was informed that the starting date for the study would be June 1, 1983.

The short season necessitated beginning administrative work immediately. The panel of experts, references, case study homes and random sample of homes were notified of the research study acceptance.

Of the three homes selected for case study, one refused. Based on a preliminary list of case study possibilities, an alternative site was chosen.

The first case study site work started on June 1, 1983.

(a) Two Stages of Research, Phase One and Phase Two

Phase One - a case study of three homes using an unstructured interview and observation approach.

The purpose was to take the comprehensive list of factors and variables which were generated by designers, researchers and some administrators and filter it through the points of view of staff and residents. The researchers were to do observations of the use of exterior space.

The sites selected included Nursing Homes and Homes for the Aged where planning and design were deliberate, but where no formal evaluation had been carried out.

The methods were a combination of structured and unstructured interviews with staff and residents. Unstructured observation was also conducted in order to determine the measurements desired and feasible in the structured observations of the random sample.

Phase Two - one or two days of observation of a stratified random sample of ten Homes within a 129 km radius of Toronto (for reasons of economy of research costs).

Tentative commitments were obtained from 12 Homes - 6 Nursing Homes and 6 Homes for the Aged. Observation was to take place in June, July, and August, according to the proposed schedule, but as the official starting date was one month later than originally expected, the visits to the sites went on into September.

Some of the original Homes would not give formal permission and substitutes were found. Time was lost, however, in this replacement process. Because the outdoor season was drawing to a close and Nursing Homes were much more reluctant to grant study permission, the decision was made to have an uneven split. Seven Homes for the Aged (4 municipal and 3 charitable) and three Nursing Homes gave permission.

This division is reflected in the findings because the level of functioning of the residents and/or the facilities precluded much outdoor activity at the three Nursing Homes.

Starting with a set of variables identified as important during the case study phase (see Chart 2), the interviews and observations in this phase were more structured and systematic. See Appendix I for the interview questions and the observation guides.

CHART 2

FIRST REVISED LIST OF FACTORS AND VARIABLES

AT BEGINNING OF PHASE TWO

- PHYSICAL LIMITATIONS OF RESIDENTS
    - physically independent residents
    - good health other than physical independence
- ATTITUDES OF RESIDENTS
    - concern about traffic
    - fear of falling
    - fear of getting lost
- AVAILABILITY OF STAFF
    - staff encouragement
    - availability of staff, volunteers or family for physically dependent residents
- ATTITUDES OF STAFF TOWARDS USE OF OUTDOOR AREAS
- CHARACTERISTICS OF THE FURNITURE OF THE OUTDOOR SPACE
    - overly bright, glare producing furniture
    - lack of benches and/or chairs
    - uncomfortable furniture
    - availability of moveable furniture
- CHARACTERISTICS OF ACCESS PATHS TO AND THROUGH THE SPACE
    - absence of walkways
    - rough uneven walkway surfaces
    - overbright, glare-producing paving surfaces
    - narrow walkways, suitable for one-way traffic only
    - slopes
    - ramps
- CHARACTERISTICS OF OTHER ACCESSIBILITY FEATURES
    - lack of signage
    - lack of flat areas for wheelchairs
    - stairs
    - absence of night lighting
    - heavy doors
    - absence of handrails
    - distance from room
    - absence of washrooms nearby

- ENVIRONMENTAL AND MICRO-CLIMATE FACTORS
    - views
    - lack of shade
    - heat trapped areas
    - insects
    - closeness to parking lot
    - well maintained grounds
    - good weather
- MOTIVATIONS
    - visiting with other residents
    - visiting with relatives and friends
    - being alone
    - getting away from the Home
    - watching people
    - seeing something new and different
    - watching seasonal changes
    - some place to go
    - looking at flowers
    - looking at shrubs
    - looking at grass
    - looking at trees
    - feeding birds and squirrels
    - gardening
    - games
    - organized activities
    - programmed activity elsewhere
    - exercise
    - getting away from the heat indoors
    - fresh air

In addition to open ended questions, staff were asked to rate the set of variables in order of importance on a scale of one to five.

Interviews were conducted with individuals chosen randomly from a list of residents, or selected by the interviewer as the residents went about their daily activities in the Home. In two Homes, staff had selected residents for interviews and arranged interview times. Although these residents were chosen in a non-random manner, their answers did not differ from randomly selected residents. Those residents who were too confused to answer questions meaningfully were not included.

Staff were chosen in a non-random manner. The purpose was to interview staff who work closely with residents. As it turned out, the staff were often able to give much more detailed information than the administrator and did not always agree with the administrator's generalizations. We concluded, therefore, that there was no bias in the selection of these key informants. Some maintenance people were included in the sample and they proved to be valuable informants.

Observation of each Home in Phase Two included:

1. a site evaluation of accessibility features, e.g., site furniture, paving surfaces (an adaptation of an accessibility survey developed for and used with permission of Parks Canada was used);
2. manner of using site by residents and staff, e.g., types of activities, time of day, type of weather; and
3. site location, e.g., orientation to sun and wind (micro-climate), visibility to and from indoors and distance from an entrance.

(b) Sample Design and Size

The sample of Home residents was a two-stage, stratified, cluster random sample.

Strata:	(1) Nursing Homes (2) Homes for the Aged
Clusters:	Homes from each strata
Residents:	Simple random sample of 4 to 6 residents from each Home.

The size of the sample was determined by cost and time limitations rather than mathematical considerations. Because this affects the interpretation of the findings, the analysis has been designed to take sample size into account.

(c) Data Analysis Approach

Findings include a decision-making model with variables which affect the individual resident's decision to go outside put in approximate decision-making sequence. At each stage of the decision making process, the variables are expected to affect the direction of the decisions of some residents. Some variables are quite powerful, i.e., if the situation is negative, almost no one goes out or uses a particular area.

(d) Sample Description

The random sampled Homes studied consisted of ten Homes: three Nursing Homes and seven Homes for the Aged. Of these, two were on the outskirts of town and eight in the town.

Three Homes had a one storey building, four Homes had a two storey building, and three Homes had a three storey building.

The resident population or bed capacity in these Homes ranged from sixty (60) to four hundred and forty six (446). The total resident population of the seven Homes was 2,117.

The principal researcher interviewed fifty-two (52) residents; of these, nineteen (19) were independent, thirteen (13) were in wheelchairs, nine (9) used canes, seven (7) used walkers, and four (4) required assistance for any mobility. The average age of residents in the 10 Homes was 83.

Forty-nine (49) staff were interviewed by the principal researcher; these included the administrator, director of nursing, activities director and staff, and head of maintenance.

The assistant researcher observed three hundred and seventy-five (375) residents using the outdoor space during July, August, and September, 1983.

The original intent was to observe the use of the outdoor space in good weather. Fortunately, the observations took place over a very consistent weather pattern period. The temperature averaged around 28°C with clear, sunny skies.

F I N D I N G S

OVERVIEW OF FINDINGS

Using data gathered from residents and staff, and by observation, it was evident that the primary determinant to use of outdoor spaces by residents was the degree and type of motivation. If motivation is not present, as it is not for most residents, then residents do not use outdoor spaces. In 19 days of observation (in ten Homes), eighteen percent (18%) of the residents were seen outdoors.

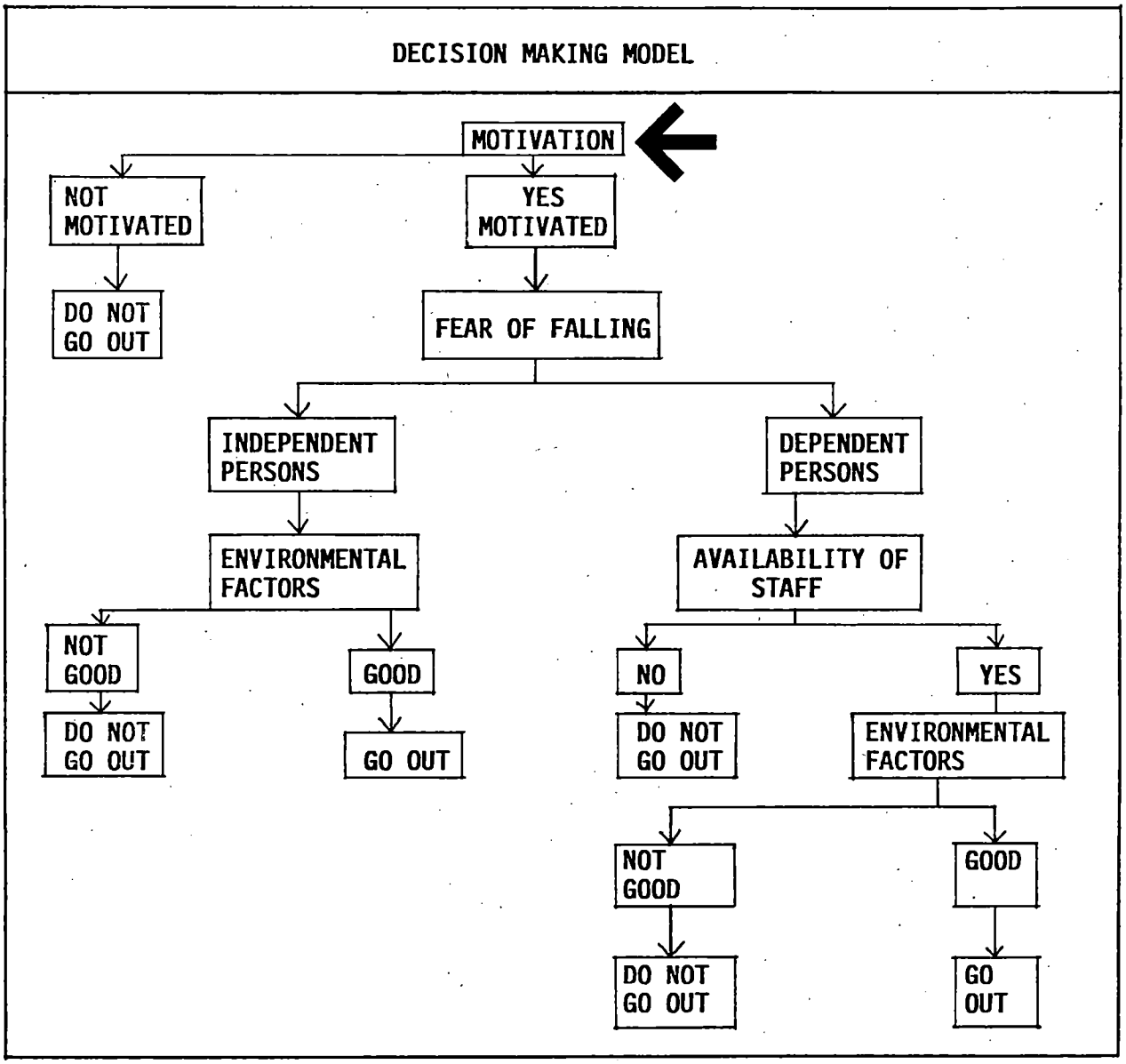
Even if motivation is present, there can be strong deterrents. The strongest is fear of falling. This is true for people of various degrees of physical independence.

For those who are physically independent, environmental factors such as weather, degree of adequacy of walkways, degree of adequacy of benches and chairs, and availability of shade are facilitators or deterrents to using outdoor spaces.

For those who are not physically independent, availability of staff, volunteers, friends or relatives is the most important determinant. If someone is available to take a physically dependent resident out, then environmental factors similar to those mentioned above apply.

Table A summarizes the decision making model. The details and the sources of the findings (e.g., staff rankings, interviews or observations) are discussed.

TABLE A


DECISION MAKING MODEL
MOTIVATION
NOT MOTIVATED
YES MOTIVATED
DO NOT GO OUT
FEAR OF FALLING
INDEPENDENT PERSONS
DEPENDENT PERSONS
ENVIRONMENTAL FACTORS
AVAILABILITY OF STAFF
NOT GOOD
GOOD
NO
YES
DO NOT GO OUT
GO OUT
DO NOT GO OUT
ENVIRONMENTAL FACTORS
NOT GOOD
GOOD
DO NOT GO OUT
GO OUT

Motivations

Most of the motives for using outdoor spaces involved watching people in activities (e.g., coming and going), observing environmental changes (e.g., flowers growing) or use as an activity site (e.g., visiting with relatives). Exercise for its own sake was not a strong motivation.

From staff ratings, getting out in the fresh air was a top rated motivation followed by watching people, visiting with relatives and friends, seeing something new and different, visiting with other residents, and getting away from the heat indoors. Interviews with staff and residents indicated that another strong motivation was appreciating the flowers (25 of 49 staff, 34 of 52 residents).

Observations showed that residents clustered (sitting or sitting and talking) around areas with a clear view of arrivals and departures. Most of the time this was in the front of the Home.

TABLE B

LOCATION OF FAVOURITE SITTING AREAS

L O C A T I O N	NUMBER OF HOMES
Main entrance patio	7
Side entrance patio	2
Back entrance patio	0
Other	1

In two Homes, the side entrance was the favoured sitting area. In one Home, staff, visitors, and residents parked their cars at the side; consequently, they used the side entrance for building access. This is where the residents sat. In the second Home, the main entrance patio could only accommodate three

persons sitting. The side patio had room for more than fifty persons with a clear view of driveway arrivals and departures.

Many areas that appeared as inviting and comfortable as the front entrances were not used much, if at all. It appeared from observations that this was because so little was going on that was of interest. This observation was corroborated by the residents who agreed that some areas were attractive but they didn't use them. They responded, "What's the point? There is nothing to do." Since observations showed that what they did most was watch the comings and goings of people, "nothing to do" can be translated as "no one to watch".

Overheard conversations were consistent with the theory that the residents are most interested in a view of "people" activity. Clothing, type of car, visitors, were the main topics of discussion.

The researchers noted a variety of alternative seating areas away from the buildings. These were never or rarely used. An example was a large, comfortable, accessible gazebo less than 18 metres from a major entrance. This was too far for the residents.

There were two exceptions where a back entrance patio was used almost as much as the main entrance patio. In one Home, the back view was of a large fountain, a well-maintained extensive rose garden with landscaped grounds in the foreground. A number of paved pathways through this area were used by walkers, visitors and staff, resulting in more people activity.

In one Home, elaborate landscape features were being built to create a small park at the back of the building. During the construction phase, many residents sat and watched. The staff and administration felt assured that this was a good sign of future use of the new park. However, once construction was

completed, few residents used the area, despite strong staff encouragement. Residents responded, "There is nothing to do out there", or no activity to watch. It should be stressed that all of the favourite sitting areas were patios directly adjacent to a main building entrance.

It was difficult for the observer to differentiate between two residents talking together or a resident and visitor in many cases. For the purposes of this study, the activity was listed as sitting and talking versus talking and/or visiting.

The total number of residents observed outdoors was 375. The most favoured activity observed was sitting. Seventy-three percent (73%) of the activity outdoors was "sitting".

Walking was the second most favoured use of the outdoor space. Twenty-six percent (26%) of the residents who were outdoors were observed going for walks (including people in wheelchairs).

The researchers' expectation that exercise was a motivation for going outdoors was supported. However, only a small proportion of residents who went outdoors did anything except sit or sit and talk. Walking and gardening were the only activities which involved exercise and many people did not go out because it was all they could manage to walk from their rooms to the dining room. Outside was too far.

In one Home, residents walked across the entrance patio from the main door to a secondary front entrance door. The researchers had noted an extremely narrow main corridor inside. The residents probably walked outside to avoid the cramped circulation route indoors. Also, one Home had a courtyard with traffic patterns that resulted from a diagonal shortcut through the outdoor space to interior destinations.

TABLE C

TYPES OF NON-PROGRAMMED ACTIVITIES POSSIBLE OUTDOORS

Availability of:	Number of Homes	
	Yes	No
Walking	10	0
Sitting	10	0
Eating	3	7
Feeding Birds or Wildlife	9	1
Gardening	7	3
Games	3	7

TABLE D

NON-PROGRAMMED ACTIVITIES OBSERVED

Activity	Residents Observed	
	No.	%
Sitting and talking with one or more residents	113	30
Sitting alone	125	33
Sitting alone and smoking	4	1
Sitting alone and sunning	3	0.8
Sitting alone and sleeping	3	0.8
Sitting along and reading	12	3.2
Sitting alone and knitting	8	2
Sitting along and feeding birds	1	0.2
Sitting alone and writing letters	1	0.2
Sitting alone and swinging	1	0.2
Sitting and playing board game with visitors	1	0.2
	272	73%
Walking	96	26
Lying in bed outside	1	0.2
Gardening	6	2
TOTAL:	375	100%

A few Homes had mailboxes placed at the end of their driveways. If this was the case, this became a destination to walk to.

Staff said walkers favoured staying on site close to staff assistance. The same was true of sitting by doors. Here, the resident could be away from the Home, but still view or hear what was going on inside. It is important to the residents to be where they can see staff.

While some residents were self-motivated, others needed encouragement from the staff. Interviews with the staff indicated that they placed a high value on the use of the outdoor spaces by residents. This was the opposite of the researchers' expectations based on previous experience in Homes. On the other hand, staff reported that they had little time available to take residents outdoors. The usual time for concentrated effort was when organized activities were scheduled for an outdoor space. For physically dependent residents, this could be as few as one or two times a year.

Outdoor games were available at three Homes: shuffleboard and/or a horseshoe pitch. The shuffleboard court at all of the Homes was located in full sun, which probably acted as a deterrent to use. The horseshoe pitches in two Homes (though located in a shaded area) were not seen in use. Staff interviews disclosed that the weight of the standard horseshoe was too heavy for residents to lift and residents were reluctant to ask the staff for equipment. Staff indicated that there appears to be cyclical interest in games. One resident may be particularly enthusiastic one year and establish a group of players. The next year, this resident may have lost enthusiasm or died, and no games are played. Feeding birds was observed in one Home only. Most of the staff discourage feeding of birds as they defecate on site furniture causing many residents to be upset, though all agreed that the residents loved watching and feeding the birds. Many of the residents interviewed commented on the

enjoyment they derived from watching the birds feeding and bathing.

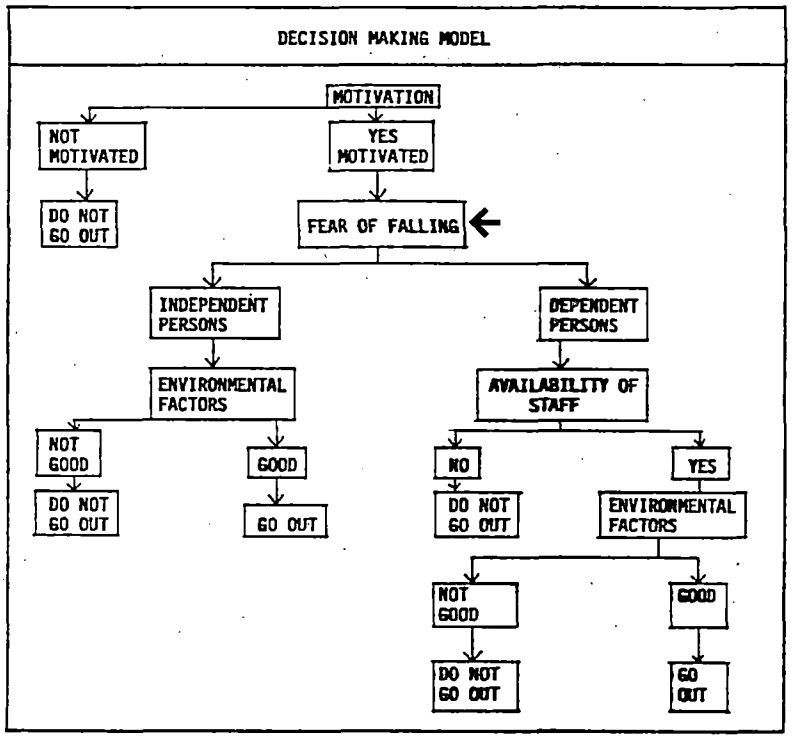
The opportunity to garden was available in most Homes. In one Home, a raised garden planter was provided. This was not used at all, probably because it was in full sun and wind, and residents had to walk across uneven grass to reach the planter. Similarly, a vegetable plot was difficult to access and had no provision for water nearby. The plants died with no further attempts made by residents to continue to garden. Only 6 residents were observed gardening in 19 days of observation. The gardening that was observed included tilling shrub beds, sweeping, growing vegetables, picking up litter and watering annuals.

The researchers recorded unstructured use of the outdoor spaces only. All Homes had at least one person on staff responsible for activity and recreation for the residents. Outdoor programmes were scheduled during the summer months, weather permitting. These programmes included outdoor exercise, gardening, barbeques and social gatherings.

Eating outdoors is an activity made possible through programmed activity. The program is designed to get large numbers of residents outdoors who normally do not go out or need assistance to get out. This is usually in the form of a barbeque for a portion of the population of the Home. No Home had a large enough area with a hard surface and shade to accommodate the large groups and some people were reported to be uncomfortable.

During the observation period, only one programmed barbeque took place. It was fairly evident that large groups of staff were required to mobilize and assist the approximately forty residents outdoors. For most of the Homes, this was a regular summer "good weather" programmed activity. On two other occasions, staff were observed assisting residents in the outdoor space.

TABLE A



Fear of Falling

When the staff was asked to rate variables that affected outside use, fear of falling was given the highest rating. Interviews with residents strongly corroborated this finding. Observation of outside activities showed that most residents avoided uneven surfaces such as grass or gravel. Hence, this factor is given a high placement on the decision making chart.

Independence/Dependence

While this variable is a continuum, it is practical to treat it as a dichotomy of independent residents and dependent residents. Independent people are capable of reaching the outdoors by themselves and functioning without supervision or assistance. They may be ambulatory with or without walking aids or in a wheelchair that they can manage themselves.

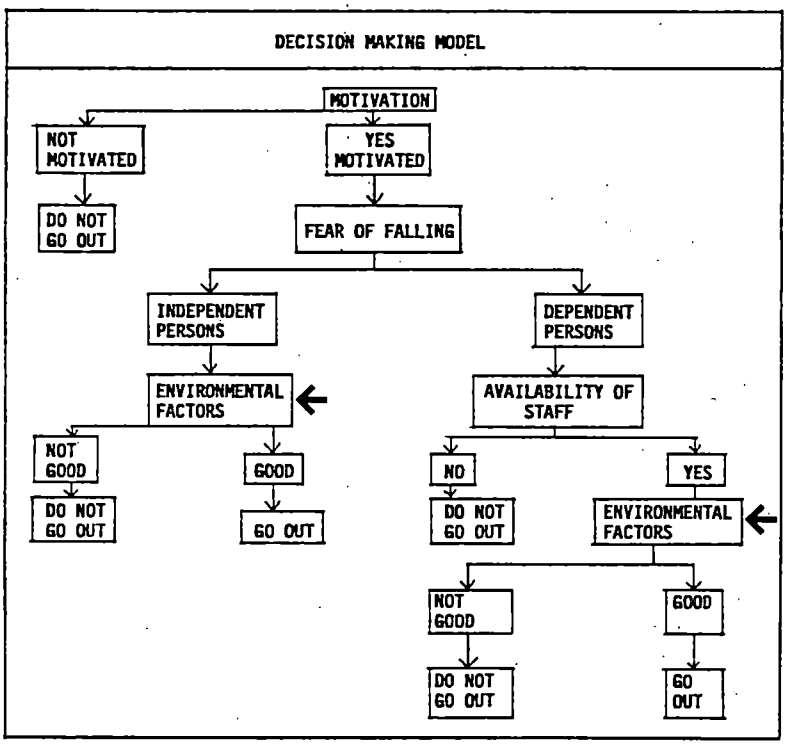
Dependence comes from lack of mobility, mental confusion or partial mobility combined with architectural barriers (e.g., heavy doors, uneven ground, lack of available washrooms). Dependence can range from simply needing a door opened to constant supervision.

For purposes of the discussion, we will classify and discuss independent residents separately from dependent ones.

Independent Residents

ENVIRONMENTAL FACTORS

TABLE A



Micro-climate

"Good weather" is necessary before any residents use outdoor spaces. There seems to be a very fine line between what residents consider "good weather" and what is too hot or too cold. This variable is considered in the micro-climate because, what is "good weather" to most people is not acceptable to residents of Homes because a particular space is not perfect. The favourite reasons for not going outside are "too hot", "too cold", "drafts", or "no breeze". There is a fear of catching cold and most residents dress warmly even on hot days.

Staff ranked "good weather" as the third most important variable. Interviews with staff and residents confirmed the importance of this variable. All of the observations took place during good weather, but micro-climates of areas varied. Those areas without a combination of the following characteristics are not used even when weather is generally good:

- shelter from wind
- shade
- not subject to temperature extremes (e.g., a heat trapped area, which occurs if there is no air movement)
- sun glare protection

Staff ranked "shade" as tenth in order of importance as reason for going out or not going out. In interviews, 31 of 49 staff discussed the necessity for shade if residents were going to use an outside space at all. Thirty of 52 residents stated that the only place they would sit outside would be in the shade.

CHART E

MICRO-CLIMATIC CONDITIONS

MAIN ENTRANCE PATIO

	HOME 1		HOME 2		HOME 3		HOME 4		HOME 5		HOME 6		HOME 7		HOME 8		HOME 9		HOME 10		TOTAL	
	YES	NO	YES	NO	YES	NO	YES	NO	YES	NO	YES	NO	YES	NO	YES	NO	YES	NO	YES	NO	Y	N
Protected from wind	X		X		X		X			X	X		X			X		X	X		6	4
Protected from sun	X		X		X		X		X		X		X		X		X		X		9	1
Protected from temperature extremes	X		X		X		X		X		X		X		X		X		X		9	1
Protected from glare	X		X		X		X		X		X		X			X	X		X		8	2

SECONDARY PATIO (SIDE OR BACK ENTRANCE)

	HOME 1		HOME 2		HOME 3		HOME 4		HOME 5		HOME 6		HOME 7		HOME 8		HOME 9		HOME 10		TOTAL	
	YES	NO	YES	NO	YES	NO	YES	NO	YES	NO	YES	NO	YES	NO	YES	NO	YES	NO	YES	NO	Y	N
Protected from wind	X		X		X		X		X			X	X		X			X	X		8	2
Protected from sun		X	X		X		X*		X		X		X		X		X		X		9	1
Protected from temperature extremes		X	X		X		X			X	X		X		X			X	X		6	4
Protected from glare		X	X		X		X		X		X		X		X			X	X		8	2

* Shaded in afternoon only.

The majority of main entrance patios provided shade. If shade was not available, the patio was not used. In Home 4, the only means of available shade was an umbrella table. As with most of these tables, the umbrella was only open if a staff member opened it. During observation, it was not open, and the patio was not used. this main entrance patio had no micro-climatic protection. It was not used at all by residents. A side patio was not used by residents in the morning; in the afternoon and evening it was shaded and was used.

A side patio in Home 5 was a heat-trap on a hot day, but pleasant and useable on cooler days. During a cooler day of observation, it was used.

Architectural and Furniture Characteristics

Characteristics of the building, the outdoor space, and the furniture tended to discourage some residents more than others.

Patio and Walking Surfaces

The most important feature was rough, uneven walking surfaces. This includes grass, gravel, uneven paving stones, and joints that are wider than 13 mm. This variable was ranked third by the staff. Staff talked of brick paving, concrete paving with protruding expansion joints, and uneven patio stones as being dangerous for residents. Residents, especially those in wheelchairs, were concerned with joints in the paving, and grass. Those who walked mentioned grass as a hazard - - "might turn my ankle". Few people were observed moving across the grass and they were usually gardening. Gravel walkways and uneven paving stone areas were avoided if there was an alternative. At one Home that had no walkways, the residents walked only on the asphalt driveway/parking lot. At another that had very coarse gravel walkways around the building, people stayed on the hard surfaces in the front of the building. If there were acceptable hard surfaces around the buildings, the walkers did use them.

TABLE F

WALKING ROUTES	TOTAL NUMBER OF HOMES	
	YES	NO
1. Is there a walking route that is hard surfaced around the entire building or site perimeter?	2	8
2. Does the walking route involve travel along or across the driveway?	6	4
3. Does the walking route involve travel through parking lots?	4	6
4. Are pedestrian walks wide enough for two-way travel (greater than 1.2m)?	0	7
5. Are the paving joints less than 13 mm width?	6	1
6. Are the grades less than 5%?	6	1
7. Are the cross slopes less than 2%?	7	0
8. Are there colour contracts along the paving edge?	7	0
9. Is the paved walkway surface concrete?	7	0
10. Is more than 75% of the walkway in full sun?	6	1

Absence of walkways was ranked 17th in order of importance by staff as reason for not going outside. Most Homes did not have a hard surfaced walking route around the building or site perimeter. Hence, many walking routes were limited to the driveway or parking lot.

All of the hard surfaced walkways were a maximum width of 1.2 m which is not wide enough for two way travel. For residents with unsteady gait and poor vision, this meant concentrating on the path location versus viewing the surrounding scenery. Staff reported residents' discomfort with the possibility of touching or bumping into one another while passing on the walkway. This problem was heightened for those with walking aids or wheelchairs.

Most of the walkways were concrete and in full sun for over 75% of the route. This created glare problems.

Joints in the concrete surface were found to be less than 13 mm in most Homes. The problem cited by both staff and residents was protruding joints. Even a 6 mm protrusion could trip residents who shuffle. It was estimated that as many as half of the walkers were "shufflers".

Heavy Doors

Access to outside areas in most Homes was through heavy glass doors. In four cases, the major exit was through a double set of heavy doors. Only one Home was equipped with doors which open automatically as the individual approaches. The back entrance of this particular Home was also equipped with lightweight screen doors. One Home was equipped with lightweight screen doors at the ends of corridors which provided good ventilation in hot weather. These doors were locked for security. Residents did unlock the doors to go outside, but on their return, they might find that the doors were locked.

During the researchers' tour of the building, a staff member demonstrated the lightness of the door and proceeded to lock it.

Staff ranked this variable third in order of importance as reason for going or not going outdoors. In interviews, staff (24 respondents out of 49) discussed the heaviness of doors as an inconvenience for residents who were then forced to rely on staff for assistance. Residents (14 out of 52), especially those using walkers or wheelchairs (11 of 14), found the heavy doors extremely difficult and in the case of double sets of heavy doors, they found it impossible to manoeuvre them independently. Several residents mentioned that "it was fine to get the staff to let you out, but you might have to wait awhile to get back in". One wheelchair bound resident was helped outside where he was independent. He had to wait 20 minutes at the door until someone noticed him to let him in, however.

In seven Homes, the main entrance door was heavy, and six Homes had heavy secondary entrance doors.

Two Homes had alarms that were activated when the door was opened. These alarms ring continuously until a staff member is available to turn them off. This was to alert staff that a resident was leaving. They checked who was going out to avoid the problem of confused residents getting lost outside. During observation, there were two separate incidents of this with staff mobilized to search the grounds. Both staff and residents described alarms as irritating and indicated that many residents were reluctant to open the doors to go outside, thus setting off the alarms.

TABLE G

PATIO ACCESS - MAIN ENTRANCE PATIO

	TOTAL NUMBER OF HOMES	
	YES	NO
1. Is the patio poured concrete?	9	1
2. Is the surface non-slip?	10	0
3. Is the surface smooth and even?	9	1
4. Are the joints less than 13 mm wide?	9	1
5. Is the patio level (less than 3% slope)?	9	1
6. Is the patio adjacent to the main door?	9	1
7. Is there room for wheelchairs to easily manoeuvre on and around the patio?	5	5
8. Are the main entrance doors lightweight?	3	7
9. Is there an automatic alarm that is activated when the door is opened?	2	8
10. Is there a grade change at the door greater than 13 mm?	1	9
11. During the observation period, was the main door propped open?	2	8

TABLE G

PATIO ACCESS - SECONDARY PATIO

	TOTAL NUMBER OF HOMES	
	YES	NO
1. Is the patio poured concrete?	5	3
2. Is the surface non-slip?	8	0
3. Is the surface smooth and even?	6	2
4. Are the joints less than 13 mm wide?	7	1
5. Is the patio level (less than 3% slope)?	7	1
6. Is the patio adjacent to an entrance door?	8	0
7. Is there room for wheelchairs to easily manoeuvre on and around the patio?	7	1
8. Are the entrance doors lightweight?	2	6
9. Is there an automatic alarm that is activated when the door is opened?	1	7
10. Is there a grade change at the door greater than 13 mm?	0	8
11. During the observation period, was the entrance door propped open?	1	7
12. Is the entrance door locked?	3	5

Seating

Seating consisted of a variety of styles of benches (some with back and arm rests, some with backs only, and others with no arm rests or backs) and chairs (some fold-up garden chairs, some sturdy wooden chairs with cushions).

TABLE H

	TOTAL NUMBER OF HOMES	
	YES	NO
Aluminum folding chairs	10	0
Wooden chairs	8	2
Foot stools	0	10
Benches	9	1
Tables	6	4
Umbrella tables	9	1
Gazebos	4	6
Swings	4	6

TABLE J

AVAILABILITY OF COMFORTABLE SEATING

	TOTAL NUMBER OF HOMES		
	YES	NO	BOTH
Benches with armrests	7	3	0
Benches with backs	8	1	1
Appropriate seat heights	8	0	2
Stable chairs	8	1	1
Cushions for chairs	8	2	0

This variable was ranked tenth in importance by the staff. During interviews, staff talked of the dangers of unstable seating, e.g., folding garden chairs, for many residents who tend to look for a sturdy support to lower themselves into or push themselves out of the chair. Staff were also concerned about inadequate spacing of seating along walkways for those residents of limited strength and endurance. Walking would be possible for some if there were frequent rest stops. 21 of 49 staff talked about the need for more and better types of seating.

Residents were very wary of folding chairs. Most of the homes had folding chairs as the primary source of seating at the main entrance patio. Frequently, the chairs were not completely open because they were moved around. Many residents were observed in discomfort as the chair suddenly adjusted to a fully open position when they sat down. This was also true when they tried to rise and use the chairs as a means of support.

Residents were enthusiastic about the sturdy wooden chairs equipped with cushions. The majority of residents did not complain about seating but acknowledged that the benches were "a bit too hard". Cushions were "available" in most Homes. In the Homes where they were not left outside, they did not appear to be put out by staff. In Homes where cushions were not provided, residents were observed bringing out their own cushion to sit on.

Residents stated that they preferred the hard benches to low chairs. The common reason stated was "I'm afraid I won't be able to get up myself. I might have to wait for someone to come and get me out.". Residents were observed struggling with unwieldy and unsteady folding chairs, bringing cushions along to sit outside, and pulling other residents out of chairs.

38 of 52 residents criticized the seating. 27 of these residents were more specific:

- 3 complained about a lack of sturdiness
- 4 stated that the chairs were too low
- 7 thought the seating was too hard
- 13 expressed the concern that there should be more seating

From observations, benches with no back rests were never used and seating that was lower than 46 cm was not used. In one Home, a resident was observed sitting outside alone in a standard height wooden chair. He shouted, "Help me up" several times. Finally a maintenance staff member came along and lifted the resident out.

In every home, at least one resident used another chair as a foot stool if there was a surplus of chairs that were light enough to move. None of the Homes provided foot stools.

In one Home, benches with back and armrests were placed at 6m or less intervals along a walkway. Most of the residents walking to the mailbox or bus stop stopped to rest at each bench.

Umbrella Tables

All of the Homes had umbrella tables. If there was an alternative source of shaded area, umbrella tables were avoided. Bright, open sunshine had to be crossed to reach these tables and the umbrella creates limited shaded area. Staff are responsible for opening the umbrella; the majority of umbrellas were closed. Another deterrent is the lack of sufficient weight in the table base; the observer saw an umbrella come crashing down in the wind while a resident sat underneath it.

Flat Areas for Wheelchairs, Slopes, Ramps

Staff (11 of 49) talked about the importance of (1) flat areas to accommodate those in wheelchairs, and (2) slopes, and ranked these variables sixth and fifteenth in importance in affecting those residents who went in and out. Staff were particularly concerned that the space be large enough so that residents in wheelchairs could manoeuvre safely among other residents. Seven residents expressed concern about insufficient flat space.

It was also pointed out that even a slight slope could prove to be dangerous to residents with inadequate strength to control wheelchairs. In one home, a confused resident managed to wheel herself to an outdoor patio with a maximum slope of 3%. She was unable to control her wheelchair and rolled down the slope overturning the wheelchair and suffering severe injuries. Residents in wheelchairs also discussed the difficulty of riding on walkways with a cross slope which caused them to be unbalanced.

In another home, the most popular patio area is well shaded but insufficient in size to accommodate the number of residents who participate in barbeques. Two residents in wheelchairs arrived too late on one particular barbeque day to get seated on the patio and were pushed across slightly uneven grass to vacant tables. Both residents slipped out of their chairs due to the uneven terrain.

In one Home, the front entrance has inadequate sitting areas but no hard surfaced walkway to get to the sitting area. One resident in a wheelchair complained that she is forced to use an alternate exit which has been ramped. She demonstrated the dangerous speed with which she descends the slope and the difficulty with which she ascends. This ramp does not exceed 8%.

Nineteen of 49 staff expressed concern about the danger of slopes to their residents, and felt that residents in wheelchairs and slightly unsteady walkers

had great difficulty coping with slopes which are considered acceptable by building code standards.

Distance from the Room

Staff ranked this variable tenth in importance in affecting movement in and out. 23 of 49 staff members stated that some of the residents are extremely limited in endurance and it was an ordeal for them even to get to their meals. In Homes with more than one floor, staff stressed that it was more difficult for residents on upper floors to get to outside areas on the ground and if the option of a balcony existed, those residents on upper floors would choose the balcony. In addition, staff would be more inclined to take residents out on a balcony on their own floor rather than take the long trip down the hall to the elevator to the ground and then outside.

8 of 52 residents interviewed who did not go outside very often mentioned distance and amount of energy required to reach the outdoor space as sufficient deterrents.

Washroom Proximity

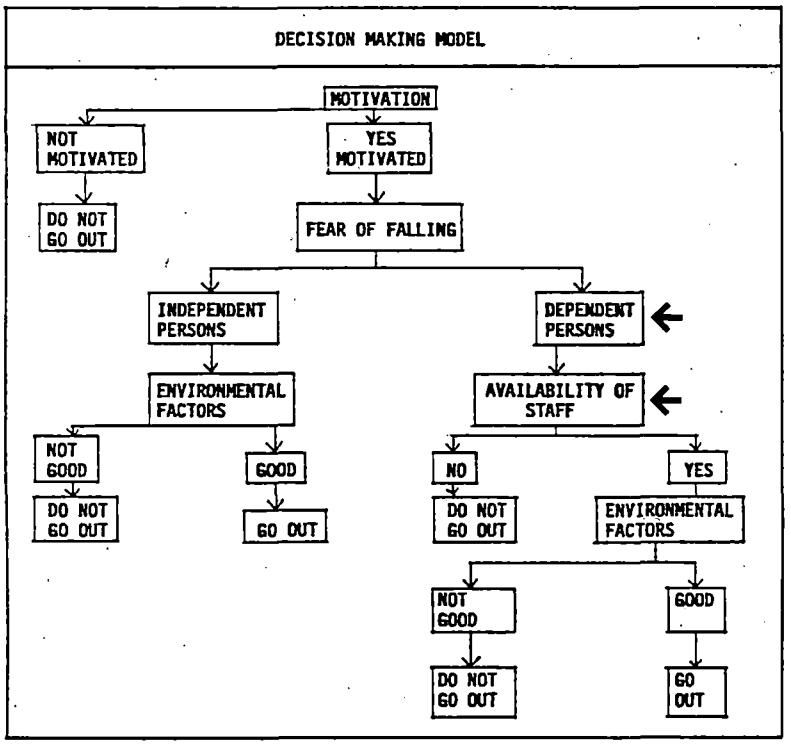
Staff ranked this variable as seventeenth in importance in affecting use of the outdoor space. 18 of 49 staff mentioned that it would give some residents more confidence if the washroom was visible from outside areas. The staff also felt the residents were more comfortable using the washrooms in or near their own rooms.

5 of 52 residents stated that their reason for not going outside was related to the absence of a washroom very close to the outdoor space.

Dependent Residents

Dependent residents are not capable of reaching the outdoors by themselves and in some cases may require supervision to spend time outside. These people rely on assistance from the staff to get outside.

TABLE A



Availability of Staff

Staff ranked this variable as sixth in importance in affecting movement of dependent residents in and out. 35 of 49 staff stated that the number of staff was insufficient to carry out duties indoors and also take residents outside. One aide stated that "if one girl leaves the floor with residents, the others (nurses or aides) get angry if she's gone too long because it leaves them with more people to look after". Furthermore, if there was time during the day, it was usually the same residents who were taken outside each day - - the ones who constantly asked for assistance. Residents who were reluctant to "bother" staff rarely got the opportunity to go outside.* When an outdoor activity, e.g., barbeque or concert, was organized, all staff made a concerted effort to get

* Three residents from the same home stated that they averaged 2 outdoor experiences this summer because there were neither staff nor relatives to take them out.

dependent residents outside to participate in the event. Staff stated that this was a major undertaking and very time consuming.

16 of 52 residents stated that they did not get outside as often as they liked because staff were not available to assist.

Observations corroborated these findings. Staff were seen assisting residents outdoors on very few occasions. One Home was having a barbeque during the researchers' visit and large numbers of dependent residents were being assisted outdoors by staff.

If someone was available to take dependent residents outside, micro-climate and architectural and furniture characteristics similar to those mentioned for independent residents applied.

INTERPRETATION OF FINDINGS

The study findings lead to preliminary recommendations for improvement in the outdoor environment surrounding Homes. If these recommendations are addressed through research established design principles, more residents could use the outdoors.

It should be noted that the research implications apply to a very specific population group. The average age of residents in the Homes studied was eighty-five (85). "In viewing the elderly, it is important that we distinguish between what has been called the 'young old' (under 75) and the 'old old' (over 75). The former have different lifestyles, life expectancies and needs than the latter and it is therefore useful to distinguish the two." Hence, research implications should not be generalized to include Senior Citizens Housing, for example.

The following is a review of the decision making model and its implications.

MOTIVATION

Residents will go outside to sit, talk, and socialize while watching the comings and goings of people to the Home. Invariably, this will mean that a patio situated adjacent to an entrance door with the most activity will be used. (For some, this will mean sitting inside a lounge area with the same views. Outdoor participation can mean just looking out a window.)

The next most important reason for going outside is walking. Residents are most comfortable walking on hard surfaced paths. They prefer continuous routes that are located within the Home grounds, e.g., around the building perimeter. Paths that are wide enough to accommodate two way traffic with frequent rest stops are ideal.

A mailbox at the end of a driveway or other incentives located at short distances from the building encourage walking outdoors. Key destination points provide residents with somewhere to go safely on site.

FEAR OF FALLING

Fear of falling is a strong deterrent for residents to not move through and around outdoor spaces.

Smooth hard surfaces for walking or sitting outdoors is therefore an important facilitator to use. Rarely will residents walk across grass. Asphalt paving joints on concrete patios, though raised only 13 mm, are hazardous for some residents.

Maximum slopes as set out in the National Building Code (1 in 12) appear to be too steep for this population group. The residents are much too frail. Options for those with limited ability to move outdoors include appropriate ramps and steps to accommodate the changes in levels.

Site furniture can also act as a deterrent to outdoor use. Most Homes provide aluminum garden folding chairs as the primary form of seating at the main entrance. Residents rely on these light weight chairs for support when sitting or rising. If not fully opened, the combined balance problem could be disastrous.

ENVIRONMENTAL FACTORS

Micro-climate can act as both a deterrent or facilitator to use. The ideal micro-climate for patio areas must include shade. This can be accomplished through the planting of shade trees, use of awnings and/or building overhangs.

Large areas should be shaded to accommodate groups of residents. Umbrella tables are not practical. They shade only a small portion of a patio area and, in some cases, necessitate travel across areas in bright light. Any site furniture that requires staff interaction is the least suitable. Staff were relied on to open umbrellas (these were rarely observed opened).

Residents do not go out on windy days; however, even on a breezy day, wind shelter is desired. Planting screens, fences, or the use of adjacent building walls create wind baffles to protect patio areas.

Sensitivity to glare is a major problem for many residents. Building, walking, and furniture surfaces that reflect rather than absorb light should be avoided. In the case of bright white concrete patios, the problem can be alleviated with good shade cover.

The final component of the micro-climate ideal is avoidance of heat trapped areas. To avoid temperature extremes, ensure adequate air circulation and availability of shade.

All of these components must be combined before residents will go outside to sit in a patio area.

ARCHITECTURAL AND SITE FURNITURE

Heavy doors are a deterrent to use for dependent residents. Automatic doors that open from both inside and outside, complete with mechanism for slower closing, or lightweight doors would be more appropriate.

Comfortable seating is an important facilitator to outdoor use. The height of the seating surface combined with armrests and backrests most suitable to this population group should be ascertained. Before any guidelines can be formulated, additional research is required.

Comfortable seating also includes cushioned surfaces or chairs that do not require cushions for comfort. When providing cushions, staff must be depended upon to put these outside.

Umbrella tables are not satisfactory site furniture. They can blow over in the wind, provide little shade, and when white tables are selected, produce glare.

Residents are more comfortable outside when they know that washroom facilities are in close proximity.

DEPENDENT RESIDENTS

The problem for most residents is insufficient staff to assist them getting outdoors. However, if some of the environmental factors were addressed, fewer residents would be staff dependent.

For dependent residents, distance from their room to an outdoor area can be a large part of the problem. Balconies or decks on second and higher building stories with the appropriate micro-climate and site furniture would greatly assist these residents in experiencing the outdoors.

SUMMARY

An extensive list of variables which were thought to affect the use of outdoor spaces by elderly residents of Nursing Homes and Homes for the Aged has been examined using different research approaches. In a three stage process, the salient variables were extracted and incorporated in a decision-making model which attempts to show the decisions that a resident makes before going outdoors on the grounds of the Home.

FOOTNOTES

1. Hiatt, Lorraine G.
Moving Outside and Making It a Meaningful Experience. Ontario Association of Homes for the Aged Quarterly, Vol. 17, No. 2, 1981. P. 13 - 17

2. McGuire, Marie, C.
Preventive Merasures to Minimize Accidents Among the Elderly. Occupational Health Nursing, October, 1970. P. 17.

3. Canada Mortgage and Housing Corporation.
Nursing Homes and Hostels with Care Facilities for the Elderly: Design Guidelines. Ottawa, 1979. P. 14 - 15, 50 - 51, 56, 63 - 65.

Central Mortgage and Housing Corporation.
Housing the Elderly. Ottawa, 1972. P. 8 - 10.

Gelwicks, Louis and Robert J. Newcomer.
Planning Housing Environments for the Elderly.
Washington, D.C., National Council on the Aging, 1974. P. 117.

4. Lawton, M. Powell.
Planning and Managing Housing for the Elderly.
New York, Wiley, 1975. P. 201 - 210.

5. Hiatt, Lorraine G.
Moving Outside and Making It a Meaningful Experience. Ontario Association of Homes for the Aged Quarterly, Vol. 17, No. 2, 1981. P. 13 - 17.

6. Rapelje, Douglas H., Papp, Peter P., Crawford, Lawrence.
A Therapeutic Park for Mentally Frail Residents of an Ontario Home for Senior Citizens.
Niagara Senior Citizens Department, Welland, 1980.

7. Cluff, Pamela, J., Campbell, William, H.
The Social Corridor, A Psycho-Sociological Analysis. Toronto, 1975.

8. Marshall, Victor
Aging in Canada - Social Perspectives. Don Mills, Fitzhenry & Whiteside, 1980. P. 27.

BIBLIOGRAPHY

Associated Senior Executives of Canada Ltd.
Building Better: A Survey of Ontario Homes for the Aged as Viewed by Residents and by an Independent Group of Senior Citizens. Toronto, 1974. P. 10-11, 52.

Canada Mortgage and Housing Corporation.
Nursing Homes and Hostels with Care Services for the Elderly: Design Guidelines.
Ottawa, 1979. P. 14-15, 50-51, 56, 63-65.

Canadian Red Cross, Linda Fisher et al.
Seniors' Services Needs Assessment. Toronto, 1982

Central Mortgage and Housing Corporation.
Housing the Handicapped. Ottawa, 1977.

Central Mortgage and Housing Corporation
Housing the Elderly. Ottawa, 1972, P. 8-10.

Centre on Environment for the Handicapped.
Gardens and Grounds for Disabled and Elderly People.
Seminar Report, CEH, London, England, 1980.

Cluff, Pamela, J. and Campbell William, H.
The Social Corridor, A Psycho-Socialogical Analysis. Toronto, 1975

Cluff, Pamela, Dobler, Angela and McCurdy, Frith.
Cross Canada Survey of Nursing Home and Hostel Facilities: Working Paper 11.
Toronto, 1977.

Gelwicks, Louis and Robert J. Newcomer.
Planning Housing Environments for the Elderly. Washington, D.C.,
National Council on the Aging, 1974. P. 117

Hiatt, Lorraine, G.
Architecture for the Aged. Inland Architect, November/December

Hiatt, Lorraine G.
Moving Outside and Making it a Meaningful Experience.
Ontario Association of Homes for the Aged Quarterly, v. 17, no. 2, 1981.

Hiatt, Lorraine, G.
Self-Administered Check-List for a Planning and Priority Setting.
Care and Design, Nursing Homes, 1981.

Koncelik, Joseph A.
Designing the Open Nursing Home.
Stroudsburg, Pennsylvania, Dowden, Nutchinson and Ross, 1976. P. 113-118.

Lawton, M. Powell.
Planning and Managing Housing for the Elderly.
New York, Wiley, 1975. P. 201-210.

Liebowitz, Bernard, Lawton, M., Powell and Walton,Arthur.
Evaluation: Designing for Confused Elderly People.
AIA Journal, V. 68, No. 2, 1979. P. 59-61.

Ministry of Culture and Recreation.
Recreation for Older Adults. Toronto

Ministry of Culture and Recreation and the Ontario Municipal Recreation Association.
Assessing Recreation Services for Older Adults in Small Communities. Toronto, 1980.

Niagara Region Homes for Senior Citizens Residents' Council.
This is My Life and This is My Home. Regional Municipality of Niagara, Welland, Ontario.
1974.

O'Morrow, Gerald, S.
Therapeutic Recreation, A Helping Profession.
Reston Publishing Company, Reston, Virginia, 1980.

Ontario Ministry of Community and Social Services, Capital and Administrative Services Branch. Planning Guidelines for Homes for the Aged and Elderly Enriched Housing.
Toronto, 1980. P. 30-31.

Pastalan, Leon A., and Carson Daniel H.
Spatial Behavior of Older People. The University of Michigan, Ann Arbor Michigan,
1970, P. 194-207.

Rapelje, Douglas H., Papp, Peter P., and Crawford Lawrence.
A Therapeutic Park for Mentally Frail Residents of an Ontario Home for Senior Citizens.
Niagara Senior Citizens Department, Welland, 1980.

Schiff, Myra. Helping Residents Find Their Way. Ontario Association of Homes for the Aged Quarterly, Vol. 18, no. 3, 1982. P. 7-8.

Schiff, Myra. Inexpensive and Effective Ways of Adapting the Environment in Homes.
Ontario Association of Homes for the Aged Quarterly, Vol. 18, no. 2, 1982. P. 6-7.

Secretariat for Social Development.
The Elderly in Ontario: An Agenda for the '80's. Toronto, 1981.

Selwyn Goldsmith. Designing for the Disabled.
RIBA Publications Ltd., London England, 1976.

Snyder, Lorraine, H. Environmental Changes for Socialization, Extended and Long Term Care Administration. Journal of Nursing Administration, Vol. 8(1), 1978

U.S. Department of Housing and Urban Development.
Housing for the Elderly and Handicapped. Washington, 1979.

APPENDIX I

STAFF QUESTIONNAIRE

NAME OF FACILITY: _____

LOCATION: _____

RECORDED BY: _____ DATE: _____

RESPONDENT: _____ PAGE 1 of 4

1.a) **Who uses the outside space?**
(independent, dependent on walking aids, dependent on assistance, confused)

1.b) **Who doesn't use the outside space?**
(confused, bedridden, lifestyle, dependent on staff and volunteers)

2. **Out of the _____ residents who live in the home, how many use the outdoor space on a regular basis?**

3. **What is the daily pattern of use?**
(a.m., afternoon, evening)

4. **How does the use vary with the season?**

5. **How does the use vary with the weather?**
(bright days, dull days, breeze, hot, rain, warm , cold)

6. **How do they use the space?**
(walk, sit, garden, nature appreciation, feeding wildlife, organized activities, eating)

7.a) **Out of all of the activities possible which are the ones that the residents participate in the most?**
(unstructured, independent, organized)

7.b) **Which are the ones that they participate in the least?**
(unstructured, organized)

8.a) **What requests do you receive from the residents about improving the outside space?**
(more site furniture, protection from sun, more or less plants, etc..)

8. **What advice would you give to a group just starting out to develop outdoor space?**

8.b) **What positive feedback do you receive from the residents about the outside space?**
(location, noise, comfort, safety, aesthetics, stimulation of senses)

9.a) **What do you think encourages the use of the outdoor space?**
(staff and volunteers, weather, destinations, focal points)

9.b) **What do you think discourages the use of the outdoor space?**
(physical problems, fears, architectural barriers)

10. **Are there enough options for the residents?**

11. **Would they do more if there were more options or facilities available?**

12. **To what extent can they change or interact with the environment?**
(move furniture, plant flowers, pick flowers, make requests for plant selection; is this on an individual basis or subject to committee decisions?)

13. If you were going to give advice to a group just starting out to develop an outdoor space, what would it be?

APPENDIX I

RESIDENT QUESTIONNAIRE - REVISION I

NAME OF FACILITY: _____

LOCATION: _____

RECORDED BY: _____ DATE: _____

RESPONDENT: _____ PAGE 1 of 3

1.a) **I would like to ask you how you feel about the outside space. Do you ever go out into it?**

1.b) **Do you go alone or do you go with someone else?**
(do you need assistance, type of disability, walking aids)

2. **When do you go outside?**
(time of day, number of times per day, number of days per week, time of year, weather type)

3. **What places do you use?**
(where do you go; what do you do?)

3.a) **What places do you not use?**

4. **How do you feel about the space?**
(too big, too small, jjust right, open, closed, good views, no views, good for exercise, fresh air)

5. **What do you think about: access to the outdoor spaces, benches, ramps, stairs, walkways, flowers, shrubs, trees, features, safety, privacy, socialization.**

6. **Is there anything that you would like to add to the outside space?**

7. **Is there anything that you would like to eliminate?**

APPENDIX 2

STAFF QUESTIONNAIRE - RATING FACTORS WHICH DISCOURAGE OR ENCOURAGE USE

I would like you to act now as an expert on the special needs of elderly persons in Homes.

(Lay out cards with one variable on each card)
Lay out a strip of paper with boxes labelled from 1 to 5)

1	2	3	4	5
least important				most important

1.a) **Will you choose from all the cards in front of you what you think is the most important factor which discourages use of the outdoor space by residents?**
Put it in box 1. You may choose more than one card.

1.b) **Will you choose from all the cards remaining what you think is the least important factor which discourages use of the outside space. Put it in box 5. You may choose more than one card.**

1.c) **Will you place the other cards in boxes in descending order of importance from 2 to 4. More than one card can go in a box.**

.closeness to parking lot
.concern about traffic
.fear of falling
.fear of getting lost
.distance from room
.absence of night lighting
.heavy doors
.programmed activity elsewhere
.absence of washrooms nearby
.unattractive views
.lack of signage

.absence of walkways
.rough, uneven walkway surfaces
.overly bright, reflective paving surfaces
.overly bright, reflective furniture
.narrow walkways suitable for 1-way traffic only
.lack of flat areas for wheelchairs
.lack of benches and/or chairs
.uncomfortable furniture
.slopes
.ramps
.stairs
.absence of handrails
.lack of shade
.heat-trapped areas
.insects

I would like you to continue to act as an expert on the special needs of elderly persons in Homes.

2.a) **Will you choose from all the cards what you think is the most important factor which encourages use of outdoor space by residents. Put it in box 1. You may choose more than one card.**

2.b) **Will you choose from the remaining cards what you think is the least important factor which encourages use of the outside space. Put it in box 5. You may choose more than one card.**

2.c) **Will you place the other cards in boxes in descending order of importance from 2 to 4. More than one card can go in a box.**

.well maintained grounds
.availability of moveable furniture
.good weather
.staff encouragement
.physically independent residents
.availability of staff, volunteers or family for physically dependent residents
.good health other than physical independence

Now I would like you to focus on the residents in this Home and what you know about them.

3.a) **Will you choose from all the cards in front of you what you think is the most important purpose for residents to go outside. Put it in box 1. You may choose more than one card.**

3.b) **Will you choose from the remaining cards what you think is the least important purpose for the residents to go outside. Put it box 5. You may choose more than 1 card.**

.visiting with other residents
.visiting with relatives and friends
.being alone
.getting away from the Home
.exercise
.fresh air
.getting away from the heat indoors

.watching people
.seeing something new and different
.watching seasonal changes
.someplace to go
.looking at flowers
.looking at shrubs
.looking at trees
.looking at grass
.feeding birds and squirrels
.gardening
.games
.organized activities

OBSERVATIONS

HOME: DATE:

f) CHARACTERISTICS OF THE OUTDOOR FURNITURE AND SPACE

Site Furniture	Yes	No	Comments
Folding Chairs	___	___	_____
Other Chairs	___	___	_____
Foot Stools	___	___	_____
Benches	___	___	_____
Tables	___	___	_____
Umbrella Tables	___	___	_____
Gazebos	___	___	_____
Swings	___	___	_____

Seating Arrangements	Yes	No	Comments
Privacy	___	___	_____
Conversation	___	___	_____
Small Groups	___	___	_____
Large Groups	___	___	_____

Comfortable Seating	Yes	No	Comments
Benches with Armrests	___	___	_____
Benches with Backs	___	___	_____
Appropriate Heights	___	___	_____
Stable Chairs	___	___	_____

Construction Quality	Yes	No	Comments
Rough Finish	___	___	_____
Transmits hot/cold	___	___	_____
Glare producing	___	___	_____
Contrasts ground furniture colour	___	___	_____

Types of Activities Possible Outdoors	Yes	No	Comments
Walking	___	___	_____
Sitting	___	___	_____
Eating	___	___	_____
Social Events	___	___	_____
Feeding Birds or Wildlife	___	___	_____
Gardening	___	___	_____
Games	___	___	_____
Flexibility of Use	___	___	_____

List Activities Observed:	Activity	Locations
1.	_____	_____
2.	_____	_____
3.	_____	_____
4.	_____	_____
5.	_____	_____

f) CHARACTERISTICS OF THE OUTDOOR FURNITURE AND SPACE, Cont'd.

Sensual	Stimulus Described:
Textures	
Taste	
Smell	
Aural	
Seasonal	

List Other Site Features and Describe:

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____

Site Context

Describe Surrounding Neighbourhood _____

Topography _____

Views at Site Perimeter _____

g) CHARACTERISTICS OF ACCESS PATHS TO AND THROUGH THE SPACE AND PATIO

	Main Entrance			Other_____			Other_____		
	Yes	No	Comments	Yes	No	Comments	Yes	No	Comments
Construction Material	___	___	_____	___	___	_____	___	___	_____
Non-Slip	___	___	_____	___	___	_____	___	___	_____
Smooth	___	___	_____	___	___	_____	___	___	_____
Firm	___	___	_____	___	___	_____	___	___	_____
Minimal Joints	___	___	_____	___	___	_____	___	___	_____
Glare Producing	___	___	_____	___	___	_____	___	___	_____
Width/Length	___	___	_____	___	___	_____	___	___	_____
Grades	___	___	_____	___	___	_____	___	___	_____
Access from Building	___	___	_____	___	___	_____	___	___	_____
Proximity to Building	___	___	_____	___	___	_____	___	___	_____

Access Paths

	Pathway 1		Pathway 2		Pathway 3	
Construction Material	_____		_____		_____	
	Yes	No	Yes	No	Yes	No
Non-Slip	___	___	___	___	___	___
Smooth	___	___	___	___	___	___
Firm	___	___	___	___	___	___
Colour contrasts walkway edge	___	___	___	___	___	___
Minimal Joints	___	___	___	___	___	___
Glare Producing	___	___	___	___	___	___
Night Lighting	___	___	___	___	___	___
Grades less than 2%	___	___	___	___	___	___
Cross Slipe less than 2%	___	___	___	___	___	___
Length	_____		_____		_____	

	Yes	No	Comments
Is there a route around the site?	___	___	_____
Does the route cross driveways?	___	___	_____
Does the route involve travel through parking lots?	___	___	_____

List destinations of route: _____

_____

h) CHARACTERISTICS OF OTHER ACCESSIBILITY FEATURES

	Doors			Grade Change			Drinking		Washrooms	
	Heavy	Light	Locked	None	Less than ½"	Greater than ½"	Yes	No	Yes	No
Access - Main Entrance	___	___	___	___	___	___	___	___	___	___
Access from _____	___	___	___	___	___	___	___	___	___	___
Access from _____	___	___	___	___	___	___	___	___	___	___
Access from _____	___	___	___	___	___	___	___	___	___	___
Access from _____	___	___	___	___	___	___	___	___	___	___
Access from _____	___	___	___	___	___	___	___	___	___	___

Outdoor Stairs	Yes	No	Comments
Colour Contrast at Edge	___	___	_____
Handrail One Side	___	___	_____
Handrail Both Sides	___	___	_____
Rise	___	___	_____
Run	___	___	_____
Comments	_____		

Ramps	Yes	No	Comments
Handrail One Side	___	___	_____
Handrail Both Sides	___	___	_____
Slope Less than 8%	___	___	_____
Sturdy	___	___	_____

	Comments
List orientation clues on site:	_____
	_____
	_____
	_____
Access to game areas	_____
Access to gardening	_____
Night lighting	_____
Accessible site features	_____

i) ENVIRONMENTAL FACTORS

	Main Entrance			Other			Other			Other		
	Yes	No	Comments	Yes	No	Comments	Yes	No	Comments	Yes	No	Comments
Protection from Wind												
Availability of Shade												
Protection from Glare												
Protection from Temp. Extremes												
Night Lighting												
Close to Vehicular Traffic												
List Views												

SUMMARY

Observation

Favoured Activity	Locations	Average Length of Stay	Average Morning Use Number of People	Average Afternoon Use Number of People	Average Evening Use Number of People
1.					
2.					
3.					
4.					
5.					