
HISTORY OF THE HEALTH CENTER

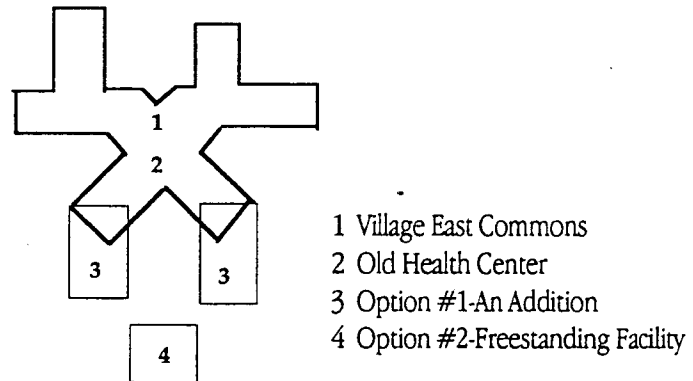
This chapter tells the history of creating the new health center from its planning stage in 1988 to the date of completion in 1991. The features of the facility will be discussed as they were researched and then implemented into the design.

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-

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

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)

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

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.

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.

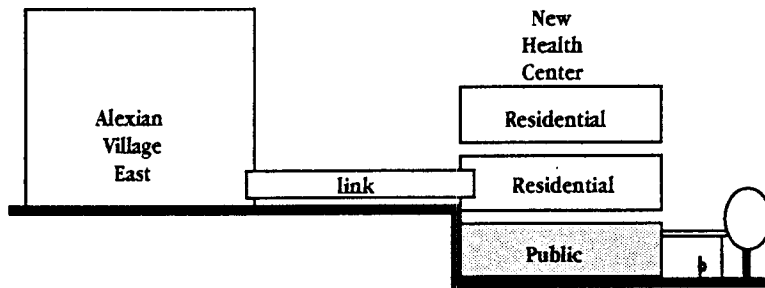
Responsiveness to the Cognitively Impaired Persons

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

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 were 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

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

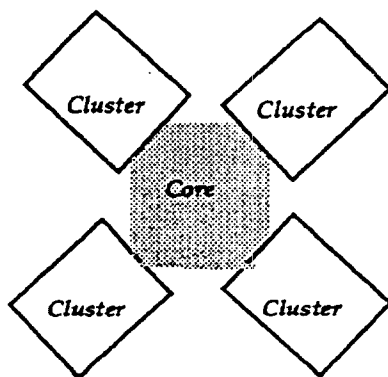
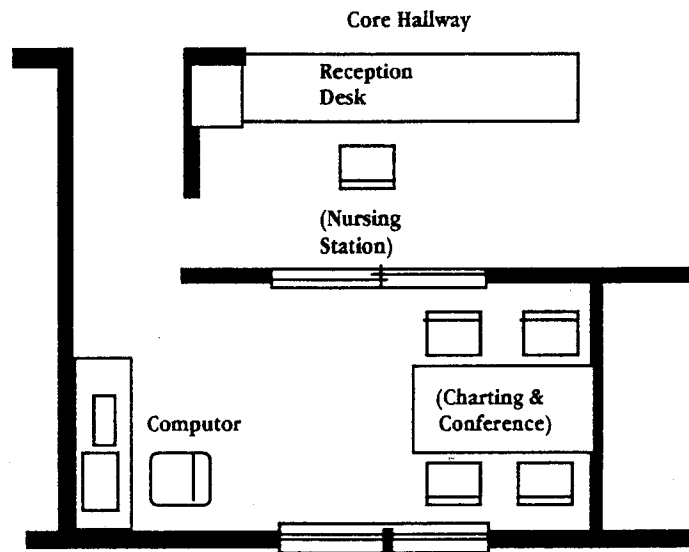


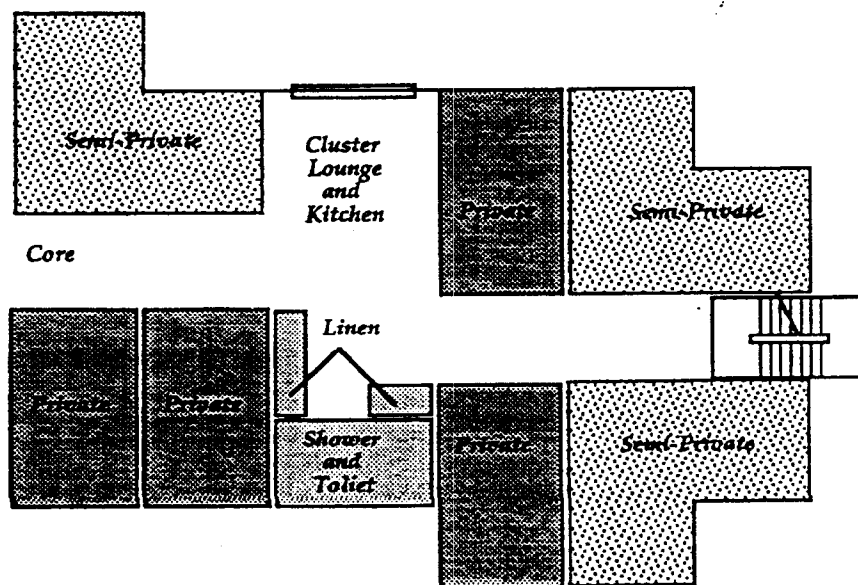
Figure 4.4 Nursing Station and Charting & Conference



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



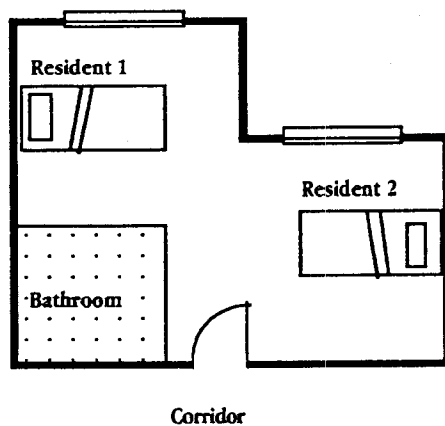
All resident rooms are large with a toilet and sink. The rooms were arranged so a resident in a wheel chair can get to both sides of the bed

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

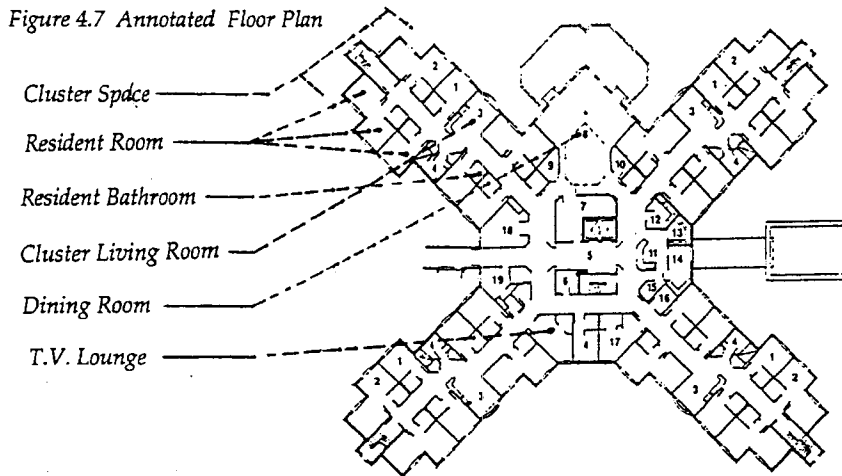


Other special amenities which Alexian decided upon were the use of carpeting throughout the project. The “carpet” is a rubberized matt which resembles carpet. This flooring is less institutional, has less glare, is easier to clean and provides some cushion for the residents who might fall. Tile is used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

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.

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

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 wheelchaired 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

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.*

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

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-

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.

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.