

## Trends and Technologies Effect on Hospital Design

My goal with my research project was to see how technologies influence hospital design. I investigated how layouts and programs have changed in response to the new machines and innovative ideas about hospital care that designers are faced with today. I started my research by learning what the underlying concerns are when designing a hospital. By understanding emerging trends and reoccurring items that must be addressed when designing a hospital, I could then correlate the new technologies I was researching to understand why they were invented as a result of these ideas. Through further investigation of these new technologies, as well as doing site visits and conducting case studies, I felt capable of designing a hospital of my own. I took RTKL's plans and program for a healthcare clinic on the island of Barbados, and reworked it to reflect my research findings. My main changes were due to my desire to create a high-tech community hospital for the natives of the island. I wanted to offer the leading technologies I have been studying, while maintaining a patient friendly environment incorporating native and tropical design techniques. The main feature was my attempt to maintain an open air environment as much as possible, where only the required programs are air conditioned. My end design was a 97,000 SF, two level, high-tech community hospital.

Technology Spine



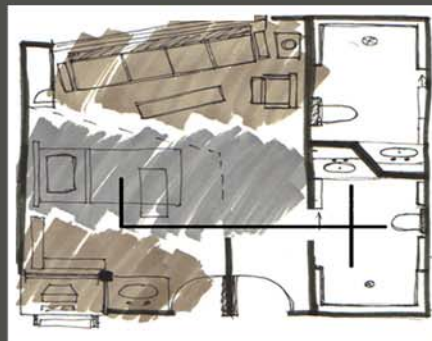
Open Air Circulation



In order to visually communicate my idea of technology, I created a spine that runs the entire width of my design. This technological box is what carries all the main wiring for mechanical, monitoring, etc., with each of my programs tapping into this spine. By having main circulation paths under the spine, it becomes a visual reminder to all that this hospital is entirely connected via technology.

### Patient Room: example of one research topic

- **PATIENT ROOM:** larger, all single patient, private toilet facility, 3 zones of care: patient/caregiver/family
  - **CPOE-** Doctor or Nurse can request drugs, procedure, etc from patient room
    - Area in room for nurse/doctor to use a computer or similar device
  - Machines and devices are mobile and can be brought to the patient: **COW**
    - Need a separate zone of care for the caregiver to be in that is separate from the family area of the patient room
  - **Patient Lifts**
    - Clear, easy circulation from patient bed to bath
  - **Minimize Patient Stress**
    - Hide the machines: in the wall, furniture pieces,
  - **Midboard Toilet Layouts**
    - Patient Safety: Close proximity to bathroom. Midboard design allows full views into the room by staff, and full views to the outdoors by the patient



The patient room can be open for natural ventilation, or has the option to be closed up by means of louvered windows and sliding glass doors if the patient wants air conditioning. The floor's material change shows the division between the patient area and the family