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# A Story of Innovation: The Alexian Village Health Center, Milwaukee

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**A STORY OF INNOVATION:  
THE ALEXIAN VILLAGE HEALTH CENTER,  
MILWAUKEE**

**Mark A. Proffitt  
and  
Chen-Jui Yang**

*This monograph was developed with funding from the Helen Bader Charitable trusts, and the Institute on Aging & Environment.*

**Institute on Aging and Environment  
Center for Architecture and Urban Planning Research  
University of Wisconsin-Milwaukee**

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**A STORY OF INNOVATION:  
THE ALEXIAN VILLAGE HEALTH CENTER, MILWAUKEE.**

Mark A. Proffitt and Chen-Jui Yang

**Abstract**

This monograph is the result of a study at the Alexian Village of Milwaukee, Wisconsin, a Continuing Care Retirement Community, which shows how the quality of its Health Center residents life was improved through manipulation of the physical environment. This monograph set out to achieve four major goals: i) Communicate that an institutional setting for older person is the result of interaction of the three dimension of the organization, the individuals and the setting; ii) Demonstrate the role of the physical environment as a therapeutic tool; iii) Demonstrate the importance of the preparatory process in creating a facility for older persons; iv) Demonstrate the rewards of ongoing analysis and evaluation. It is hoped that this story of innovation center will encourage others to consider all the factors and be prepared to make a commitment to provide a true therapeutic environment for the elderly.

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# I NTRODUCTION

This is a story of innovation. This monograph describes how Alexian Village of Milwaukee, a Continuing Care Retirement Community, sought to improve the quality of its Health Center residents' life by manipulating the physical environment. In 1991 Alexian built a new health center which reinterpreted the traditional codes of nursing homes in the state of Wisconsin. During the planning, designing, and approval process, Alexian looked for alternative solutions to improve traditional standards. The physical environment of the new facility was used as a therapeutic tool. Because of these innovations, it took nearly two years to get the project approved by the state. It is hoped the process of creating this facility will provide other care-providers with helpful information on the rewards of innovation.

The purpose of this monograph is to tell the process of creating an innovative facility for older persons. By telling Alexian's story, this monograph will attempt to achieve four major goals. The first goal is to communicate that an institutional setting for older persons is a complex interaction of three dimensions. These dimensions include organizational influences, individuals who inhabit the setting and the physical



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environment. These three factors work together to create the 'personality' of a setting. *Organizational* influences include the philosophy of care, policies, and goals of the setting. *Individual* characteristics include different physical and cognitive competencies as well as personal backgrounds. The *physical environment* should be considered last since it should support the organizational influences, individuals, and the social atmosphere of the setting.

The second goal of this monograph is to demonstrate the role of the physical environment as a therapeutic tool. The Therapeutic Model of Care for nursing homes focuses on allowing an individual to be successful or having a sense of being accepted or valued. This Model of Care should be reinforced by the physical setting. Goals of the Therapeutic model of care which related strongly to architectural design and programming include: providing a familiar residential setting, minimizing physical barriers, enhancing connections with the surrounding community, and enhancing relations with family members.

The third goal of this monograph is to show the importance of the preparatory process in creating a facility for older persons. Innovative planning, programming and a knowledge of the political arena are critical to create a better environments for older persons. In order to make informed planning decisions, one should consider site benefits and constraints, budget, the served population's profile, admission and discharge criteria, the development of a care plan, as well as staffing issues.

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The fourth goal is to show how a constant process of analysis and evaluation of all three previously mentioned dimensions by a health care organization is a rewarding process. A facility which supports innovation and creativity will be more successful in improving the quality of life for its residents. Evaluation must be a continuous process.

This monograph is organized in six chapters. The first chapter highlights issues of the traditional nursing home. These issues face every organization when creating a new nursing facility. To provide a context for the new Health Care Center, the second chapter describes the entire Continuing Care Retirement Community of Alexian Village of Milwaukee. This description is organized by the three dimensions of the setting which include its organizational policies, a resident's profile, and the physical setting. The third chapter describes these same three dimensions for the New Health Center. The fourth chapter outlines the history of creating the new center and a plan analysis pointing out its innovative features. The fifth chapter evaluates the Health Care Center in terms of whether its design goals are met and compares it to the old health. The last section indicates implications for future projects.

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# **T**RADITIONAL NURSING HOMES

Before telling the story of Alexian Village's new Health Center, it is important to understand the context which the new setting was created. This section reviews some of the issues which are responsible for creating the traditional nursing home setting. This setting has gained over time many negative stereotypes due in part to its history of the nursing home, poor regulatory policies and improper design decisions.

## **ROOTS OF THE NURSING HOME**

The nursing home is a fairly new manifestation of an extremely old institutional type. It has precedents in the alms' houses and the poor houses of England which cared for paupers since the medieval period. This tradition of caring for the poor was brought over to America with the colonists.

Mandated by the law, one institution was established for the poor, developmentally disabled and physically disabled in each township or county. The population in these institutions was predominantly elderly since they were often financially or physically unable to care for themselves. These facilities became associated with negative images because of the inferior treatment provided for its inhabitants which

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was not strongly regulated during this period. In the early 1900's, there was a movement to provide specialized institutions for the mentally and physically handicapped which left a predominate population of older persons in the poor houses. State nursing homes evolved from the poor house to house and care for this remaining population (Johnson & Grant, 1985).

Because of Medicare support, nursing homes have become the primary long term care setting for the elderly once they are no longer able to provide for themselves. Although demographics show the majority of the elderly are still in their own homes, the probability that they will spend some time in a skilled nursing facility is high. Approximately, only 5% of elderly population reside in a nursing home at the same time; however, 25% of the elderly are projected to live in one at some stage of their lives (Johnson & Grant, 1985).

### **CURRENT IMAGE OF THE NURSING HOME**

The nursing home has been described as "house of death," "human junkyards," "warehouses for the dying," or "travesties on the word home." Those who face "institutionalization themselves or who are approaching the point of placing a family member in a nursing home, the actuality is viewed with dread or even honor (Johnson & Grant, 1985, p. 3)." Causes for these negative images can be related back to the three dimensions which create the personality of an environment-organization, individuals, setting. However, the characteristics of the

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older population will probably not change significantly. Organizational policy and the physical environment are the only two variables which can be manipulated to improve the negative image of the nursing home.

Poor policy issues can be traced back to the early nineteenth century, when the rise of medical technology led to a medical model of care. This model supported that all clients are disease-ridden and need to be contained in a setting for appropriate medical treatment to regain their health. The emphasis is on the patient's condition and not the patient as an individual. The model supported creating an efficient organization for the diagnosis, treatment and care of an illness in a short time span. The patient's privacy, autonomy, and dignity are compromised while treating the condition. The medical model was originally introduced in hospitals but has been applied directly to nursing homes. When patients were transferred from acute care hospitals to the new institution of the nursing home, medical model policies were also transferred.

These policies directly effect the quality of resident life. Two examples are a concern for efficiency and a lack of flexibility in policies. Because of the concern for efficiency, residents will not always be able to select when they want to eat or what they wish to eat. Residents are often not allowed to pick the schedule they would like to retire or arise from bed. These daily life schedules must be considered for all residents of the facility and not just one individual. Residents often have few choices or control because of lack of flexibility in policies. Residents are not

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able to choose their roommate(s) or select their rooms. Privacy is compromised when residents are not allowed to shut or lock their doors so nurses can check on residents.

## **DESIGN ISSUES**

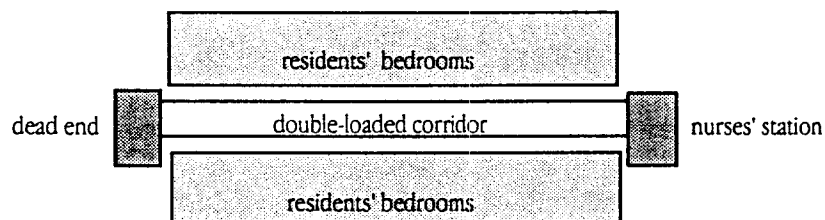
Building regulations introduced in acute care hospitals are strictly enforced even today in nursing homes (Canter & Canter, 1979, pp. 13-14). These regulations enforced by outdated policy contribute to the negative image since they make a nursing home resemble a hospital and not a home. For example, all nursing home room doorways must be in direct view of the nurses station. It is believed this code was introduced when residents made use of a shoe thrown into the hallway to summon for assistance in acute care hospitals. Because of this view, the alien nurses station is often a prominent feature in most nursing homes (Figure 1.1). Similar to a hospital, eight foot corridor widths must be provided to allow two stretchers to pass each other during a fire. This policy creates wide and long institutional hallways. Nursing homes have gleaming tile floors and walls for easy cleaning resembling hospital medical suites.

The image of the nursing home is also greatly dictated by its former roots as a poor house. A nursing home must be constructed in the most efficient and cost conscious manner even though it has long term consequences for the staff and residents. Space allocations per bed are very tight to meet state or federal codes for reimbursement of patient care costs under Medicare or Medicaid. Most nursing homes have

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semi-private rooms to efficiently house the greatest number of people in the least amount of space. With the cost per bed restricted and a minimum square footage requirement for nursing home rooms, very few social spaces can be included in the design. Staff support spaces are also restricted because of these requirements to one centralized place. For example, a mandated centralized linen supply closet means that linen carts are often found at the ends of hallways for easier access, similar to a hospital. Long institutional double-loaded corridors are the norm because of their spatial efficiency, even though, these long corridors create an inefficient condition for staff who constantly travel the long distances.

**Figure 1.1.** Traditional Nursing Home Plan



Alexian Village decided to reject the traditional nursing home setting and try to create a facility which responded to the needs of staff and residents. Alexian Village decided to reject the traditional Medical Model and apply a Therapeutic Model of Care to its new Health Care Center. The Therapeutic Model of Care uses the physical setting as a therapeutic tool for the residents. This spirit of innovation is a part of Alexian's commitment to proving high quality of care for its residents.

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# ALEXIAN VILLAGE OF MILWAUKEE

It is important to understand the context of the Continuing Care Retirement Community where the new health center was constructed. Alexian Village is a continuing Care Retirement Community which provides three basic levels of care for its residents—congregate, assisted living, and nursing care. As a life-care retirement community, residents are provided with a contract which guarantees skilled nursing care if needed for the rest of their lives for no substantial additional cost. Nursing care is generally provided in the health center. This chapter provides a brief contextual description of Alexian Village of Milwaukee. It is described by its three dimensions of its organization, inhabitants and its environment. The next chapter provides a description of the new health care center.

## ORGANIZATION

*History of Alexian Village* Alexian Village of Milwaukee Inc. is a licensed Continuing Care Retirement Community located in the northwest region of Milwaukee County. The life-care facility was constructed in 1977 by Tudor Oaks retirement communities. Tudor Oaks overextended its assets and as a result de-



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clared bankruptcy. This left many residents with an uncertain future. On April 1, 1980, The Alexian Brothers of America purchased the facility. The brothers agreed to assume the debt of Tudor Oaks and honor all of the original life-care contracts.

Under the Alexian Brothers, the Village has flourished and has established a reputation as a premier, luxury retirement community. In 1987, Alexian Village of Milwaukee became the first retirement community in Milwaukee to be accredited by the National Continuing Care Accreditation Commission. The facility is certified by the State of Wisconsin to operate as a Continuing Care Retirement Community (CCRC) and also has State and City licenses to operate its Community Based Residential Facility (CBRF) and skilled nursing facility (SNF).

The campus has been expanded twice since Alexian Brothers purchased the facility in 1980 from Tudor Oaks. In 1984, a new six story building was constructed adding apartments, services, social spaces and new administrative offices. The original three story Tudor Oaks building is now referred to as Village East; the new six story addition is called Village West. Village East and West are connected by an underground passageway. In 1991, Alexian Village was expanded again. The old health center in Village East was converted into an Assisted Living Center and a new Health Center was built connected to Village East by an above ground passageway.

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**Philosophy** Alexian Village of Milwaukee, Inc. is a part of the Alexian Brothers Health System—a national Catholic health care system which is a not-for-profit corporation sponsored by the United States Province of the Congregation of the Alexian Brothers. The Alexian Brothers is a 650 year old Catholic order dedicated to the care of the sick, poor, and helpless. The Brother's heritage of promoting the physical, mental, and social well being of the elderly is demonstrated in the Mission Statement of the Alexian Village and the Brothers Core Values.

***Alexian Village Mission Statement***

*Inspired by the long history of the Alexian spirit of compassionate love and care, Alexian Village is a life-care center open to persons of all faiths. It is committed to a special role of leadership in our society as a model of quality continuing care for older adults. Its goal is to provide services which respond to the basic needs of the residents in an atmosphere of respect for their dignity and independence*

***Alexian Brothers Core Values***

*Compassion*

*Dignity*

*Holism*

*Partnership*

*Care for the Poor*

Alexian Village strives to have the philosophy and the values of the Brothers influence all operational decisions, daily activities and long range planning. Alexian Village is committed to maintaining a leadership position in providing quality services for older adults and a high quality of life for its residents. This is accomplished by promoting creativity and innovation from a team approach. Each resident is considered an individual who should be involved in making decisions for the

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benefit of themselves as well as the community.

Alexian Village is a life-care retirement community which provides for residents changing needs. To fulfill its organizational philosophy, Alexian Village provides its residents with a variety of levels of care to promote maintaining independence. There are three large levels of care provided for resident's changing needs as they age: Independent Living, Assisted Living and Nursing Care. Within each of these levels, Alexian allows for considerable leeway to allow a resident to be independent for as long as possible.

### ***Levels of Care Provided***

Alexian's Independent Living Program provides residents with the following services and programs in addition to the use of an apartment:

- *Main meal of the day provided*
- *Utilities: heat, air conditioning, water, electricity*
- *Housekeeping service twice a month*
- *Weekly flat laundry*
- *Temporary tray service per illness*
- *Interior/Exterior maintenance*
- *Regularly scheduled shuttle bus service to stores and services*
- *24 hour emergency nursing service*
- *Social and educational programs*
- *Services of the Chaplain*

A number of services are provided for a fee-per-service basis such as supportive nursing care, private transportation, transportation to planned social events outside of Alexian and catering for private func-

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tions. An in-house grocery, pharmacy, branch bank, beauty shop, and sidewalk cafe are also available for residents' use.

The Assisted Living Program provides residents with twenty-four hour staff assistance and three meals a day. Staff assistance includes dressing, bathing and administering medication. In addition, residents have access to all of the services located in the independent living area.

The Health Center provides residents with licensed skilled nursing care. The Health Center is planned for those needing short-term recuperation or respite care. It may be also used on a permanent basis for those who are no longer able to maintain their independence without continuous care or the individual with a chronic condition requiring continuous treatment. Residents are also encouraged to use the services of the independent living portion of Alexian Village and attend social events if they are able.

***Life-Care Contracts*** Alexian supports these three levels of care by holding a life-care contract with its residents. Residents purchasing a "Life-Care Plan" are provided with skilled nursing and congregate care at no substantial added cost for their life-span. To take advantage of this contract, residents pay a one-time accommodation fee based on the size of their apartment and occupancy which is amortized to insure their future health care needs. Each month a service fee is also assessed based on the apartment size and occupancy which supports the programs and services provided. The Alexian Village "Rental-Plus Plan" provides all

of the amenities of Alexian Village plus reduced-rate use of health care facilities for a limited period of time. Each rental apartment earns 30 days of future care (the Continuum of Care Benefit) each year. When needed, the benefit may be used either in the Assisted Living Center or the Skilled Nursing Health Center. When the Continuum of Care Benefit is exhausted, residents can continue to pay their usual monthly service fee plus an additional fee for services and a daily charge for the three meals provided. The following table provides a general indication of some of these fees (Table 2.1).

**Table 2.1.** Typical Fees per Apartment for Single Occupancy\*

Apartment Type	Life Care Plan Accommodation Fees & Monthly Service Fee	Rental Plus Plan Monthly Service Fee
Studio	\$38,200 / \$688	\$950
One Bedroom	\$55,900 / \$843	\$1,275
Two Bedroom	\$70,000 / \$912	\$1,500

*\* Fees are based upon 1992 prices and are subject to change.  
Fees for Two Bedroom units vary by apartment size and amenities.  
Double occupancy prices are higher for all apartment types.*

## RESIDENT PROFILES

This section provides demographics for all of the residents in the entire community. There are three hundred and forty residents in the apartments. Thirty-one residents are in the Assisted Living area. Eighty-seven residents are in the Health Center. The total population is four hundred and fifty eight residents.

**Table 2.2.** Population Distribution

<i>Location</i>	<i># of Apartments &amp; Residents</i>
Village East	192 apartments 195 residents
Village West	132 apartments 145 residents
Assisted Living	31 units 31 residents
Health Center	87 beds 87 residents

The dominant population is comprised of single women. There are forty married couples in the Village. Eighty-seven percent of the units are occupied singularly. Thirteen percent are occupied by two people. The span of ages for residents ranges from sixty-seven years to one hundred and one years. The minimum entrance age requirement is sixty-two with an average age at move-in of seventy-nine. The majority of the population has a previous occupation in education, a clerical position or as a homemaker. These occupations relate directly to positions predominated by women of this generation. Sixty-three percent of Alexian Village's residents came from Metropolitan Milwaukee Area.

**Table 2.3.** Gender

	Independent Living	Assisted Living	Health Center
Male	20%	16%	17%
Female	80%	84%	83%
Couples	40 couples	1 couple	1 couple

Figure 2.1. Age

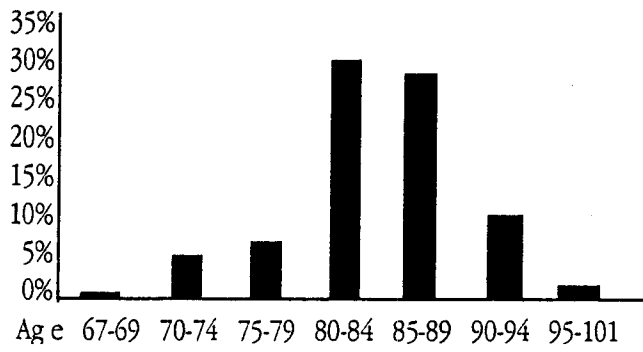
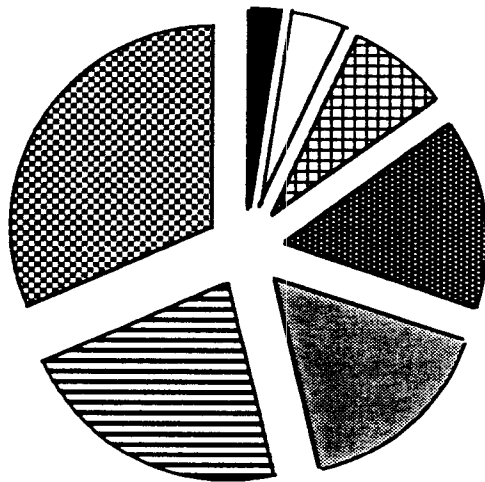
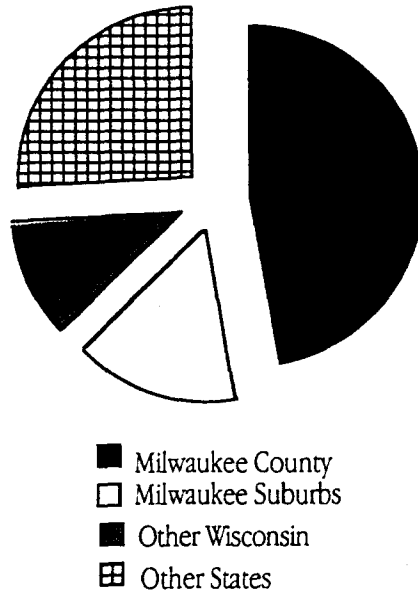


Figure 2.2. Previous Occupations



- Religion
- Public Admin/Goverment
- ▣ Other Occupations
- Education
- ▤ Homemaker
- ▥ Professional/Admin./Managers
- ▧ Workers /Laborer/ Clerk

**Figure 2.3.** Prior Residence Location



## THE SETTING

Alexian Village is located approximately 15 miles from downtown Milwaukee in a suburban fringe area. The surrounding area has a regional mall and several street shopping stores (Figure 2.4). The Village is located on a hilltop which provides residents with excellent views of the surrounding landscape.

**Figure 2.4.** Location Map of Alexian Village

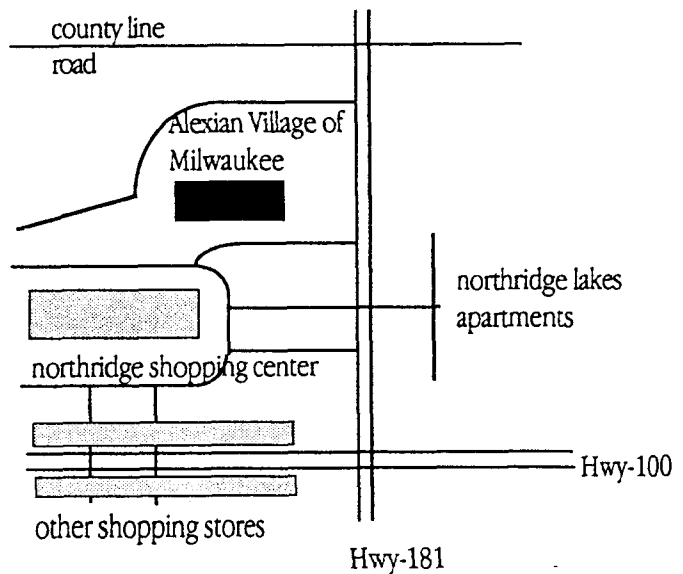
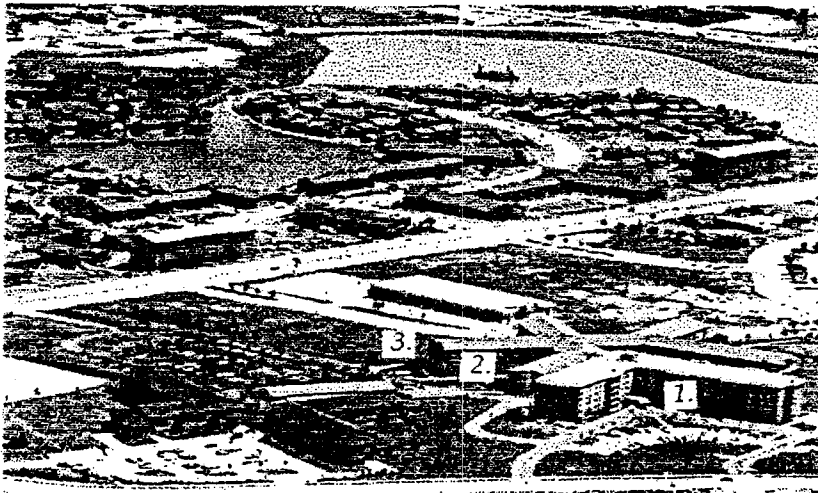




Figure 2.5. Aerial Photograph of Alexian Village

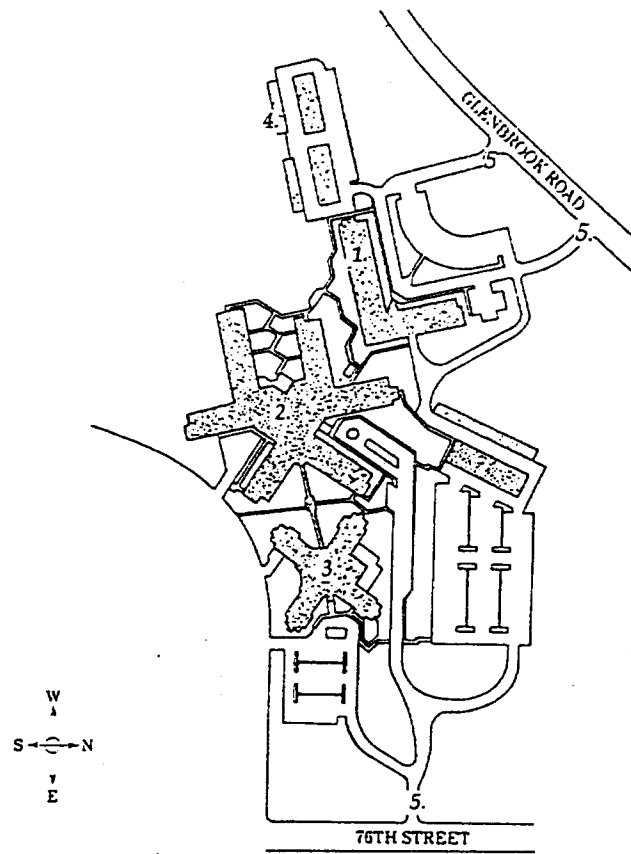


Legend

1. Alexian West
2. Alexian East
3. Health Care Center

Alexian Village has over 480,000 enclosed square footage situated on a 25 acre campus. The three primary facilities—Independent Living Units, Assisted Living Units, and Skilled Nursing facility are housed in three main buildings. A variety of apartment unit types exist throughout these three attached buildings.

Figure 2.6. Site Plan of Alexian Village



- Legend
- 1 Village West
  - 2 Village East
  - 3 Health Care Center
  - 4 Resident Garages
  - 5 Principal entrance

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# H

## HEALTH CARE CENTER

This chapter describes the basic three dimensions of the new health center. This chapter is organized by these three dimensions which define the personality of a setting—the organization, the residents, and the physical environment. The organizational description includes the mission philosophy, staffing patterns, admittance and discharge policies, as well as daily activities and programs which are planned for residents in the center. A resident's profile includes age, gender, marital status, duration of residence, common health problems, and required assistance for the eighty-seven residents in the new health center. The physical setting is described by the floor plans and selected photos for all three floors of the new health center.

### ORGANIZATION

The concept of health care at Alexian Village is not confined to nursing services alone. A comprehensive approach to care is considered. This concept includes the philosophy and core values of the Alexian Brothers, pastoral care, and social services. The goal of the health center for its life-care residents is to provide “interdisciplinary” care to retain residents “independence” and “autonomy”. Following the Mission State-

### *Philosophy*

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ment, residents are encouraged to remain in control of their own lives and rehabilitation. A positive attitude of getting well is promoted to help residents regain health and when possible return to either assisted living or independent apartment status.

***Admission  
&  
Discharge Policies***

Since Alexian Village is a Continuing Care Retirement community there are three levels of care available for a prospective resident. Criteria based upon specific guidelines exist for deciding which level of care is needed for a resident. These guidelines are categorized as activities of daily living, instrumental abilities, social skills. activities of daily living include issues of eating, mobility, toileting, bathing, dressing, grooming/hygiene, medications administration and communication abilities. Instrumental abilities include meal preparation, obtaining supplies, housekeeping, travel safety, and finance. Socials Skills include orientation to person, place and time, relationships with others, disturbing characteristics, decision-making skills and navigation. If a prospective resident fits a significant number of criteria which warrants extensive or regular assistance, a suggestion will be made for placement in the Health Center.

The decision to be admitted to the health center is made under the direction of a physician. There is an established procedure followed for entering the facility. First, a pre-admission assessment is made of a prospective residents needs and to verify if a plan of care is available. Second, a mental illness screening is conducted. Residents with an Alexian life-care contract will immediately be admitted if a bed is avail-

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able. If a bed is not available Alexian has always provided nursing assistance in the resident's independent living apartment. Residents entering under private or medicaid payment plans will be considered only if their admittance will not severely impact life-care contract residents current and future health needs.

Once a resident has been admitted and an attending physician has been identified and the appropriate medications and equipment are available, Alexian must find a suitable bed. A further classification will be made at that time for assignment to either the second or third floor. The second floor has residents requiring all levels of care including recuperative, rehabilitation and residents with cognitive impairments. The third floor has residents with chronic or unpredictable behavior problems which are disturbing to themselves or others. This classification is made to keep residents with similar cognitive abilities together. Placement on either the second and third floor is also dependent upon a residents anticipated length of stay and the availability of a vacant bed.

If a life-care resident condition changes such that only minor assistance or no assistance is required then the resident can be discharged to either an assisted living unit or their own independent living apartment. Alexian always follows the policy of having a two week trial discharge to the resident's apartment. During this time a supportive care department provides residents with a safety check and occasional visits. If need be this two week trial can be extended for an additional two

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weeks. Subsequently, Alexian can easily bring the resident back to the care of the health center without additional paper work.

**Health Care Payment Plans** There are three payment plans available for residents entering the Health Care Center. A Life-Care Contracts guarantees skilled nursing care for residents entering from the Independent or Assisted Living centers of AVM. A limited number of residents, from both inside and outside, are also accepted by Alexian Village on the bases of Title 19 Medicaid program and private pay. The majority of the residents have life-care contracts with AVM. Some residents in the Health Center are under the program of title 19 or private pay. Overall, there are 71.26% residents from which entered the Health Center from inside Alexian while 28.73% entered from outside Alexian Village.

**Staffing Patterns** The Alexian Health Center has an average staffing ratio of 1 staff person for every seven residents over a period of two weeks. Table 3.1 describes the nursing staffing pattern for a three shift workday.

**Table 3.1.** Staffing Patterns for three shifts

Shift Time	Day Shift 7:00-3:00pm	PM Shift 3:00-11:00 pm	Night Shift 11:00- 7:00am
Staff: Resident	1: 4	1: 7	1: 10
RN Manager	1	0	0
Licensed Nurse	2	2	1
Certified NA	6	4	3
Unit Secretary	1	4	0

There are a 140.5 full time equivalencies which staff the health center. Full Time Equivalency represents the number of employees in a specified position which work 40 hours a week. Accordingly, full time equivalency numbers do not always represent actual employees but part-time employees and employees which work under more than one title. Table 3.1 outlines the number of full time equivalency employees which staff the health center.

**Table 3.2. Full Time Equivalency**

Title	# of Employee
Recreational Therapy	2.8
Dietary	18.5
Social Worker	2.1
Pastoral Care	.8
Housekeeping	9.4
Maintenance	1.5
Security	2.0
Registered Nurse	9.2
Licensed Practicing Nurse	12.1
Certified Nursing Assistant	40.3
Unit Secretary	3.1
Medical Records	1.0
Pharmacy	2.7
Transportation	.1
Beauty Shop	1.3
Accounting	1.8
Nursing care admn., Business office,Personnel	5.8

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## ***Daily Activities & Programs***

The staff are in charge of a daily calendar of events as well as scheduled daily activities. These include meals, bathing schedules, social events, cultural events, and therapy sessions. Meals are scheduled for each of the two floors at staggered times.

**Table 3.3.** Meal Schedule

	2nd Floor	3rd Floor
Breakfast	8:00 am	7:30 am
Lunch	12:30 pm	12:00 pm
Supper	6:00 pm	5:30 pm

Pastoral services are available for the residents on a daily and weekly basis. Mass services are also provided each Saturday evening at 4:00 pm in the Health Center. Mass services held in the Chapel at Village West are also accessible to Health Center residents with the assistance of volunteers. Protestant services are held in the health center each Thursday at 2:00 pm.

On a daily, weekly and monthly basis a schedule of activities is provided for residents. Attendance at all events is by choice of the resident. Although staff supervise many of these events a group of volunteers from the Alexian Campus often assist. The following list provides some indication of the planned events.



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## RELIGIOUS ACTIVITIES

- *Mass*
- *Bible Study*
- *Prayer Service*

## EXERCISE / PHYSICAL ACTIVITIES

- *Bowling*
- *Dancing*
- *Volleyball*
- *Exercise*
- *Parachute*
- *Strolls*

## SOCIAL ACTIVITIES

- *Holiday Party*
- *Wine Music*
- *Men's Breakfast*
- *Gift Cart*
- *Sporting Events*
- *Parties*

## ARTS & CRAFTS / SKILLED TASKS

- *Ceramics*
- *Needle Craft*
- *Art Craft*
- *Baking*
- *Individual Projects*

## CULTURAL / MIND / MEMORY ACTIVITIES

- *Poetry Corner*
- *Discussion*
- *Resident Council*
- *Trivia*
- *Movie*
- *News*
- *Memory Game*
- *History Club*
- *Shut Box*
- *Reading*
- *Scavenger Hunt*

**Population Characteristics** The following tables (Tables 3.4, 3.5 & 3.6) give characteristics for the 87 residents which reside in the health center. The majority of the residents are female and are 85 to 89 years old. The majority of the residents are widowed but fourteen of the residents have remained single. There are some residents who have stayed in the facility for over five years, but most of the residents stay only a short period of time.. Residents have a variety of illnesses with the most common being Cardiovascular related illness and Dementia. Table 3.7 shows the types of assistance performed by staff for residents as part of their care plan.

**Table 3.4.** Age, Gender, & Marital Status

Years	# of Residents
65-69	1
70-74	2
75-79	5
80-84	15
85-89	30
90-94	26
95-99	7
100-	1
Gender	# of Residents
Male	17
Female	70
Status	# of Residents
Married	8
Single	14
Divorced	2
Separated	0
Widowed	63

**Table 3.5** Duration of Residence

Time	# of Residents
0 to .5 years	26
.5 to 1 year	14
1 to 1.5 years	12
1.5 to 2 years	15
2 to 3 years	8
3 to 4 years	2
4 to 5 years	5
5 to 8 years	3
8 to 10 years	2

**Table 3.6** Common Health Problems of Residents

Ailment	# of Resident
Cardiovascular Related	97
Neurological / Dementia	55
Arthritis	13
Depression	12
Pulmonary Related	8
Lowered metabolic rate	8
Urinary tract infection	8
Diabetes	7
Allergies	6
Decreased bone mass	6
Glaucoma	5
Cancer	5
Seizure disorder	4

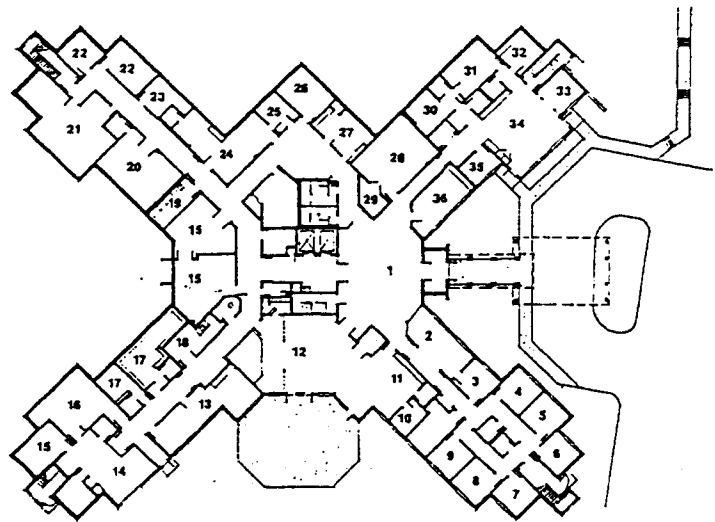
**Table 3.7** Assistance

Assistance Required:	% of residents
Bathing	100%
Hygiene	95%
Dressing	92%
Toilet Use	80%
Transferring	74%
Wheelchair Use	71%
Locomotion	69%
Bladder Incontinence	68%
Cognitive Impaired Needs	60%
Visually impaired Needs	51%
Eating	48%
Hearing Impaired Needs	42%
Wandering	18%
Physically Abusive Needs	12%
Inappropriate Behavior	11%

## The Setting

The following diagrams are the floor plans for the new Health Care Center which was completed in August 1991. The process of creating this facility will be discussed in the next chapter.

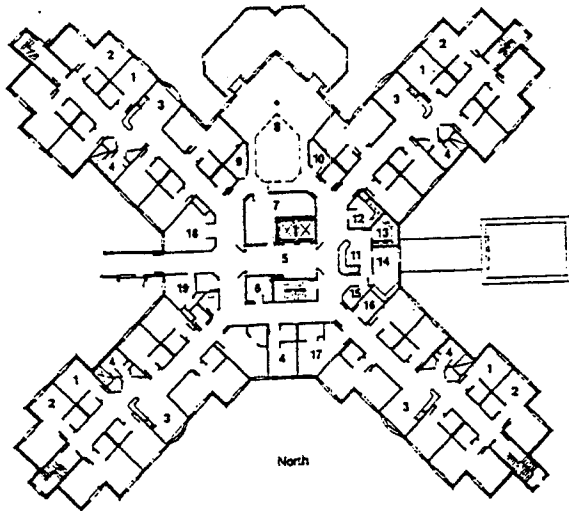
**Figure 3.1** First Floor Plan



### Legend

- |                            |                           |
|----------------------------|---------------------------|
| 1 entry lobby              | 19 laundry                |
| 2 recreationist            | 20 housekeeping storage   |
| 3 work room                | 21 resident storage       |
| 4 social worker            | 22 medical storage        |
| 5 conference               | 23 clean linen            |
| 6 administration           | 24 physical therapy       |
| 7 director of nursing      | 25 OT/PT office           |
| 8 administration           | 26 occupational therapy   |
| 9 medical records          | 27 dental / podiatry      |
| 10 activity director       | 28 classroom              |
| 11 activity area           | 29 storage                |
| 12 multi-use / chapel      | 30 bathing                |
| 13 staff lounge            | 31 rest area              |
| 14 garage                  | 32 med. trmt. charting    |
| 15 electrical / mechanical | 33 small group            |
| 16 maintenance             | 34 day care activity area |
| 17 locker room             | 35 day care director      |
| 18 compactor room          | 36 arts & crafts          |

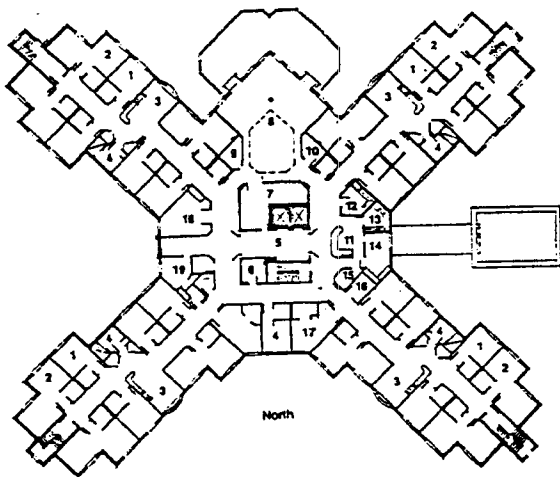
**Figure 3.2** Second Floor Plan



**Legend**

- |                              |                          |
|------------------------------|--------------------------|
| 1 private resident room      | 10 dietary office        |
| 2 semi-private resident room | 11 nurse station         |
| 3 lounge                     | 13 medication room       |
| 4 bathing                    | 14 charting & conference |
| 5 elevator lobby             | 15 equipment storage     |
| 6 soiled utility             | 16 social services       |
| 7 warming kitchen            | 17 isolation room        |
| 8 dining room                | 18 activity area         |
| 9 storage                    | 19 nurse manager office  |

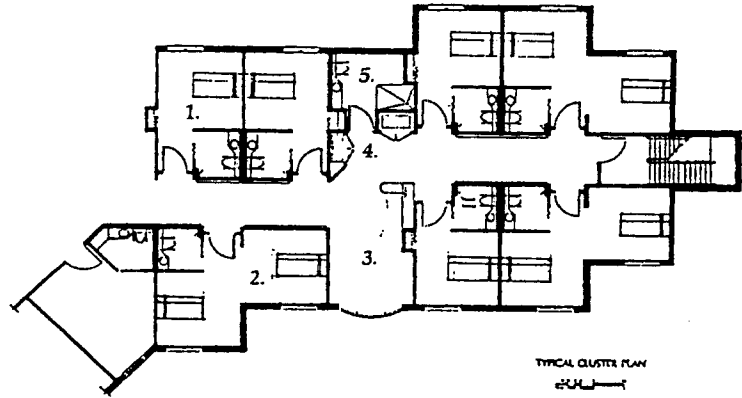
**Figure 3.3** Third Floor Plan



**Legend**

- |                               |                           |
|-------------------------------|---------------------------|
| 1. private resident room      | 8. dining room            |
| 2. semi-private resident room | 9. storage                |
| 3. lounge                     | 10. dietary office        |
| 4. bathing                    | 11. nurse station         |
| 5. elevator lobby             | 13. medication room       |
| 6. soiled utility             | 14. charting & conference |
| 7. warming kitchen            | 15. equipment storage     |

**Figure 3.4** Cluster Detailed Floor Plan



**Legend**

- 1. single room
- 2. double room
- 3. cluster lounge & kitchen
- 4. linen
- 5. shower & toilet

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# HISTORY OF THE HEALTH CENTER

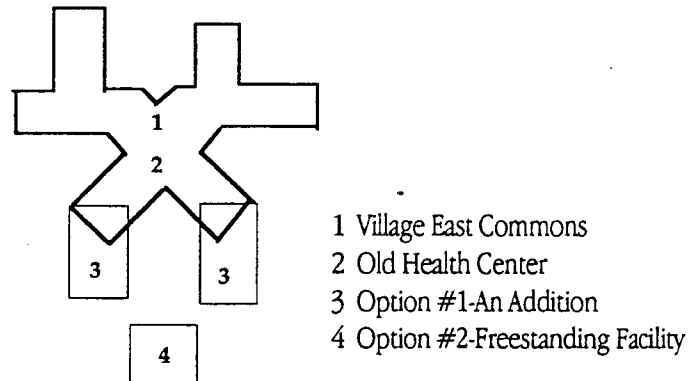
This chapter tells the history of creating the new health center from its planning stage in 1988 to the date of completion in 1991. The features of the facility will be discussed as they were researched and then implemented into the design.

## PLANNING

In 1988, Alexian's health center was in need of additional skilled nursing beds to fulfill its contractual obligations to its life-care contract residents. Adding additional beds to the facility would be difficult since Wisconsin has a moratorium on new nursing beds. However, under an emergency ruling for CCRC's, Alexian qualified for an additional twenty-six beds. Alexian wanted to build a high-quality facility for these new beds but realized under the current Resource Allocation Program (RAP) this would be very difficult. The RAP mandated that new construction for skilled nursing facilities be limited to \$40,000 per bed. A financial figure that does not support innovative design for residents needs. Alexian decided to proceed by first designing a supportive facility and then seek ways of getting the project approved.

As first step the feasibility of expansion was reviewed by considering two plans for creating additional nursing rooms. Constructing an addition to the existing building was the first option. The second option was to construct a new freestanding facility (See Figure 4.1).

**Figure 4.1** Options for Expansion



Both options were reviewed by the original facility's architects, as well as, an additional architectural firm. The evaluation revealed that staff areas in the current health center were currently over-utilized and resident rooms were undersized. An addition would also block the view of several CCRC resident's apartments. Alexian Village also wanted to add assisted living units to the facility to remain competitive in the retirement community market and save on operational costs by providing another level of care. Evaluations were also done to determine the best place for a new assisted living program of care. Options were explored to determine if it would be better to construct a freestanding Assisted Living Center and add an addition to the old health center. However this plan would be cost prohibitive and would also not pro-



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vide a logical flow of care from independent living to assisted living to the health center. The Independent Living residents had also already expressed how they did not like to be associated with the images of a nursing home. Based upon the architectural evaluation, a decision was made to build a new facility and renovate the existing health center into single occupancy assisted living units. This phasing allowed for:

- a smooth transition from the old health center to the new.
- cost effectiveness since only minor changes would have to be done to convert the semi-private health care rooms into private assisted living units.
- a freestanding facility blocked fewer views
- a freestanding facility separated the independent apartments from the health care center.
- a freestanding facility provided a clean slate to design an appropriate building

As a first step, Alexian administrators met with the staff and residents to develop design goals for the new Health Center. Three goals were developed: provide a residential environment, promote resident independence, and promote staff efficiency. A residential environment was desired to achieve a non-institutional appearance, enhance resident dignity and self-esteem by minimizing the degree of loss and change experienced when moving from one area of the CCRC to another. Resident independence was to be optimized by tailoring the physical environment to the needs and capabilities of older adults. Staff efficiency was important to contain costs, lower staff turnover and provide more free time for the staff to spend with residents.

### ***Creation of Goals***

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***Use of Consultants*** In order to achieve their goals, Alexian retained several architectural and health care consultants to research the needs of older adults, the local market for elderly housing and the trends in nursing care and nursing home design.

***Needs of Older Adults*** This research indicated that although older adults have multiple impairments they still retain a capacity for motion, responsiveness, interaction, and expression. Alexian believed this research indicated that even residents with cognitive impairments could be positively influenced by an appropriately designed physical environment.

***Needs of Facility Staff*** Research also indicated that the traditional nursing home design was suited for more ambulatory residents of the past ( See Figure 1.1). Many design features in traditional nursing homes impose obstacles against promoting staff efficiency. For example, the traditional use of a single purpose dining/activity program space which must be rearranged constantly for different activities through-out the day. Examples of less productive time due to design features include time spend waiting, time spend negotiating a wheelchair in an improper bathroom configurations, time spend waiting for delivery and disposal of supplies for incontinent residents, and time spend being interrupted by residents congregating at the nurses station. These poor design decisions forced staff to waste productive time. Long double-loaded corridors found in many nursing homes resulted in extensive travel time for nurses and nurse aids. Double-loaded corridors were also found not being conducive to variations in staffing patterns or changing resident needs. (See Figure 1.1)

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New technology which could be incorporated into a facilities design was also identified by consultants during the research process. The primary example identified was the accommodation of wheelchairs being operated independently by the residents. Other example included:

## ***Introduction of New Technology***

- *Communication systems for dealing with wandering residents*
- *Monitoring of resident safety in corridors*
- *Improved amplification systems for sound systems*
- *Improved resilient flooring and carpeting*
- *Larger charts for charting carts*
- *Option for computerization*
- *Advanced medication charts*
- *Improved food service system which maintain quality and consistent temperature of meals*
- *Computerized records and charting*
- *Advanced medication carts*
- *Improved seating options for older adults*
- *Non-reflective and low glare lighting*
- *Safer water closet mounted hardware*
- *Low energy and limited dexterity demanding door and bath room hardware*
- *Improved elevator and elevator controls*
- *Individually controlled temperature*
- *Modular closets and furniture for flexibility*
- *Tackle surfaces*
- *Easy clean walls and bath tubs*

Based upon research compiled by Alexian and its consultants a cluster concept was selected to design the new facility (See Figure 4.5). The cluster principle addressed both goals of increasing staff efficiency and maximizing resident independence. The cluster is based upon de-centralizing nursing care to about ten residents. Each cluster has its own living room, nursing station and bathing area (See Figure 3.4). These smaller grouping are hypothesized to, increase the quality of socialization among residents and staff, reinforce identifiable staff responsibilities and provide a more residential environment. Clusters can also

## ***Cluster Concept***

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supported by a centralized dining and activity area. The benefits of applying a Cluster Concept to health care design can be summarized as follows.

### *Staff Efficiency*

Staff efficiency involves converting “busy work” into useful time. The main feature of the “cluster design” is that a wide variety of services are clustered closer to where they are used. Efficiency features include:

- *Shorter walking distances between rooms within a cluster*
- *The size of a cluster is based on effective staffing span of control on all shifts.*
- *Provision of a central staff center with equal staff access to all portions of the unit.*
- *The design of the corridors in a cluster provides for more effective and efficient staffing on all three shifts.*
- *Bathing facilities are placed in the resident's own living zone or cluster. Thus they decrease travel time necessary by staff and increase resident security.*
- *Primary care nursing assignments are supported by an arrangement of rooms that are grouped or clustered. It allows for staff to move quickly and responsively to resident needs. It also encourages staff ownership of work areas.*

### *Flexibility*

The clustering of rooms and architectural features in the building will allow the management to adapt spaces and programs over the life of the proposed facility. All areas will not be locked into a single use as programmed initially. The design provides the opportunity to (1) develop new special units, (2) develop improvisational programs, (3) assign staff in various configurations, (4) group residents by their abilities.

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### *Privacy*

In the traditional nursing homes, residents' bedrooms are organized along a double-loaded corridor (See Figure 1.1). A transitional zone between residents' private bedrooms and the public space is therefore omitted. Since residents room doors are often kept open, privacy is often compromised. In contrast, the cluster concept groups residents' bedrooms into smaller wings and provides a gradual transitional zone between private and public spaces. A gradual transitional zone in each wing consists of a living space and a cluster corridor and provides a more semi-public zone for cluster residents. The spatial arrangement of the cluster concept will allow residents to control personal privacy.

### *Home-Like Setting*

The traditional nursing home and cluster-designed settings have different spatial arrangements. The former provides an institutional image but the later creates a more home-like atmosphere. The traditional double-loaded corridor is used only for the purpose of circulation and can appear bland and impersonal. The cluster living rooms and corridors, in contrast have a more home-like arrangement and are often filled with more home-like imagery. Cluster living rooms and halls can contain residential furniture, pictures, magazines. Residents can also be allowed to personalize the living rooms with their own possessions.

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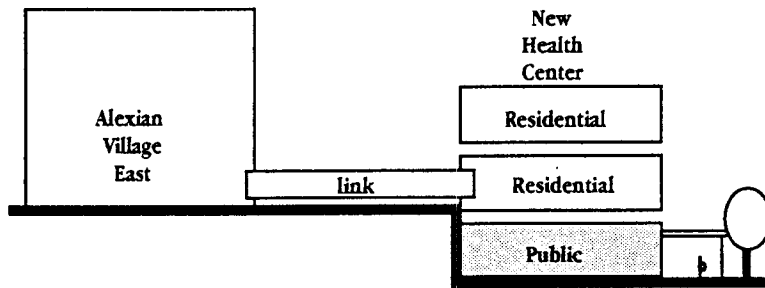
### *Responsiveness to the Cognitively Impaired Persons*

The cluster concept design will provide for the capability to serve cognitively impaired persons whose needs range from the mild to severe. The followings are ways in which the “cluster design” seeks to meet their needs: (1) to minimize sensory overload resulting from noise, heavy traffic areas, confusing layout and lack of variation, (2) to apply simple layouts and landmarks to optimize a sense of way-finding, decrease spatial confusion, and increase the identification of one's own room, and (3) single purpose rooms which assist the residents to identify activities, i.e. dining room and recreational room.

## **THE DESIGN**

The design of Alexian Village was undertaken with a strong team approach involving the consultants, architects, construction firms and Alexian Village. The sloping site was the first challenge for the architect. The steep slope suggested a three story building with entrances on the ground floor for the public and a connection to Village East on the second floor. The ground floor contains the more public facilities such as administration, the resident community center, an adult day care, beauty shop, ambulance garage drop-off and a craft room. A large resident storage area was placed in the area without a view to the outdoors. The second and third floors were designed as resident rooms and nursing support spaces. Once the basic location for the different areas was established the resident floors are reviewed in detail.

**Figure 4.2.** Health Center and Alexian village East



Both resident room floors were divided into four clusters which connect to a centralized core. The centralized core contains the elevator lobby, a lounge, the centralized nursing station, dining room and warming kitchen and a whirlpool tub area. The nursing station was to resemble a concierge desk at a hotel and not a hospital ward. The design tried to focus staff attention to areas where viewing is most beneficial such as major entries, elevators, and social and dining areas. A room with a window behind this desk is intended provide a space where the majority of the charting and record keeping is done. By removing this area from the nursing station charting could take place uninterrupted by the residents.

The provision of centrally located social and dining facilities on each floor is intended to decrease travel time and waiting by staff. The dining room is large room which is intended to be used only during meal times. A single purpose room was intended to provide less confusion for the residents and allows staff to clean and prepare the room for meals only. The dining room is multi zoned by using with specially

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arranged tables which allows for an effective meal time ratio of one staff person to 8-10 residents. Tables were selected with adjustable heights and soft raised edges to minimize spills. Tables are able to be easily tilted and rolled for easy cleaning of the floor. A serving kitchen on the unit is intended to reduce noise and congestion in food service and improve food quality. The kitchen area is central to the unit, close to the elevators, avoids resident room areas, and requires minimal distances for wheeling carts from the central dining facility in the main building of Village East. Meals are served waitress style with a place setting on the table before the meal arrives served by staff. It was hoped this style would promote residential atmosphere. White dishes were selected to provide a residential appearance and give contrast with the table for the vision impaired. Silverware with oversized handles is easy for residents to use without having to add orthotic devices.

The lounge on each floor is intended serve for small group activities and a television viewing area. A large screen TV was specified to accommodate the vision impaired. Bathrooms where designed near the activity and dining areas to provide residents with convenient toileting areas to reduce incontinence. Janitorial and housekeeping efficiencies are encouraged through the location of work and supply areas, the selection of low maintenance materials and the provision of activity areas separate from dining facilities. This separation of activity and dining areas allows for more effective cleaning. The second floor is slightly different from the third floor only due to the link which connects the health center to the Village East. The third floor has a larger

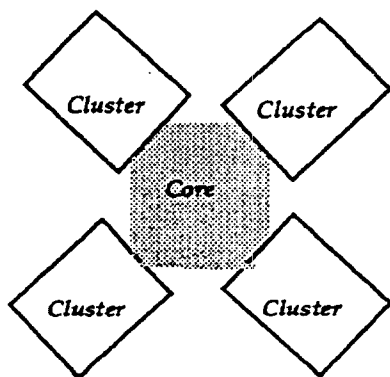


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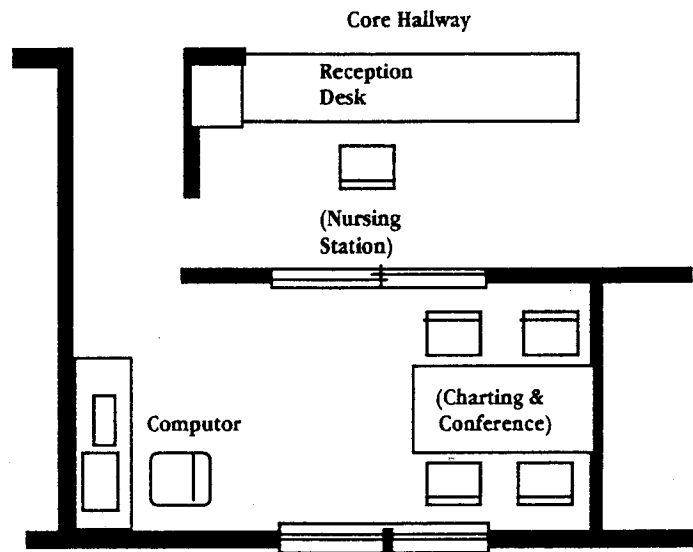
activity lounge instead of the link corridor. The link has a resting area midway with a space for tables and chairs to provide a resting area for residents.

In addition to the staff areas there are also several key staff areas in the core. A centralized bathing areas is located near the central clean utility room for efficient staff use. Each bathing room has two types of tubs with separate dressing areas and a toilet. Heat lamps are provided for resident comfort while dressing. A trash chute and house-keeping supply area is also provided on each floor. Next to the nursing station a large medicine room is provided which can easily store the medicine carts and other supplies. The path around the core is continuous to create a wandering path for residents. Long corridors in traditional nursing homes tend to encourage residents to walk down to the ends. It is hypothesized that confused residents will follow Alexians continuous path and will not be encouraged to walk down to the end of the cluster halls where they are not easily supervised.

**Figure 4.3** Cluster Arrangement



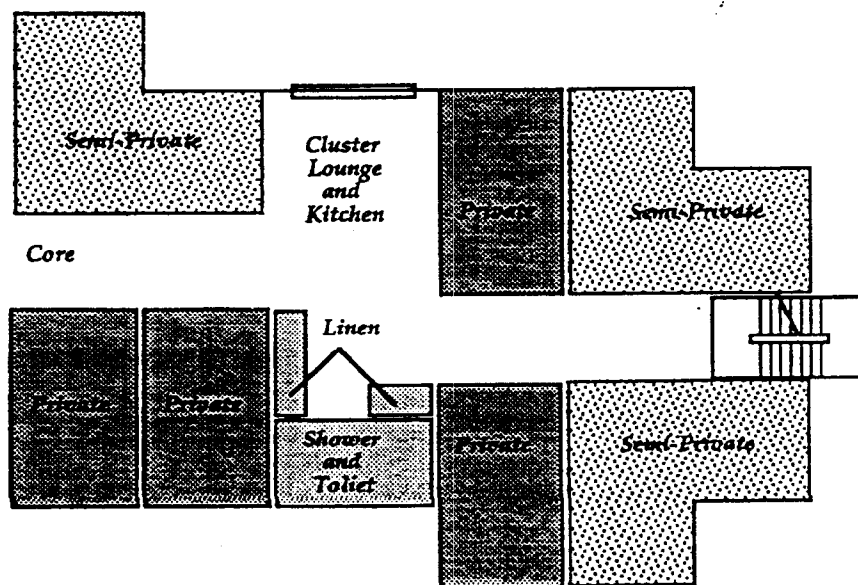
**Figure 4.4** Nursing Station and Charting & Conference



The resident clusters each contain four private rooms and three semi-private rooms. One cluster on each floor has an extra room and another has an isolation room. Each cluster has a lounge, kitchen area, toilet and shower area. Cluster living rooms have a refrigerator, a sink, and a desk for a nursing assistant. The nursing assistant desk is low keyed and non-institutional. Each cluster is not in view of the main nurses station in the core; therefore, the desk was intended to provide the staff support along with using video cameras. The living room was intended for residents to have a place to sit with their family and guests other than their rooms. Window sills in the living rooms were designed low to allow for wheelchair users to have a view outdoors. These views are intended to keep residents in touch with seasonal changes. The kitchen areas were for residents to have a snack at any time. Both the living room and bathing areas on each cluster are intended to be easily accessible by wheelchairs. The bathing area was placed to be easily

accessible by staff for any quick hygiene needs without having to go into the more public areas of the core. The large roll in shower has a low curtain to help keep staff dry while assisting the residents with bathing. Heat lamp in the bathing areas are intended to keep residents warm while dressing. Clean linen and soiled linen closets where also placed in each cluster for easy access for aides and nurses. Fresh sheets and towels are intended to be only a few steps away rather than at the end of a long hall or stored in a cart blocking the hall. Halls are short in the cluster and the stairway door is painted the same color as the walls to discourage unauthorized exiting. (See Figure 4.5)

**Figure 4.5** Diagram of One Cluster



All resident rooms are large with a toilet and sink. The rooms were arranged so a resident in a wheel chair can get to both sides of the bed

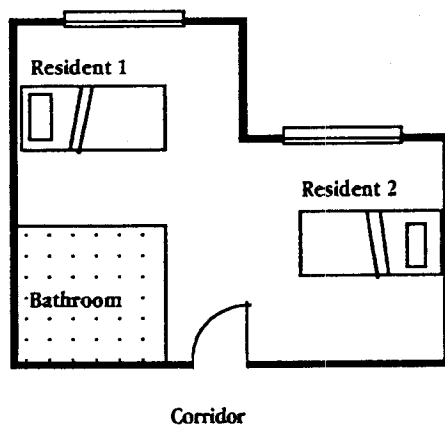
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and see out of the window. Windows are designed low with wide wood Formica sill for plants and mementoes. Curtains are provided with easy pull draws so residents can easily change the natural light in a room instead of calling a nurse. Instead of built-in closets, Alexian created custom wardrobes which would promote resident use. Door handles were selected to be easily opened from a standing or seated position. Each room was also to have its own control for heating and cooling so residents can select their preferred temperature. The shelves and poles are adjustable so various resident's reaches can be accommodated. Instead of the institutional fluorescent light over the bed each resident has a table lamp with a heavy base. The table lamp has an extra outlet and a built in night light. The lamp is operated by a toggle switch which can easily be manipulated by the residents. Semi-private rooms were designed in a "L" shaped arrangement. Each resident has his or her own definable territory with a window. The bathroom is located at the joint of the two wings.

Resident bathrooms were designed for resident and staff needs. The door to the bathroom is an accordion fold so wheel-chair bound residents can easily pull the door open and shut. Medicine cabinets are provided at a lowered height on the side wall so residents can easily access them from a wheel chair instead of behind the bathroom sink. In addition to the medicine cabinet, a linen closet for each resident provides storage for staff supplies instead of using resident dressers, night stands and closets. Each bathroom has louvered night lights so staff can easily stock the linen closets and medicine cabinets without

disturbing the residents at night. A vanity is provided in the bathroom which provides a more residential appearance. Each vanity around the sink was reinforced so residents can bear their weight on the surface. The bathroom is large enough so staff can easily assist in transferring a resident from a wheel chair to a toilet. A toilet height was selected which was appropriate without risers. The toilet tissue holder is placed in front of the toilet for easy reach by those with limited upper arm range and a grab bar is angled on the wall to accommodate different users heights. A separate grab bar swings from the wall for needed side support which can be swung out of the way when not needed.

**Figure 4.6** Semi-Private Room



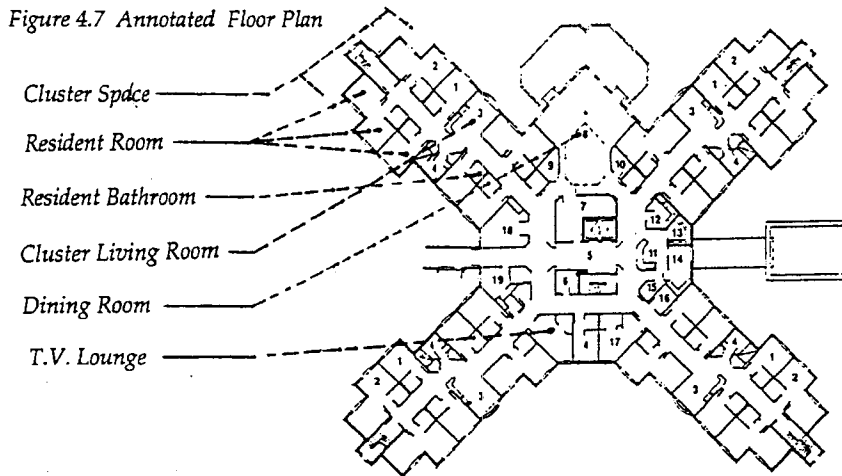
Other special amenities which Alexian decided upon were the use of carpeting throughout the project. The “carpet” is a rubberized matt which resembles carpet. This flooring is less institutional, has less glare, is easier to clean and provides some cushion for the residents who might fall. Tile is used in the bathroom areas. The tile was selected to provide traction by gripping the foot which would decrease the likeli-

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hood of falls. Alexian also installed a Wandergard system which provides less background noise.. Wandering residents wear a wrist band which will automatically lock all unsupervised exits without sounding an alarm and close the elevator door. while sounding an alarm. With this system there are fewer buzzers and auditory confusion in the hallways. The nurse call system is also intended to reduce auditory confusion. Not only does the system sound a tone but it is also has voice communication so staff can assemble supplies before resounding to resident needs and send the right staff person the first time to respond to the need. The system also can be silenced by visual means providing a quieter environment. The system will resound at a preset time if the visual page is not answered. Lighting through out the building is non-yellowing soft fluorescent lighting to provide less glare and truer skin color. Alexian also color coded each residential cluster to aid residents in determining their area. All the furnishing, finishes and pictures in each cluster are of the same color to promote wayfinding.

The exterior building materials where selected to blend with the existing buildings. A combination of brick and a faux stucco was selected. A pitched roof was included to blend with the other buildings and provide a more pleasing view for the residents who had apartments looking towards the new health center.

**Figure 4.7** Annotated Floor Plan



Key aspects of the spaces are:

### *Cluster Space*

- More familiar, residential, and less threatening atmospheres are created through the locations of resident bedrooms, which are located around cluster living room (social activity area), rather than a long corridor.
- The risk of wandering into stairwells are minimized because corridors do not end in social space and doors at cluster ends are painted the same as walls.
- Wandering path around the core area is designed to avoid any movement to corridor ends.
- Ease in way-finding is created by distinctive decorating in each cluster.

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### *Resident Room*

- Personal space, dignity, privacy, and individualism are enhanced by L-shape physical layout.
- Residents can keep in contact with outside environment through the design of large and low windows. (Even wheelchaired residents can get close to windows.)
- Large and spacious rooms allow residents to maneuver wheelchair independently.
- Lift-out drawers, instead of doors and shelves, encourage independent access to belongings and facilitate cleaning and moving.

### *Resident Bathroom*

- Wheelchairs can be easily manipulated in residents large than average bathrooms. Wide accordion doors increase the ease of access for wheelchair residents.
- Vanity around sink reinforced for weight bearing provides better access to hygiene equipment for both residents and staff.
- Low tower bars provide ease of seated resident access.

### *Cluster Living Room*

- Large and low windows with open area to accommodate wheelchairs, encourage looking outside, and keep residents in contact with seasonal changes.
- The nursing assistant work desk provides efficient and accessible workspace located within work area.
- The sink, small refrigerator, and table accommodate breakfast and



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small parties, allow residents to vary time and place of mealtimes by eating in the cluster living room.

- Cluster living room gives each resident a quiet extension of room for socialization, activities, and private visiting.

### *Dining Room*

- Single-purpose dining room is associated with “dining activity” only. (For example, dining chair design signifies special purpose of room and dining task.) Special activity of ambulating and changing chairs helps to trigger dining activity and stimulate appetite. The residential atmosphere is conducive to eating and socialization.
- Height adjustable tables with soft raised edges accommodates wheelchair residents and minimize spills.

### *T.V. Lounge*

- A large space with furniture groupings is conducive to socialization.
- 48" TV screen is easy for group watching and for vision impaired residents. —Sunny windows encourage interest in outside world.

Once a design based upon the cluster concept had been decided upon Alexian had to follow the resource allocation program process (RAP) set forth by the government. The design for independence and staff efficiency had a larger cost per square foot per bed and large amount of square footage. In addition the code which mandated all residents room doors be in view of the nursing station was not followed. Alexian had hoped to use video cameras to meet the code.. Alexian realized

### ***Design Approval***

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that getting approval would be very difficult under Chapter 150 of the Health and Social Services. In the spring of 1989, the Alexian administration decided to send letters to the health secretary defining problems with the current formulas and inequalities of current rules. The following issues were raised:

- 1) *The current cost cap is inadequate to provide buildings designs that promote efficiency in resident care*
- 2) *Although the state is concerned with the quality of care, it restricts using the building to aid in creating a quality environment.*
- 3) *With an average construction cost for skilled care is \$75 per square foot, it is impossible to provide private rooms and stay within the cost cap.*
- 4) *The current formula does not allow for differences in the facility size. Total project cost per bed can be much lower for a 120 bed facility than a 60 bed facility since support area size differences are not as great. Therefore, smaller size projects are penalized.*
- 5) *The current formula does not allow for a provider to construct a better quality facility through donations or through its own resources even if the provider agrees not to include these costs in the Medicaid capital rate.*
- 6) *The current formula does not allow for differences in the percentage of Medicaid residents—since the construction cost per bed for the total project is driven by an effort to hold down Medicaid costs—a facility being totally private pay or a low percentage of Medicaid should allow for variances in the formula. The private pay provider wishing to construct a quality project has no freedom to do so in this state.*
- 7) *Gerontological design experts found Wisconsin to be one of the most restrictive states in total square footage per bed because of the current RAP formula.*
- 8) *The life cycle analysis indicates the benefit of one-time construction costs versus yearly savings due to staff efficiencies, reduced turn-over, and enhanced quality of care.*

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The response from the department was that they would be reviewing the issues raised.

In the Summer of 1989, Alexian met with a state regulator to discuss their plans prior to submitting a proposal. The regulator recognized the need for such a facility and supported the use of TV monitors as a means of decentralizing the nursing home. However, in a subsequent meeting the regulator insisted upon one centralized nursing station in view of all resident room doorways. The state felt the TV cameras would violate resident's privacy and the spacious bedrooms unnecessary.

Alexian decided to lobby legislature to assist in getting their design approved. The Alexian board authorized the administration to file a law suit if lobbying was not successful. Over 100 letters were sent by residents and family members requesting approval for a design. The letters asked why should a restriction be made against a private pay facility which was willing to pay the extra cost for a larger, better quality facility? Responses from legislators indicated they would seek a way to approve the design.

In the Fall of 1989, Alexian was informed by the state it was considering a new permanent ruling which allowed CCRC's to have a higher cost per bed formula. Since this ruling would take some time, Alexian decided to seek creative ways of getting approval by reducing its cost per bed. After speaking with health care management consultants, Alexian decided to use an allocation method in which construction costs for

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unrelated health center square footage was not reported in the cost per square footage. These cost were caused by being connected to the CCRC. Alexian met with the state to approve this method and received a tentative approval.

On September 29th, Alexian submitted its proposal using the allocation method. After several follow up information meetings Alexian met with the state. They were told that once the television monitor/nurse aid desk issue was resolved the application would be considered complete. At that time, the allocation method still appeared hopeful. On October 26th, the state finally agreed to a decentralized nursing station but demanded that each nurses aid station be staffed twenty-four hours a day in each cluster. Alexian agreed to this change. The building design was adjusted to allow each nurses aid desk to view all resident room doorways according to code. With this change the RAP was considered complete and would go before the board in February of 1990

On January 29th, the state informed Alexian that they could not accept the rational for allocating funds to the CCRC for the second and third floors. Alexian responded to this critique by using a "cost causative principle" rational. Simply stated "the causer of a cost ought to be the payer of cost" Alexian argued that the cost caused by the CCRC should not be considered part of the cost of building the new health center. Alexian found three main areas which increased costs which were caused by the CCRC. First, the building materials selected for the exterior were brick and dryvitt to blend into the rest of the CCRC campus. Sec-

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ond, the design dictated a pitched roof to be consistent with the rest of the CCRC, provide an acceptable view for apartment residents and promote a residential image. Third, a higher grade mechanical system with variable volume controls was used to remain consistent with the demands of the CCRC market. With these costs not allocated to the new health center, Alexian's building costs would be under the current cost cap.

After several delays and extensions, Alexian was informed that the state was concerned about setting a precedent which other nursing homes would follow. The state asked for a position paper from Alexian which would clarify how they could define future policy if the state approved the plans and proposed allocation process. After Alexian submitted the position paper, they were eventually informed that the state would not accept the allocation method. Approval for the project was being considered by a rule-making procedure. Two options were being considered by the state: first, a special rule for Alexian Village only, second, a raising of the cost cap for all facilities in Wisconsin. Two options were given to Alexian Village—Either place an indefinite hold on their application and wait for the new ruling or accept the denial and appeal. Alexian agreed to an indefinite hold but requested they had the right to request a decision at any time. Once again Alexian decided to use political pressure to try to gain approval. One resident even tried to see the state governor to lobby for approval.

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Alexian RAP application was approved with no explanation on January 22, 1990. On May of 1990 a new cost cap formula was introduced for Wisconsin to finally reflect changes in the cost of construction. The new cost cap was increased from \$41,664 per bed to \$45,136 per bed.

## **CONSTRUCTION**

During construction the contractor assisted with value engineering. The plenum space between the ceiling and the deck was used as a return air duct instead of the an more expensive return air duct. To simulate brick without the cost of brick, a brick colored and scored concrete block was used on the exterior of the building. However, the state added to the cost of the building. Once construction was underway, the state demanded a change in the design. Alexian had to move two room doorways to make them visible to either a nursing station or a nursing assistant station. This had be changed after the plumbing stacks were already installed. These two rooms however comprised resident privacy and the living space for these two rooms.

Construction continued until the Fall of 1991 when Alexian moved the residents from the old health center to the new health center. Once residents where moved in the renovation of the assisted living facility began. Now it is time to test to see if the goals of the design team where met.

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# EVALUATION

Was all of the effort put forth by the design team, consultants and the staff and residents of Alexian Village effective in creating a truly therapeutic environment? This chapter provides a brief evaluation of the facility testing the three main goals of the design which were created by the staff and residents of Alexian Village. A variety of studies were conducted to test goals of whether the new facility had a non-institutional/residential environment. Did the new facility promote resident independence and create a higher quality of life for its residents? Did the new facility increase staff efficiency?

## SOURCES OF INFORMATION

Information for this evaluation was compiled from a variety of sources. Behavioral mapping was conducted in both the old health center and the new health center to determine the effects of the new building on the resident population. Resident behavior was observed and recorded for its location in both the old and new building to understand behavioral changes due to the different environments. A typical day was mapped from seven in the morning to six in the evening. Behaviors were grouped as either positive/constructive or negative behaviors.

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Positive behaviors were more active or responsive such as talking, television viewing, watching or waiting. Negative behaviors included null (unresponsive to activity around them), null but responsive to stimuli, or stereotypic dementia related behavior (repetitive motions or sounds, calling out, talking to oneself, rocking or cradling head in hands).

Alexian continually evaluates the facility in order to try to improve the fit between the staff, residents and the setting. A survey of staff members was conducted one year after the project was completed to see if any improvement could be made. Alexian is also required by law to keep records of incidents and records on the resident population. These records provided comparative data on the resident population before and after moving in to the new facility. One such record is the incident report for the health center comparing the frequency of incidents before and after moving into the new building. For this comparison, incident reports for the first, second and the third quarters of 1991 and 1992 are presented. The 1991 report is for the old Health Center which had 60 beds, whereas the 1992 one is for the new building which has 87 beds. The fourth quarter is not presented to allow one time period for residents to adjust to the new building.

Residents and their families were interviewed to obtain their opinions about the new facility. A focused interview with residents was conducted in July 1993 to solicit residents personal experiences in the new Health Care Center and the old health center. Additionally, telephone interviews were undertaken in August of 1993 to obtain family member's



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opinions about the new health center. These studies and records provided information about how well the new design is working.

## **RESIDENTIAL ENVIRONMENT**

A great deal of effort was put forth to provide a non-institutional or more residential type environment. This type of environment was hypothesized to encourage more normal behavior patterns. During the focus group interview with the residents and during the telephone interviews respondents were asked whether the new health center resembled a hospital, hotel or a home. The majority of the responses from residents indicated the new building resembled a hotel. The main reasons mentioned were (1) many people and many services, (2) everyone is taken care of, and (3) the cleanliness of the building. Not a single resident or family member felt the facility was hospital like. However, only two of the twenty-five residents who participated felt the facility was home-like. These responses indicated that the facility is not perceived of as a home but more of a full service hotel. Therefore, Alexian has been able to maintain a non-institutional appearance for its residents and their family members to the extent possible in such a controlled environment. However, with all of the services available residents identify the environment as more of a hotel. This identity with a hotel was also evident in the behavior mapping research.

After moving into the new building resident behavioral patterns of space use became more residential in character (See table 5.1). Rooms are used similar to apartments with less idle time spent in the activity/din-

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ing room. The dining room has become less chaotic with more social behavior occurring during meal times. In the old health center residents were observed the majority of the time in the dining room/activity room (45.00%) while bedroom observations were less (31.2%). After moving to the new building, residents spend more time in their bedrooms (44.05%) than in the dining room (23.83%). The new dining room is only used for eating; Accordingly, its frequency of use has dropped significantly. Second-floor new health center residents were observed 59.2% of the time in their bedrooms while third floor residents were observed 28.9% of the time. Third floor residents spend less time in their rooms than second floor residents which should be expected for wandering demented patients. However, overall, bedroom usage increased with the larger more private rooms.

Not only has space usage change after moving to the new building, but the distribution of behavior in rooms has changed to a more characteristic residential behavior. Private and disruptive behaviors now take place more in the bedrooms. In the Old Health Center, sleeping occurred 50% out of the total instances this behavior was observed in the dining room. Stereotypic behavior occurred 73% in the dining room. The distributions for these behaviors by room changed in the new health center dining room—sleeping (6.5% average, 2nd floor-6% & 3rd floor-7%), and stereotypic behavior (10% average, 2nd floor-0% & 3rd floor-20%). The use of the dining room as a single purpose space has evidently had a positive effect upon the resident population. These figures indicate the calmer environment of the dining room may have

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aided in reducing stereotypic behavior during meal times. Since the room is used for the single purpose of dining three times a day, sleeping behavior have decreased, accordingly.

Behavior also changed after the move to the larger bedrooms in the new health center. Residents in the old health center were observed in their bedrooms sleeping 36% out of the total instances this behavior was observed. Residents were engaged in stereotypic behavior 9% of the times observed and talking 34%. In the new health center residents both second and third floor residents were observed an average of 73% (2nd floor-87% & 3rd floor-59%) times sleeping. Stereotypic behavior was observed an average of 60% (2nd floor-86% & 3rd floor-34%) of the time and talking 43% (2nd floor-58% & 3rd floor-28%). Previously a great deal of talking behavior occurred in the dining room (46%) while now talking behavior has spread out to the rooms decreasing the dining room as the primary social space (26% average, 2nd floor-22% & 3rd floor-30%). Television viewing (16.05%) is a more frequent behavior for residents in the new Health Center than in the old Health Center (10.2%). The smaller rooms of the old center would only allow one television set per room which was difficult for a roommate situation. Larger rooms allow residents more choice and privacy for television viewing. Residents on the second floor clearly used their bedrooms for private behaviors such as sleeping, as well as, a space for more social encounters with visitors. These figures indicate that more private bedrooms are associated with a greater variety of behavior, for the isolated to the very social.

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A residential character was also intended to be implied by de-emphasizing the nurses station and creating cluster living rooms. With the nursing station not being in prominent view, fewer residents gather in the area. In the old health center residents were observed in the area 3.6% of the times observed while the new has an average of 2.5%. One family member felt that the less prominent station was much better for both staff and residents because it contributed to a less chaotic environment.

The Cluster living rooms were also an important part of creating a residential environment. However, Cluster living rooms are not used very frequently by residents except the one cluster with a television set. Cluster living rooms are used less by second floor residents but greater by third floor residents. This is possibly due to the more wandering nature of third floor residents. This is also because staff tend to place demented residents in front of the television on the third floor. Although these spaces may not be used frequently they were mentioned by family members and residents as important spaces during the interviews. One resident who participated in the group interview felt these living rooms made the place a home. The administration also felt that cluster living room usage would increase when more events were planned in these areas. A new activity director was recently hired with plans to encourage cluster living room usage.

**Table 5.1** Frequency of Space Usage

	Old HC	New HC Avg	2nd Floor New HC	3rd Floor New HC
Bedroom	31.2%	44.05%	59.2%	28.9%
Bedroom Corridor	5.6%	5.15%	4.6%	5.7%
Dining Room	45.0%	23.83%	27.3%	20.4%
Cluster Living Room	-	5.8%	3.3%	8.3%
TV Room	12.0%	16.4%	3.1%	29.7%
Nursing Area	3.6%	2.05%	1.3 %	2.8%
Other	2.5%	2.75%	1.3%	4.2%

The responses and the studies indicate that the new health center is a less-institutional environment. Not only do residents identify with the new facility as a hotel but there patterns of use are more akin to a hotel. Social behavior has spread through-out the facility instead of a confusing single purpose day room. Residents are also performing more private type behaviors in there bedrooms and not in public areas. However, this section would not be complete without photos of the cluster living rooms and semi-private room which provide an indication of the ambiance Alexian has achieved. (See Figure 5.1, 5.2, 5.3, & 5.4) These photos would not be found in nursing homes of the past. Since a comparative study of institutional images vs the new health center was not conducted as part of this research, it is impossible to provide empirical data that supports the non-institutional image of Alexian. However, there is a clear difference between a traditional facility and Alexian.

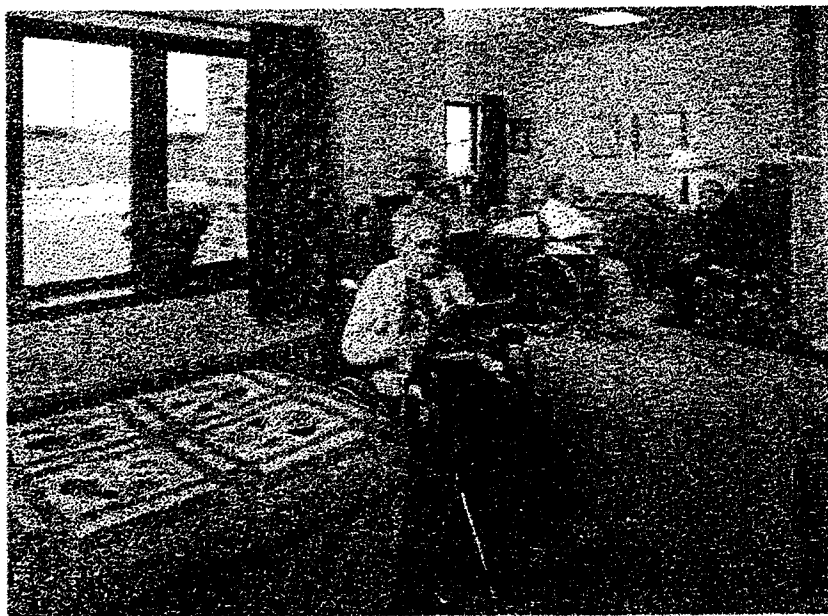
**Figure 5.1** Cluster Living Room of the New Health Center (1)



**Figure 5.2** Cluster Living Room of the New Health Center (2)



**Figure 5.3** L-Shape Resident Room of the New Health Center



**Figure 5.4** Hallway in the Old Health Center



## RESIDENT INDEPENDENCE

The new health center was designed to provide a better quality of life for its residents by promoting resident independence. Extra square footage was added to promote independent locomotion in a wheelchair as well as other features which promoted independent activities of daily living.

A comparison of the typical behaviors observed in the old and New Health Center reveals more instances of positive/active behaviors. Residents in the New Health Center were observed more frequently talking, watching TV, watching or waiting, and less time in behaviors categorized as negative. (See Table 5.2).

**Table 5.2** Frequency of Behaviors Comparison

	Old HC	New HC Avg	2nd Floor New HC	3rd Floor New HC
Talking	5.3%	8%	9.2%	6.8%
Eating	13.4%	12.65%	14.0%	11.3%
Read/Write	1.9%	3.1%	5.0%	1.2%
TV	10.2%	16.05%	14.9%	17.2%
Watching / Waiting	14.3%	15.6%	14.9%	16.3%
Circulate	6.1%	8.85%	2.7%	10.0%
Pacing	21.3%	-	-	1.7%
Sleeping	16.8%	12.8%	12.1%	13.5%
Stereotypic	5.7%	2.9%	.2%	5.1%
Null	7.2%	6.3%	6.0%	6.6%
Null/ Responsive	2.6%	2.2%	2.0%	2.4%



Another indicator of a better quality of life is comparing the frequency of incidents. Residents in the Old Health Center (3.08 incidents per bed) did have a higher frequency of incidents than those in the New Health Center (2.34 per bed) (Table 5.3). Specifically, the residents of the New Health Center had more afternoon and evening shift incidents, whereas those of the Old Health Center had more days and night shifts incidents. All types of incidents decreased except for falls. The number of bathroom incidents decreased greatly with the larger bathrooms. Overall incidents also have less significant effects on the resident.

**Table 5.3** Incident Report Summary: A Comparison

	Old Health Center (60 beds) Q1-Q3 (1991)	Frequency of Incidents per bed	New Health Center* (87 beds) Q1-Q3 (1992)	Frequency of incidents per bed
Total Frequency of Incidents	185	<b>3.08**</b>	204	<b>2.34**</b>
<b>TYPE</b>				
Wandering	30	0.50	29	0.33
Falls	91	1.52	139	1.60
Behavior	11	0.18	6	0.07
Skin (tear/bruise)	39	0.65	20	0.23
Other	15	0.25	18	0.21
<b>LOCATION</b>				
Room	54	0.90	86	0.99
Bath	54	0.90	29	0.33
Hall	6	0.01	14	0.16
Commons (DL/Lounge)	78	1.30	41	0.47
Other	7	0.12	33	0.38
<b>SHIFT</b>				
Days	70	1.17	71	0.82
PMs	35	0.58	114	1.31
Nights	39	0.65	22	0.25
<b>EFFECT</b>				
Significant	9	0.15	12	0.14
Moderate	68	1.13	43	0.49
None	107	1.78	149	1.71

\*New Health Center was completed in August 1991

\*\*may = > Total Frequency of Incidents

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Other records kept by Alexian indicate the building has supported resident independence. Larger and more plentiful bathrooms have improved bladder continence by 16% and improved bowel continence by 9%. Residents locomotion has increased 9% since moving to the new building, with more space for independent wheelchair use. Residents are also depending less on staff assistance for basic hygiene. Dependence has been reduced by 9%. Accessible closets, medicine cabinets and sinks are having positive effects. Residents are also calmer in the less chaotic environment of Alexian which has reduced the use of antipsychotic drugs by 4%. The death rate has even decreased by 15% for residents which moved to the new facility.

One feature that was tried at Alexian did not prove to be very successful is promoting resident independence. The color coding of the different clusters was intended to provide a wayfinding cue. However interviews revealed that residents did not pay attention to the “color” but to “numbers” and “letters” in their ways of spatial orientation. Residents and family members felt that only familiarity with a space can improve one’s wayfinding ability. In fact most of the residents, staff, and family members were not aware that color coding took place. Most residents indicated that they did not get lost in the facility once they were familiar with the layout.

Residents have even made positive comments about the difference the new health center has made in their lives. One resident said, “The nicest thing is that I have choices again.” Another resident said, “I feel

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better and my outlook is better.” There is overwhelming indication that designing for residents needs has improved resident independence in the new health center. Increased resident independence also goes a long way toward promoting the third goal of staff efficiency.

## **STAFF EFFICIENCY**

Staff efficiency was also a critical goal for the design of the new building. A key part of staff efficiency is turnover and recruitment which requires extra time for training. Staff turnover in the new building has decreased by 13% since the new building opened. Recruiting staff for the new facility has improved. The nurse manager had to turn away 60 nurses who wanted to work in the new facility. Staff member were also surveyed for their opinions about the new building concerning staff efficiency. 98% of the staff responses indicated that the building was promoting staff efficiency. Only 2% of the staff responses indicated that the building was not performing well. The cluster linen and soiled linen closets were one key feature that staff enjoyed as well as the more private nursing station.

Responses for the open ended comments indicated the new building not only improved staff efficiency but also morale:

*I can spend less time getting supplies and more time helping people out  
I feel like I'm more satisfied with my work because I don't have as many loose ends.  
I just fell better when I come here  
I enjoy coming to work  
I appreciate my job more  
It has lifted my morale and changed my attitude toward nursing homes  
I wish all nursing homes were like this one.*

Clearly, Alexian Village has achieved its three goals for the health center. However, Alexian constantly reviews the setting to make changes in the building if they are necessary. Evaluations indicate only minor changes are a necessary that where overlooked during design or removed because the of the cost per bed cap. Alexian Village residents and staff are winners in the battle to create a therapeutic environment for the elderly.

**Figure 5.5** A Comparison between Old and New Health Center

Old nursing station



New nursing station



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# CONCLUSION

The administration's focus on residents' independence, freedom of choice, as well as encouraging staff creativity and innovation played a strong role in creating the new health center. Alexian mission statement drove the design goals for the new facility. The questioning and reinterpretation of the codes were a result of the creative team assembled at Alexian Village. It is hoped that this story of innovation center will encourage others to consider all the factors and be prepared to make a commitment to provide a true therapeutic environment for the elderly. This monograph set out to achieve four major goals.

### *Four goals of this monograph*

*Communicate that an institutional setting for older person is interaction of the three dimension of the organization, the individuals and the setting*

*Demonstrate the role of the physical environment as a therapeutic tool*

*Demonstrate the importance of the preparatory process in creating a facility for older persons*

*Demonstrate the awards of constant analysis and evaluation.*

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These four important issues should be summarized in the conclusion to conceptualize the value of this monograph.

Alexian Village set out to create a therapeutic environment. In order to do so they had to manipulate the three dimension of individuals, organizational influences and the physical environment. An institutional setting for the elderly is thus considered to be an interaction of these three dimensions. For instance, the goal of the health center is to retain residents independence, dignity, autonomy, and control of their own lives. Without consideration of individual's characteristics, the services provided by the health center may not meet residents needs. The goal is thus hard to achieve. Without consideration of the physical environment, personal territory is hard to be defined and institutional atmosphere is difficult to be improved. One example of all three dimensions is the Dining Room. Alexian wanted to provide a more residential atmosphere and increase staff efficiency while promoting resident independence. The organization had to change to a waitress style of dining and be willing to only use the room for the primary purpose of dining. Individuals had to be accommodated by providing tables suitable for wheelchairs, appropriate silverware and plates. The setting was manipulated by making the room different from the rest to make the setting special. The room was zoned for smaller groupings of residents. The room was also large to encourage residents to park their wheelchairs and dine. Bathrooms were located near the dining room for resident needs and staff efficiency. All three of these dimensions working together have created a better dining experience.

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The second goal was to demonstrate the role of the physical environment in creating a therapeutic environment. The goals of this therapy is encourage the residents' sense of value. This sense of value can be conceptualized through an individual's independence, privacy, dignity, meaning, status, memory, and pride. The efforts to provide a familiar residential setting and to minimize physical barriers are important therapeutic goals for the setting. A familiar residential setting is hoped to provide cues about activities of daily living for confused residents. Efforts were made to use residential fixtures and finishes which are found in typical homes. The environment was also customized to the elderly changing needs. The larger rooms were critical to allow residents to operate wheelchairs independent of staff. Bathrooms were laid out to make sure that resident could easily use these areas with minimal staff assistance. In these cases the environment is playing a key role in allowing the resident to remain independent.

The third goal emphasized the importance of the preparatory process in creating a facility for older persons. Alexian Village researched existing facilities and reviewed studies of the elderly before thinking about designing the facility, Staff and resident were involved to get as much feed back from the users of the space. A strong mission statement and goals also dictated what Alexian expected from its new health center. However Alexian not only reviewed micro factors of the existing environment; for instance, site benefits and constraints, budget, the served populations profile, and staffing issues, but also the macro factors of political arena. Alexian used several innovative approaches to get their

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project approved. Advanced research paid off by being ready to respond to state regulators issues quickly. By involving residents in the process, lobbying the state was much more effective and widespread. It is doubtful if the facility would have been approved by the state if it was not for the well thought out arguments by staff, residents and consultants who were involved in the design of the new building.

The last goal emphasized the importance of continually evaluating the facility. It is well accepted that “time” is one all-pervading factor which influences the environmental quality (physical, social, and interpersonal environments) and residents’ residential expectations, preferences, needs, and lifestyles. To have a true measure of “getting better” or “life satisfaction” among the elderly in a nursing home, evaluation must be a continuous process. This is something that comes naturally to Alexian since it constantly reviews its staff for suggestions to improve the existing facility. With so much time and effort put into creating the new facility, Alexian wants to make sure it continues to provide high quality of care. Since the innovative facility did not come with an owners manual it takes time to educate staff about therapeutic ways to use the cluster. Upon learning that cluster living rooms were not used frequently by residents, Alexian is implementing activities for small groups in the living rooms during the day. They hope that these activities will increase cluster use. The cluster design not only allows the building to be flexible to the changing needs of the facility but also provides opportunities to conduct comparative research. Alexian continues to do research in the building to test various therapeutic approaches to



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Alzheimer's care. Alexian also shares the results with other facilities by attending various conferences attended by other care-providers and facilitators.

It is hoped that this story of innovation will encourage creation of other therapeutic environments for the elderly. Although the process of implementing innovative ideas in environments for the elderly is a difficult one, which would involve challenging existing codes as well as norms, the positive results resulting from such endeavors clearly indicate it is well worth the effort.

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