Bedroom Design

Decisions about bedroom design are a significant consideration when designing a care community. The largest concern relates to the proportion of shared rooms versus private rooms. We will discuss benefits for residents, staff issues, family satisfaction, and clinical outcomes. This paper will then address design considerations not related to private versus shared configuration.

**Private Room vs. Shared Room**

The literature is clear that private rooms benefit the resident in both psychosocial and physical/clinical ways. Private rooms are associated with increased mobility and range of motion\(^1\). They also lead to improved sleep with fewer interventions for promotion of sleep\(^2\). It has been suggested that a larger size (12’ x 24’) private room can help residents feel less claustrophobic, move about more safely, and demonstrate fewer behavioral problems\(^3\). Regardless of size, however, numerous sources found that private rooms resulted in a major reduction in irritability and conflict between residents\(^4\). It is also easier to personalize private rooms, providing familiarity and continuity with the past, and supporting a sense of identity\(^5\).

Baugh replicated earlier results by showing a 20 to 1 preference for private rooms for the reasons of privacy for self and others\(^6\). Residents who felt they had more privacy expressed greater satisfaction with their current experience\(^7\).

Residents had the most trouble with a roommate when they felt they had lost their autonomy\(^8\). This relates to the lack of control over environment-based stimulation, such as television or radio control, access to and control over the
window, or having to pass through someone else's territory to use the toilet or leave the room\(^9\).

On the less positive side, private rooms are also associated with decreased incidences of interpersonal interactions and less self-maintenance behavior\(^{10}\). Calkins and Cassella conducted an exhaustive literature review and found one research project where 22% of residents in shared bedrooms indicated a strong emotional bond with their roommates\(^{11}\). This means 78% did not have a strong emotional tie with their roommates. Interestingly, even people with strong emotional ties to their roommates indicated a preference not to do activities with, or confide in, their roommate. This suggests that some residents may “make the best of a bad situation,” particularly when having a private room is not an option.

Although many people may argue that a care provider should provide all private rooms, there are times when some residents may want to share a room, such as with spouses, siblings, or friends\(^{12}\). Furthermore, privacy in bedrooms is not necessarily an either-or proposition: it can be viewed along a continuum. At one end are multi-bedded open wards (no longer permitted by code) or rooms with two people separated only by a piece of fabric (we refuse to call this a privacy curtain!). This provides visual privacy (if someone remembers to close the curtain) but not auditory or olfactory privacy. The location of the curtain does not guarantee separate territories for each individual. At the other end of the privacy continuum is a private room with a private toilet room with bathing/showering available, which provides privacy at all levels. In the middle are a variety of room layouts that give each individual a certain level of privacy, but also compromise privacy in some manner. The plans below illustrate two-person shared rooms that range from less privacy to more privacy. Each can be considered in terms of: (1) different types of privacy, (2) defensibleness of the space (territoriality), and (3) access to resources (such as windows).
Traditional Shared Room

The “traditional shared room (often referred to as a “hospital layout”), where beds are separated by a cubicle curtain.

Privacy - low. Because the only separation between the beds is typically a cubicle curtain, there is virtually no acoustic, olfactory, or thermal privacy. Not only are conversations with visitors and television programs overheard, but conversations between caregivers and the resident, and noises related to the provision of care are overheard, seriously compromising HIPPA privacy regulations.

Defensible Space – low. Because the individual living by the window must cross the space of the person who lives on the hallway side, there are frequent and uncontrolled intrusions into each other’s space by the resident, staff, and visitors. Further, because these rooms often have minimal square footage, residents’ belongings often make the room highly cluttered and difficult to move around in. A common complaint is that one person’s belongings impinge on the territory of the roommate.

Access to resources – unequal. The person on the hallway side has no control of, or visibility to, the window if the cubicle curtain is closed. The resident further away from the window does not get the benefit of the bright, outside light which is shown to reduce agitation\(^{(13)}\). Depending on the layout of the room, sometimes wardrobes and dressers are built in, but may be located only on one side of the room, which necessitates repeated trespassing behavior on the part of the roommate or staff to get clothes. The resident with dementia who cannot see the toilet from his or her bed is more likely to have incidences of incontinence (see paper on toilet rooms for further reference)\(^{(14)}\).
Enhanced Shared Rooms

Toe-to-Toe Layout

This type of toe-to-toe layout (and similar “L”-shaped plans) are referred to as “enhanced shared” rooms\(^{(15)}\). An enhanced shared room is defined as giving “each resident a well-defined and generally exclusive territory within the room or provide essentially private bedrooms with a shared bathroom” \(^{(16)}\). These rooms would have to be larger than the traditional layout, but have additional benefits of allowing the resident to move around more safely and allowing more room for visiting with more than one person\(^{(17)}\). An option that takes up the least amount of floor space is the toe-to-toe arrangement of residents’ beds\(^{(18)}\). Diagrams of this arrangement can be found in Calkins (2001). However, this arrangement reduces the ability of the staff to see the resident from the hallway. Although this creates more privacy, it makes monitoring residents more difficult for the staff.

Privacy- low. The dotted line represents a cubicle curtain, so there is still no acoustic privacy in this version. However, perceived levels of privacy are increased. Residents no longer have to pass through another’s territory to get to their space and belongings. Staff considers this arrangement to eliminate issues or problems between residents by 75-80\%\(^{(18)}\).

Defensible space- high. Each resident has equally defensible space, which means that there is no need for a resident to trespass into the other resident’s space to get to his or her space. Each resident has a window and equal access to the toilet.

Access to resources – equal. Each resident has his/her own window and closet in his/her own personal space.
**L – Shaped Room**

With this layout, referred to a “super-enhanced” or “privacy-enhanced” shared room, each resident has his/her own bedroom with a door, providing visual and acoustic privacy, as well as defensible space. There is still a door to the hallway, so the vestibule provides discrete access to the shared toilet. Note that each sleeping area has a sink for toiletries (plan courtesy of Nelson-Tremain Architects).

**Privacy**- high. Each person has the ability to close the door for acoustic, olfactory, or thermal privacy. Residents clearly have the ability to be as social or private as their mood dictates.

**Defensible space**- high. There are few intrusions into the resident’s space. Staff enters the room for necessary caregiving. A resident could allow access for visitors by leaving the door ajar, or deny access by closing the door.

**Access to resources – equal.** Each resident has equal access to the toilet room and windows. By having his/her own sink, a resident does not need to wait for a roommate to vacate the toilet room to perform grooming activities of daily living (ADLs). Residents can use any form of stimulation, such as a television or radio, without having to use another person’s belongings, or be forced to listen to another’s program choices.

An alternative way to provide both privacy and an option for sharing a room is to create “companion suites,” in which a door can be either placed or removed between two rooms (similar to adjoining rooms in hotels). There is no solid evidence as to current trends, but some experts suggest that roughly 15-20% of the rooms should be able to be shared if residents desire.
Shared Room Issues

One of the hardest aspects of the job for staff is constantly dealing with roommate conflicts. There is clear evidence that staff, including nursing assistants, social workers, and even housekeeping staff, spend time each week dealing with roommate conflicts. Some estimate this to be as low as 2 hours up to 25 hours, but may be much higher at times (or be perceived as much higher because nursing assistants in particular, multitask and cope with roommate conflicts while providing care)\(^{(19)}\). Having two residents in one place may allow the staff to be more efficient with care as they can take care of two residents at once\(^{(20)}\). However, small shared rooms make this care difficult as the staff cannot move around to do their work. Also, as mentioned previously, conversations related to care should be private, which is virtually impossible in a shared room where residents are separated by only a curtain. Cleaning shared rooms takes longer. It is also easier for staff to intervene in resident conflicts when there is a private location to discuss matters without being overheard\(^{(21)}\).

Another challenge of the traditional shared room design is that it can be more difficult for residents with dementia to orient themselves to their personal space because the room “looks the same” on both sides\(^{(22)}\). Efforts to personalize each resident’s space using display shelves, personal items, personal furniture and artwork\(^{(23)}\). Issues relating to visiting can hamper the relationship between roommates. This can be especially true during the dying process when family members want to be close to their relative, and the roommate feels as though he/she is intruding on a private time\(^{(24)}\). For these reasons and more, the traditional hospital style bedroom should be avoided.

Cost of Private Versus Shared Bedrooms

Calkins and Cassella conducted a detailed cost analysis of private versus shared bedrooms\(^{(25)}\). A copy of this paper, published in The Gerontologist is available for download free at www.IDEASInstitute.org. Go to the publications tab.
Room Layout and Doors

The type and style of doors used in the bedroom can impact the resident’s day-to-day life. Research conducted in the 1980s found an 8-fold increase in the independent use of toilets that were directly visible to the residents, as opposed to being located behind a curtain or door\(^{(26)}\). The location of the toilet, and the style and positioning of the door, need to be carefully considered. Some suggest that the door should swing outward into the bedroom\(^{(27)}\). Others argue that the door should be designed so that it can remain in an open position, maximizing visibility to the toilet. This can be accomplished either by having the door open into the bathroom against a solid wall (it must be a double hinged door for safety reasons), or by using a pocket or surface mounted-sliding door\(^{(28)}\). To the greatest extent possible, there should be a direct visual relationship between the bed and toilet to maximize independent continence.

Window size is an important consideration. Large windows (4’ x 6’) provide visual access to the stimulation outside, an issue considered important by staff\(^{(29)}\). The windows should be hung low enough (maximum 24 inches above finished floor) so that a resident in a wheelchair or reclining in bed can easily see out\(^{(30)}\).

Flexibility of Furniture Layout

Once the decision has been made regarding the layout of the bedrooms in terms of private versus shared and access to the toilet, one must consider the furniture layout in the room. Ideally, every bedroom has options for arrangement of furniture. In general, larger bedrooms allow for more flexible furniture positioning. One care community found that a 12’ x 12’ module, exclusive of the toilet room, provided maximal flexibility for a private room. The bed can be placed on different walls to the resident’s liking. This would mean that multiple locations for a call system be created, or a wireless system be installed (image on next page courtesy of Evergreen Retirement Community).
If the care community is a high-acuity home, there must be specific locations for medical gasses and suction. Although this may limit the bed placement in the room, it does not mean that flexibility of other furniture cannot exist, giving the resident a level of autonomy and personalization. The length of a call button cord must be considered. If the resident cannot reach it from the bed, safety issues are created and in turn, the placement of the bed will be limited

State building codes vary, but many indicate that there must be 3 feet of clear space on three sides of the bed (Delaware requires 4 feet between beds). Although subject to interpretation by the authority having jurisdiction, this does not mean that the head of the bed must be placed against the wall. Designing the bedrooms so the long side of the bed can be against the wall permits the greatest flexibility.

The ability to bring in favorite pieces of furniture promotes residents’ memories of the past and helps them to create a sense of ownership in their room. Also, bedrooms are nicer aesthetically with residents’ personal belongings. The 2009 Life Safety Code has been adjusted to allow for any style of furniture as long as there is a sprinkler system or smoke detector in the bedroom. Allowing residents to decorate their rooms in a similar style to their past homes eases the transition to the long-term care facility, and helps to increase the comfort level of the residents.

**Resident Personalization**

Residents are coming to the care community to live. They should be able to decorate their space with some personal possessions to assist in the transition to the
care community and create a more homelike environment in their living space. The design can assist with personalization. We have previously discussed personal furniture, so this discussion will entertain other forms of room personalization.

A resident may choose to bring items to hang on the walls. Staff feels that the hanging of pictures is tremendously important\(^{35}\). Some administrators express concerns over on-going maintenance (e.g., spackling and repainting to cover nail holes) required as residents change rooms. One way to solve this problem is to install plate rails and picture hanging systems that do not involve nailing directly into the wall surface\(^{36}\). Plate rails also allow the personal items to be kept out of the way of wandering residents\(^{37}\).

Another trend is incorporating display cases in the hallway by the bedroom door\(^{38}\)\). Display cases with personally meaningful items outside rooms allow better orientation for residents with dementia. Zeisel found that personal items at a bedroom’s entrance were associated with fewer inappropriate behaviors\(^{39}\)\). Other ways to identify one’s room include highly visible room numbers and distinguishing colors for bedroom doors\(^{40}\)\).

**Storage**

Studies are showing how the design of the resident’s bedroom can assist with the resident’s ADLs. Such design features include modified wardrobes, staff storage space in bedrooms, and location of light switches. Wardrobes or closets designed to make it easier to find and access clothing is one adaptation\(^{41}\). In one research project, clothing that was to be worn the next day was chosen the night before and hung in sequential order on one side of the closet, increasing dressing independence by 19\%\(^{42}\)\). Some have found that locking access to part of the closet can minimize rummaging, while others feel that residents should not be denied access to their clothing. The wardrobe should also be at least 36 inches wide and be wide enough to hold a coat, otherwise the implication is that one is unable to go anywhere\(^{43}\).
If a small amount of space is designated for staff supplies in the bedroom, the staff can be more efficient by not having to return to a central location between each resident visit. 

**Lighting**

Residents can begin their morning ADLs if they can have enough light to ambulate safely. There should be a light switch and call button close to the bed, easily reachable while still sitting on the bed. The ability to adjust lighting from more than one location also increases autonomy and safety. Be cautious when choosing tables with anchored lamps. These can improve safety, but will compromise the resident’s ability to choose where the lighting is placed. 

Other options for lighting can make the resident bedroom less institutionalized. For example, residents and staff indicate that lamps create a more pleasant aesthetic than just having ceiling fixtures. Lighting coming from various light sources offers the resident more autonomy in controlling the amount and type of light in the room. By allowing the resident access to easily adjusted window curtains or sheers, the amount of natural light can also be adjusted. 

**Visual and Auditory Stimulation**

Although wallpaper can be more homelike than painted walls, some patterns can be disorienting to the resident with dementia. Avoid patterns that have high contrast and appear “busy.” Carpeting in the bedroom can reduce ambient noise and provide texture to the room. Heating and cooling units should be as quiet as possible to avoid overpowering background noise, which makes conversation more difficult to interpret, especially with hearing aids. Ideally, each room will have individual control over heat and air conditioning, and controls should be easily adjustable by the resident. Call bells can be noisy, creating negative or unwanted stimulation. Televisions should be placed at eye-level, as higher placement can be negative.
References


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