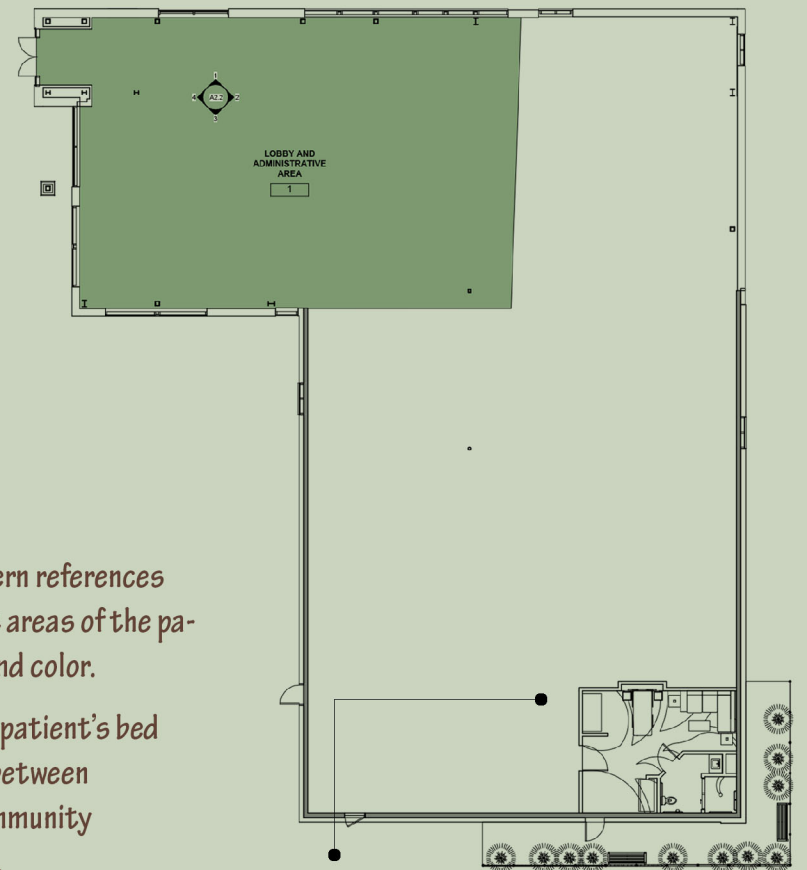


REDWOOD RECOVERY CENTER

Concept Statement

The goal of this design is to provide a futuristic vision of healthcare facilities by intertwining technology, nature and patient/family-centered care. The Redwood Forest serves as the inspiration as it embodies eternal life, tranquility and vitality. The Redwood is a celebration of stature and majesty of physical incarnation and creation. A theory known as Biophilia, states that humans are inevitably drawn to nature. Integration of nature in the patient room became a guiding principle through the use of operable windows, indoor plants, natural materials, views and access to the outdoors. The sense of community that exists today behind the preservation of redwood forests embodies ethics and morals that run parallel to the design of the space. A futuristic design from nature encourages sustainable design, materials, and energy use. This is the future of healthcare design.

Floor Plan



Perspective of Patient/Family Zone



Uratex Foam's Electric Bed implements the use of an electric controlled bed to maximize the comfort of the patient. It has the option of the patient being able to raise and lower the mattress through a console found in the side rails. This eliminates the need of a nurse to adjust the bed.

The Universal Control Pad is attached to the patient's side table using an adjustable arm that pivots allowing easy accessibility for the patient, staff and family. The Control Pad adjusts lighting, room temperature, window opacity, the T.V., bed adjustments, and the scenic view for the back wall. They can also access the internet and view their patient files giving the patient more control.

The presence of a skylight allows natural light to enter the room, reducing the need for artificial light. This also makes the space feel more organic and connects the space to nature.

The health monitor that records vitals of the patient has been placed above the patient bed in standing view for staff. Having it placed above the patient bed enables the view of the patient to become unobstructed while allowing the connection to nature to be more prominent.

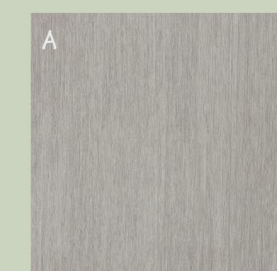
The bed sheets are woven with a synthetic fiber that monitors the patient's vitals (blood pressure, heart rate, temperature) using impulses in their skin. If there is a spike in their vitals the sheets are connected to an alert system that will automatically go off at the nurses station.

Every patient will be given a wrist band upon admission into the hospital that will be equipped with a scanning code. Nurses will scan the code and upload the patient's file onto their iPad, avoiding the problems that follow paper files. The band is also embedded with a chip where the patient is logged into a system everytime they pass through a doorway. This enables staff to locate each patient in the hospital in case of an emergency.

The digital wallpaper brings a Biophilic element to the patient's room. The scene can be changed to different outdoor environments through the control pad depending on the patient's preference, giving them more control of their surroundings.

A layered lighting concept was used in the family zone. Ambient lighting occurs through skylights and indirect lighting found behind the sofa. Task lighting controlled by the family allows for a variety of activities to occur, even while the patient is sleeping. All lamps are dimmable LED's to increase energy efficiency.

- The tree that is depicted on the floor pattern references biophilia and aids in wayfinding to different areas of the patient room using a contrast in materials and color.
- The family zone that is directly beside the patient's bed allows easy interaction and socialization between everyone using the space. The sense of community lowers stress levels and provides comfort.



Aria Gray Beige
Armstrong LVT
Natural Creations



Cerisier Heirloom
Armstrong LVT
Natural Creations



Ivory/White Pebble
Natural Stone Tile

Natural finishes being introduced throughout the space enable the theory of Biophilia to be integrated throughout the design of the patient recovery room. These holistic characteristics submerge the patient in a surrounding that lifts satisfaction, aids with the need for less medication, and lowers stress levels. These flooring selections from Armstrong come from a recycled collection of 4,000,000 pounds of harvested flooring while helping the company reduce their environmental footprint. The river rock stone tiles are also very receptive to passive solar heating, as they will hold and radiate heat long after the sun goes down.

REDWOOD RECOVERY CENTER

Goals:

PATIENT/FAMILY-CENTERED

- To design a space that focuses on holistic healing among the patients, family and staff by incorporating nature, biophilic elements, natural light and access to the outdoors that stimulates the growth of a community and a psychologically positive environment to improve overall health.

SUSTAINABILITY

- Allowing nature, and more specifically, the Redwood Forest, to influence a design that integrates sustainable materials in terms of energy efficiency, water usage, and material selections that aid a more sustainable design concept to promote holistic healing and reduce the stress levels of the patients, staff and family.

FUTURISTIC

- Through innovation of technological advances and the incorporation of nature in a healthcare environment, the space combines high-tech solutions with natural elements to create a patient room that promotes family engagement alongside with the patient and staff in order to achieve an optimal level of comfort, satisfaction, and enhancement in the quality of health.

CONTROL

- The patient room that once was focused on distribution of medicine as the main influence of healing now unites the patient with diverse technological advancements in order to create a more interactive space where the patient is in control of his/her environment to ensure that their experience is heightened by maximizing comfort.

COMMUNITY

- A recovery room that has an engaging family area that promotes interaction between patient and family, additional sleeping quarters that embodies a rooming-in theory to decrease acute stress and confusion, and an outdoor space that depicts a sense of community within those who inhabit the suite.

Research Statement

- The future of healthcare design is a welcoming environment that is a combination between innovation, patient-centeredness, sustainability, and nature. These important stepping stones align to create a new and improved healing environment.
- Innovation is defined as “the intentional introduction and application within a role, group, or organization, of ideas . . . designed to significantly benefit the individual, the group, or wider society” (Omachonu & Einspruch, 2010, p. 1).
- Implement various innovations throughout the plan. 70 percent of the 600 billion dollars spent on lab tests pays for paper (Omachonu & Einspruch, 2010, p. 6).
- Studies show that innovation raises customer satisfaction (76%), increases productivity (71%), and increases profit margins (68%) (Omachonu & Einspruch, 2010, p. 17).
- Through the use of technological advances such as digital patient files, synthetic bed sheets, and an interactive healing environment, the patient room can become an environment where patient, staff, and family collaborate during the therapeutic process. This leads to the importance of having a design that supports a patient-centered theory.
- By involving the patient with decisions, a hospital can become a rich site for exploration of a cure or increased quality of life as opposed to a mere passive landscape where healthcare happens.
- By applying the Disneyland Concept, the work of the hospital can be hidden as to not distract the patient and family from the healing process (Bromley, 2012, p. 1059).
- By designing a healthcare space with residential characteristics the environment can become more welcoming.
- Sustainability is a growing market that businesses are becoming passionate about. Studies show that integrating nature into interior design increases satisfaction for everyone.
- Shorter length of stay for patients has been noted with views from nature (Smith, 2007, p. 1).
- The reduction of pain medication, increased mobility, and independence are evident with access to nature (Smith, 2007, p. 2).
- Having access to nature through courtyards or plazas takes the “view of nature” to a progressed level by allowing the patients to submerge themselves in nature (Smith, 2007, p. 3).

References:

- Baggs, J., & Wells, N. (1997). Rooming-in for elderly surgical patients. *Applied Nursing Research*, 10(2), 72-79.
- Bromley, E. (2012). Building patient-centeredness: Hospital design as an interpretive act. *Social Science & Medicine*, 75, 1057-1066.
- Omachonu, V., & Einspruch, N. (2010). Innovation in healthcare delivery systems: A conceptual framework. *The Public Sector Innovation Journal*, 15(1), 1-17.
- Smith, J. (2007, Oct.). Health and nature: The influence of nature on the design of the environment of care. 1-3. Retrieved Nov. 14, 2014 from Center for Health Design: www.healthdesign.org/sites/default/files/NaturePositionPaper.pdf

Perspective of Entry



A sink is placed in the staff work station. Having it hidden aids in keeping a more residential atmosphere and less of an institutional or healthcare atmosphere.

The LGM O1 swivel wall bed unit has shelves and a table option on one side, however with simple swivel motion the unit turns around and converts into a full bed. This provides additional sleeping space and creates an option for guests rooming-in to sleep comfortably.

The staff work station is a standing unit in close proximity to the entry, patient bed and family. This encourages communication and engagement between the staff and visitors.

Perspective of Deck



The glass found on the exterior door and windows are engineered with Smart Tint Glass. If the patient desires more privacy or control over the amount of light entering the room, they can use their universal control pad to change the smart tint glass from transparent to opaque.

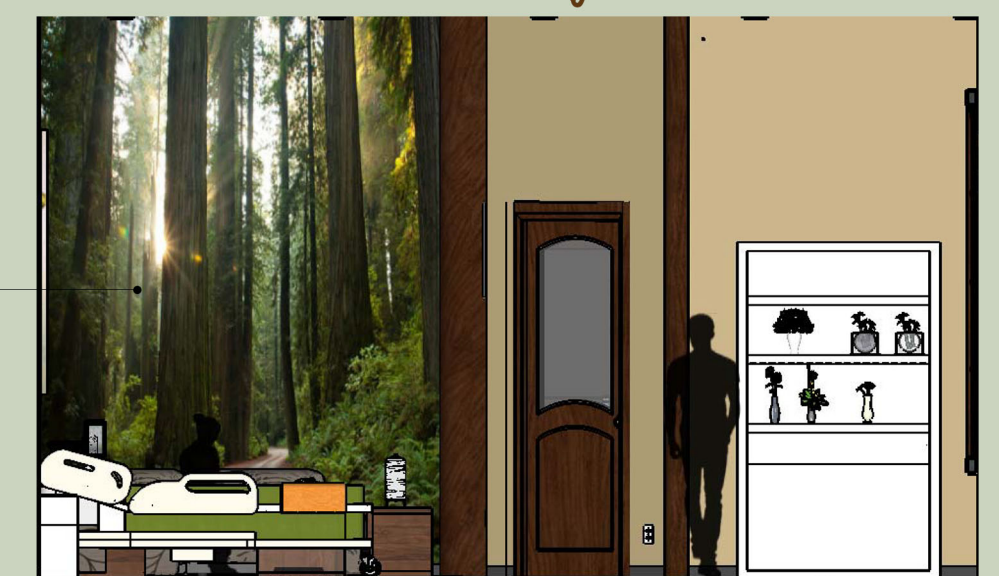
Biophilia is expressed using the outdoor deck that can be accessed from each patient room. Access to nature reduces length of stay and pain medication used.

Perspective of Bathroom



The bathroom has river rock to bring in texture and biophilic elements to make the environment feel more natural. The faucet and shower-head is equipped with a low-flow water feature that uses less water and preserves energy. The shower is completely accessible.

Elevation of Patient/Family Zone



Digital wallpaper brings nature into the space. The patient has complete control over the type of scenic view displayed on his/her wall. Studies show that even pictures of nature reduce stress levels and improve the quality of health while staying in a patient room.