

## Elderly Healthcare Design

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“According to the U.S. Census Bureau, the country’s elderly population will grow by more than double to 80 million between now and the year 2050, which equates to one out of every five adults in the U.S. will be over the age of 65” (Healthcare Design, 2011, p.18). The main reason for this growth is the aging of the baby boomer generation. Consequently, healthcare organizations are striving to make evidence based design implementations that cater to the needs of the elderly.

If healthcare organizations do not evolve with the latest evidence based healthcare designs, these organizations will lose their patient population due to patient dissatisfaction and the availability of better options elsewhere. In this paper, the background of healthcare design for the elderly will be presented; the positive and negative aspects of evidence based design will be discussed; and the considerations for healthcare providers practicing in evidence-based design facilities will be explained. Furthermore, implications for both the adult gerontology clinical nurse specialist and the military will be explored.

## **Background**

To understand the advances that have been made, one must understand what healthcare design has offered for the elderly in the past. The traditional model for long term care consists of an institutional environment with little room for visitors, large cafeterias packed with residents, crowded nurses’ stations being used as a gathering place for residents, and high patient to caregiver ratios (Healthcare Design, 2012, p.28) Such an environment is not conducive to the healing of the residents or the stress level of caregivers, other staff members, or loved ones. Many of these organizations have bad reputations due to overcrowding and the lack of amenities. Furthermore, this environment promotes medical error because the staff members are stressed.

These factors force organizations to question the traditional template and search for new solutions to these problems. Does the evidence based template address these issues, resulting in better outcomes for all involved?

### **Positive Benefits of Evidence Based Design**

According to Haq and Pati study (2010), “the evidence based approach works because design decisions are based on the best available research evidence in addition to professional experience”(p.75). The family members, patients and staff have a voice in the design of the facility. Mourshed et al., (2012), found that “well designed hospital environments increase staff effectiveness and satisfaction, reduce medical errors and hospital acquired infections, and decrease staff injuries and stress” (p.363). Evidence based design implementations can also assist with addressing issues important to the elderly such as cognitive function, promotion of sleep, temperature regulation, mobility, fall risk, and comfort.

Impaired cognitive function and confusion go hand in hand. Implementing ways to help elderly patients find their way around the facility is crucial to any healthcare environment. A study by Marquadt (2011), found that dementia patients have an easier time finding their way around when the patient’s photographs or personal items are placed on the door of their room and if the layout of the facility is simple with hallways interrupted by common areas such as the dining room. When patients are able to find their way around, fewer staff members are needed to help patients get where they want to go.

When a patient feels like they know where they are going, they are more likely to be mobile. According to Copstead & Banasik (2013), benefits of being mobile include lower incidence of becoming bedridden which could lead to bedsores, blood clots, muscle atrophy and

depression. An evidence based design facility will encourage mobility by placing rest stops such as benches along the path, placing artwork at stopping points for distraction, and having floors that are slip resistant.

The elderly are notorious for falling down and injuring themselves. Repercussions of a fall could include a longer length of stay in a hospital due to surgery, or greater resources used to alleviate pain and assist with rehab. All of these will incur cost to the organization, family and patient. In order to prevent this, a hospital or long term care facility must modify the environment. A study by Hignett (2010) found that “the following interventions make a difference: [lowering] toilet and bed height, keeping items within reach, clearing away obstacles (de-cluttering), having grab rails and a clearly marked pathway between bed and bathroom and having shock absorbing flooring to reduce harm in the event of a fall”(p.100).

One organization that has successfully implemented the new model of evidence based design is the cottage model design used by the Sitrin Health Care Center in Central New York. The cottage model is innovative and offers many amenities. According to Thisleton et al., (2012), only 12 residents live in each of its Cape Cod homes. Environmental control units are offered to give the patient the ability to control the bed, lighting, television, phone, and floor temperature. This enhances patient autonomy. Each resident has their own room and private kitchen, allowing for privacy and socialization with family and friends. Additionally, therapy is done in the cottages. This facilitates communication between staff and therapists.

### **Negative Benefits of Evidence Based Design**

Implementation of new evidence based design requires change to occur. As with any change, there may be resistance from the employees and the elderly patient population.

Leadership in the healthcare facility must obtain buy-in from these stakeholders. If leadership is weak, then buy-in will not occur and there will be negative consequences. Increased turnover might occur if the employees don't feel like they were consulted about renovations. Patient complaints may increase as well due to the noise of the renovations. Because the elderly are not afraid to speak their minds, their loved ones may start looking for a different healthcare organization that will be cater to their sensitivities.

From a cost perspective, if the evidence based design is not implemented in the early stages, renovations later on could be quite costly. Implementing evidence based design would require consultation. The staff, engineers, architects, and patients would have to meet together several times in order to ensure that the vision is shared by all. Day to day operations must continue with less manpower (since staff members are in meetings) and increased expenditures due to the renovations. Additionally, there are numerous other considerations that must be dealt with. Where do you build if you have no more room? What do you sacrifice? How long will this take to finish? What is the return on investment?

### **Implications for Military System**

Many military hospitals are old, austere, and have large retired populations living nearby. Patients often prefer to be referred out to a civilian provider because they receive care with lots of amenities. The military would be wise to use Fort Belvoir Community Hospital as a template because it offers many of the amenities that civilian hospitals have.

According to Hancock, et al (2012), "Fort Belvoir Community Hospital is the first integrated healthcare facility serving all branches of the U.S. military's active duty service members, retired veterans, and their families using evidence based design (EBD), sustainable

design principles”(p.102). Fort Belvoir provides several evidence based interventions that specifically assist the elderly population.

Evidence based interventions begin with the art on the walls. The hospital is broken into five sections, and each section has its own theme and colors. The themes include sculpture and art pieces depicting meadows, eagles, sunrises, rivers, or oaks. When an elderly person sees that the color scheme and artwork has changed, they know that they are in a different section of the hospital. Paid personnel are also available at the entrance to each of the five sections of the hospital. They are there to assist the elderly patients and their families with directions.

The hospital’s inpatient wards were also designed with evidence based interventions. The hallways are curved to allow the staff to have better visualization of wandering patients. The hallways have rugs. This reduces outside noise and promotes sleep. Patient rooms have large windows overlooking strategically placed gardens (for distraction and natural light). Each room is private (reduces nosocomial infections), has space specifically made for family members and has large bathrooms located close to the patient’s bed. Each room also has one large portable keyboard that allows the patient to control the lighting, control the TV, order food from a menu on the TV, and call a nurse. The hospital does not offer any fried food which promotes healthy eating. If an elderly patient is immobile, there is lift built in the ceiling to assist staff in moving the patient.

At Fort Belvoir, the return on investment is still yet to be seen. The military is looking to recapture the elderly patient population because many of them were referred out during the construction of this new hospital.

### **Considerations for Healthcare Providers Practicing in Evidence Based Design Facilities**

As healthcare providers practice in evidence based design facilities, it is imperative that these providers give their feedback about the facilities. This feedback is needed to determine the effectiveness of evidence based interventions within the day to day routine. Take for example, the lift system at Fort Belvoir. LTC Melisa Gantt, research chief of Fort Belvoir, did a survey and found that the staff had some complaints based on the design of the lift. (personal communication, May 19, 2014). The lift system takes three people to operate and takes longer than a one person transfer would. Staff would rather take the chance of injuring their back because the lift is such a hassle. Technology should assist the staff not hinder them.

Another consideration concerning the healthcare providers practicing in evidence based facilities is their willingness to embrace change. Leadership must demonstrate to staff the urgency and importance of accepting the new way day to day operations will be conducted. Kelly (2012) found “a consequence of evolving healthcare designs has shortened recovery times and hospital stays have increased the need for outpatient and in home care” (p.18). Healthcare providers will also notice that the evidence based facilities they work in will cater more and more to the wants of the elderly.

### **Implications for My Practice**

As a military adult gerontology clinical nurse specialist, evidence based design will only help my practice. Incorporating evidence based design will help recapture patients that would otherwise choose to be referred. Evidence based design changes can be made throughout the perioperative continuum from the moment the patient schedules a surgical appointment to the moment they are discharged. Making the surgical experience more pleasant for the adult population (including the elderly) and staff, is something I will be in a prime position to

accomplish. As a clinical nurse specialist I can push for evidence based design by providing research, consulting with leadership, and educating staff about upcoming changes. When blueprints are being made, I can collaborate with the engineers and the architects to ensure that their design is functional from the operating room standpoint. This is important because my expertise can prevent stress and costly redos. By being proactive in pushing for evidence based design change in our military hospitals, I can make a difference in the lives of the staff and the patients.

### **Conclusion**

Evidence based design will change the way future healthcare facilities are designed. After discussing the pros and cons of these new models, it has become clear that these new practices are beneficial to the elderly population. Because of the tremendous growth expected in this population, healthcare organizations would be wise to implement these strategies. Military hospitals, in particular, serve a large elderly population, and would do well to attempt to recapture these individuals using evidence based methods. This will save money, increase utilization of staff and clinics, and ensure that military medicine is held in high regard.



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