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IDEC Student Design Competition
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CONCEPT STATEMENT

The concept for this pediatric healthcare environment is to create a visionary patient room that considers patient, family, and healthcare provider interactions. Incorporating family spaces within the patient room creates a more welcoming and comfortable environment for visitors. Mobile furniture creates transformative and mobile environments for individual preference enhancement. The family area will include a “kids’ corner” with an interactive wall for siblings to stay entertained. Innovative technology aids communication between doctors, nurses, patients, and visitors and is beneficial for all. As an example, technology can be used to bring the outdoors in and speed the healing process. Natural and organic motif designs promote and encourage patient health and healing. The lighting reflects the natural sunlight and is custom controlled by the patient and families for greater personalization. The use of sustainable materials and warm, cheerful colors promote both the patient’s health and happiness.

RESEARCH SUMMARY

- Parental presence during hospitalization is emotionally beneficial for the parent and the child, yet the parental health and ability to act as an advocate for the child may be negatively impacted due to the loss of sleep.
- When parents room in with their children, nurses may be concerned that the families will be in the way and hinder safe access to the patient, or misunderstand information shared during rounds and change of shift.
- Recent trends in healthcare design focus on improving the patient experience by addressing patient concerns and comfort. Homey environments and hotel-like services are becoming increasingly common.
- “Data from patients suggest preferences for homelike environments with views of nature and natural light.”
- The architects at a newly built hospital took an anti-hospital approach to design, embracing the idea that good architecture is an integral part of the healing process. They wanted to create a healing, inspirational, and intimate space.
- Tony Kelly, from Shore Health, believes sustainability creates healing environments that focus on the patient, providing efficiency and holistic care. Patients and staff value daylight and a connection to the exterior.
- Sustainability was incorporated in the design at Shore Health. Their findings: sustainability works. And, it’s improving care for patients and environments for staff, and bettering their communities while improving the bottom line.
- The first impression of Patient Room 2020 is a remarkable lack of clutter. The installation blends ease of use with an equally functional aesthetic. There are few obstructions or protrusions; the television monitor is embedded in the footwall.
- Patient Room 2020 is a decisive swerve away from high-end hospital rooms that masquerade as hotel suites or cabins on luxury cruise ships. There are no wooden panels or pastel-colored walls, just white rectilinear surfaces reflecting natural-looking light in wavelengths that evoke healing more than home.

CITATIONS

The solution will integrate a large family area to provide a more comfortable environment for family members to visit. The patient’s space will have a “kids corner” as a result to engage siblings with an interactive wall and furniture.

1. **Design Goals**
   - The modular and interactive furniture will let the family members individualize the area for maximum comfort. The sectional seating is able to transform into a sleeping area for parents to room in with their child. The leaflet bench allows for siblings to interact with the playful furniture.

2. **Lighting Concept**
   - The patient lighting creates ambient lighting from a hidden source to reflect natural sunlight. The Winona curved recessed lighting in the family area reflects the organic and natural motifs and creates ambient lighting. The decorative hanging floor lamp gives a sense of homeliness, and provides task lighting for reading or other activities, while not disturbing the patient. Crestron lighting controls allow each of these fixtures to be custom controlled by the patient and families. They will be able to adjust the lighting to their own preferences, making the experience more comfortable.

3. **Interactive Screen Wall**
   - Interactive screen wall allows children and adults to engage with the space.

4. **Arc Com Eco-Tex Fabrics**
   - Arc Com Eco-Tex Fabrics allow for further personalization of the family area.

5. **Secional on Lockable Rollers**
   - Secional on lockable rollers transforms into a sleeping bed for rooming in parents.

6. **Leaflet Bench**
   - Leaflet bench allows children to move and rearrange the pods as they desire.

7. **Shelving**
   - Shelving allows for further personalization of the family area.

8. **Hanging Floor Lamp**
   - Hanging floor lamp adds a homely touch and creates additional task lighting.

9. **Innovative Technology**
   - Innovative technology serves to make the patient room interactive and engaging. The use of screens allows for individualized nature ceiling, interactive children’s wall, and also allow for stronger communication between healthcare workers, the patient, and family.

10. **The Sustainable Materials**
    - The sustainable materials will reflect the patient healing process and brings natural elements into the interior. The natural materials mixed with bright colors will create an encouraging and cheerful space.

11. **The Patient Lighting**
    - The patient lighting is designed to create ambient lighting from a hidden source to reflect natural sunlight. The family lighting incorporates organic ambient lighting solutions, as well as task lighting, to allow for individualized control of the lighting levels.
This design seeks to create a clean, soothing pediatric recovery environment that promotes healing by maximizing natural light and elements. The layout provides multi-functional spaces that support patient-centeredness and family involvement without wasting square footage. Separation of family, patient, and care zones prevents congestion and user overlap without sacrificing efficiency of patient’s care. Additionally, the integration of technology allows patient health information to be easily shared and discussed between the provider, patient, and family in order to ensure the best care is provided. Finally, warm, durable materials and an energizing color scheme create a safe, yet comforting, environment that appears more like a hospitality than a hospital setting. Sustainability will be kept in mind by using materials with recycled content, energy efficient light sources, and furniture pieces from ethical-practicing companies.

- As a constant in the life of a child, the family should be encouraged to actively participate in the care and decision-making regarding his/her recovery or treatment. Patient- and family-centered care is “an innovative approach to planning delivery and evaluation of health care grounded in mutually beneficial partnerships among health care providers, patients, and families” (Abraham, 44).
- Recent healthcare trends “focus on improving the patient experience through the provision of amenities and attention to patient concerns and comfort” (Bromley, 1057). This trend includes creating a homey environment with plenty of space and hotel-like services.
- The division of “on-stage” and “off-stage”, or what the patient experiences versus the machinery and infrastructure that make care possible, creates a “Disneyland theme park” ambiance that generates a fantasy world experience within the hospital (Bromley, 1060).
- Single-bed rooms provide the benefits of better communication with staff, fewer medical errors, decreased infection rates, and comfortable inclusion of family with patients (Schweitzer).
- Natural light benefits overall health, regulates circadian rhythms, and can lessen depression and length of stay in a hospital. Although natural light is preferred to artificial lighting, incorporation of both is crucial to prevent inadequate lighting levels, which lead to a chaotic environment, errors, and stress (Anjali).
- Views of nature and the incorporation of natural characteristics and visual features are not only preferred by patients, but also associated with less stress and shorter hospital stay (Schweitzer).


1. Clear visuals to patient bed from hallway allows staff to quickly check on patient without disrupting the room.
2. Clear separation of zones (care, patient, and family) provides plenty of space for each party to resume their own activities without the interruption, inconvenience, or congestion of others.
3. The diagonal headwall focuses the patient away from medical equipment to a source of entertainment, their family, and nature.

Prototype plan is situated in the south-eastern corner of the building, denoted by the turquoise box (right). Shown with adjacent room to depict staff “observation” counter from the hallway. All rooms given generous windows to maximize natural light in space.

• Create a healing environment through a strong connection of nature including outside views, natural materials, and chosen colors of blues and greens.
• Provide touchdown spaces that support multiple activities to encourage normal day-to-day tasks.
• Visual separation of care center from patient’s bed to focus patient away from medical equipment and constant reminder of “being sick” without sacrificing the efficiency of patient care.
• Provide elements within the space that allow it to transition from day to night.
• Overall safety of patient, family, and care provider is considered by incorporating rounded edges, easily disinfected finishes, and generous circulation space.
1. A vital monitor ribbon allows for quick and easy patient checks for staff.
2. Hospital equipment and supplies are housed behind closed doors to create “Disneyland Effect” within the room.
3. The large entertainment screen can be controlled from the patient’s personal tablet to watch movies, browse the internet, or video chat with friends and family. Connection to the care provider’s computer also allows treatment information to be easily shared between all parties.
4. As a main feature of the patient zone, an overhead LED screen allows the patient to customize the landscape setting and time of day displayed. Even if the curtains are closed, the patient is connected to a virtual nature scene that expands the perceived boundary of the room.
5. A built-in bench provides ample seating for visitors or becomes a secondary lounge space for the patient. Drop-down tables are available when needed for eating or working.
6. The family zone includes a daybed, drop-down bunk bed (ladder stored in storage space), working desk, and multiple areas for personal storage and display space to ensure a comfortable stay.
7. A multi-use patient side table serves as a dining/writing surface on one side and an integrated touch screen panel on the other. This tablet gives the patient full control over the lighting and entertainment screen in the space without dealing with multiple items at once.

In the patient room, it is important for users to have maximum control over lighting levels by allowing each fixture to be individually dimmed or turned off. Indirect ceiling lights prevent unwanted glare and hotspots throughout the space while adjustable reading lights over the sofa and bench areas provide ample task lighting. Finally, a customizable landscape-scene fixture near the patient’s bed not only serves as a visual relief, but enhances the overall experience of the room. LED fixtures with a warm-neutral color create a comfortable setting and are energy-efficient.

Fresco Touchscreen Lighting Controller by Acuity Brands “puts the user confidently in control.” Not only can one control the brightness of each light source, but also the light color and air temperature. The touch-screen is easy to use and easily cleaned.

Materials and finishes were chosen with sustainability and safety in mind. The 3Form Connection Envy is part of its full circle line created by artisans in third-world countries. Flooring products (Armstrong’s Striations) are a bio-based, non-PVC tile made with recycled content. Finally, all fabrics are Crypton-treated to prevent bacteria and mold growth.