

New York State Department of Health

Hospitals and Nursing Homes of the Future



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Factors Driving the Need for Change:

- **Technology**
- **Patient Preference and Acuity**
- **Fiscal Pressures – Providers, Payors, Employers**
- **Reserve Capacity**
- **Staffing Issues – Cost, Recruitment, Shortages**
- **Difficulty Navigating the Convolutated System**
- **Competition-unregulated and regulated entities**

Factors Specific to Acute Care:

- **Out Migration of Services**
- **Relationship with Physicians**
- **Availability of Capital**



Factors Specific to Long Term Care

- **Consumer Preference for Independence, Least Restrictive Setting**
- **Integration with the Community**
- **Adaptability for Differing Acuity & Individual Needs**
- **Specialty Services**

Strategies for the Future

- **Pay for Performance / Quality Improvement**
- **Digital Hospitals**
- **Centers of Excellence**
- **Flexibility**
 - **Reimbursement**
 - **Program**
 - **Construction**



- ❖ **Green Technology**
- ❖ **Improved / Flexible Work Environment**
- ❖ **Alternative Delivery Models**
- ❖ **Adaptable Construction**



Consumers are more Discerning



St. Peter's Hospital
Albany, NY

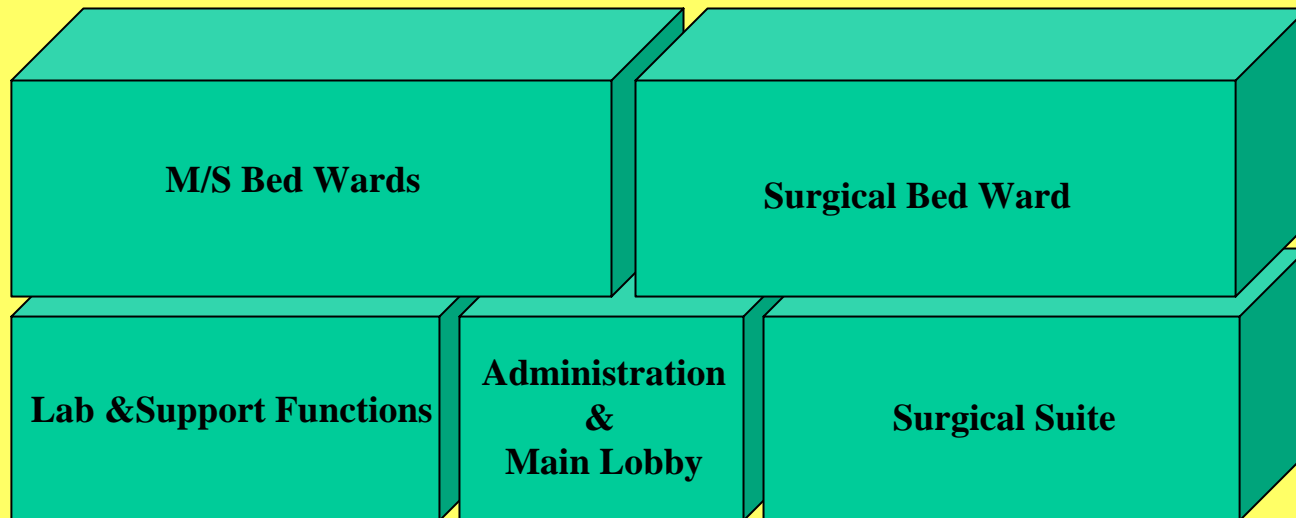
- **Patient/Resident-Centered Care**
- **Fast changing technology & expectations**
 - **accelerates obsolescence of Physical Plant**
 - **increases competition among providers**

Acute Care Hospitals

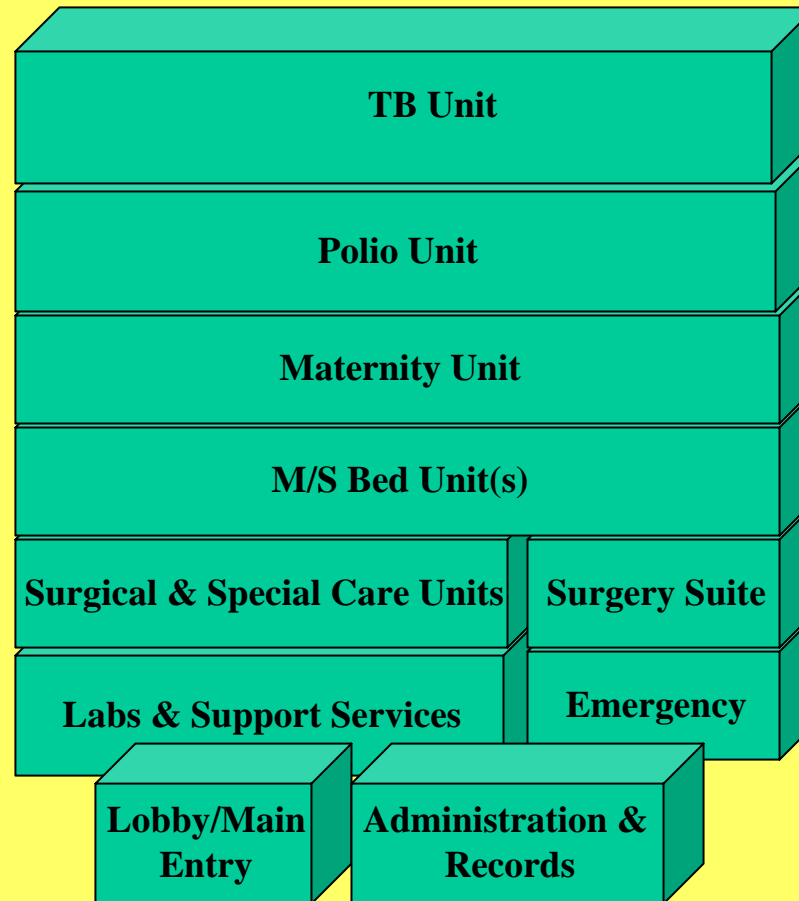


Albany Medical Center, Albany NY

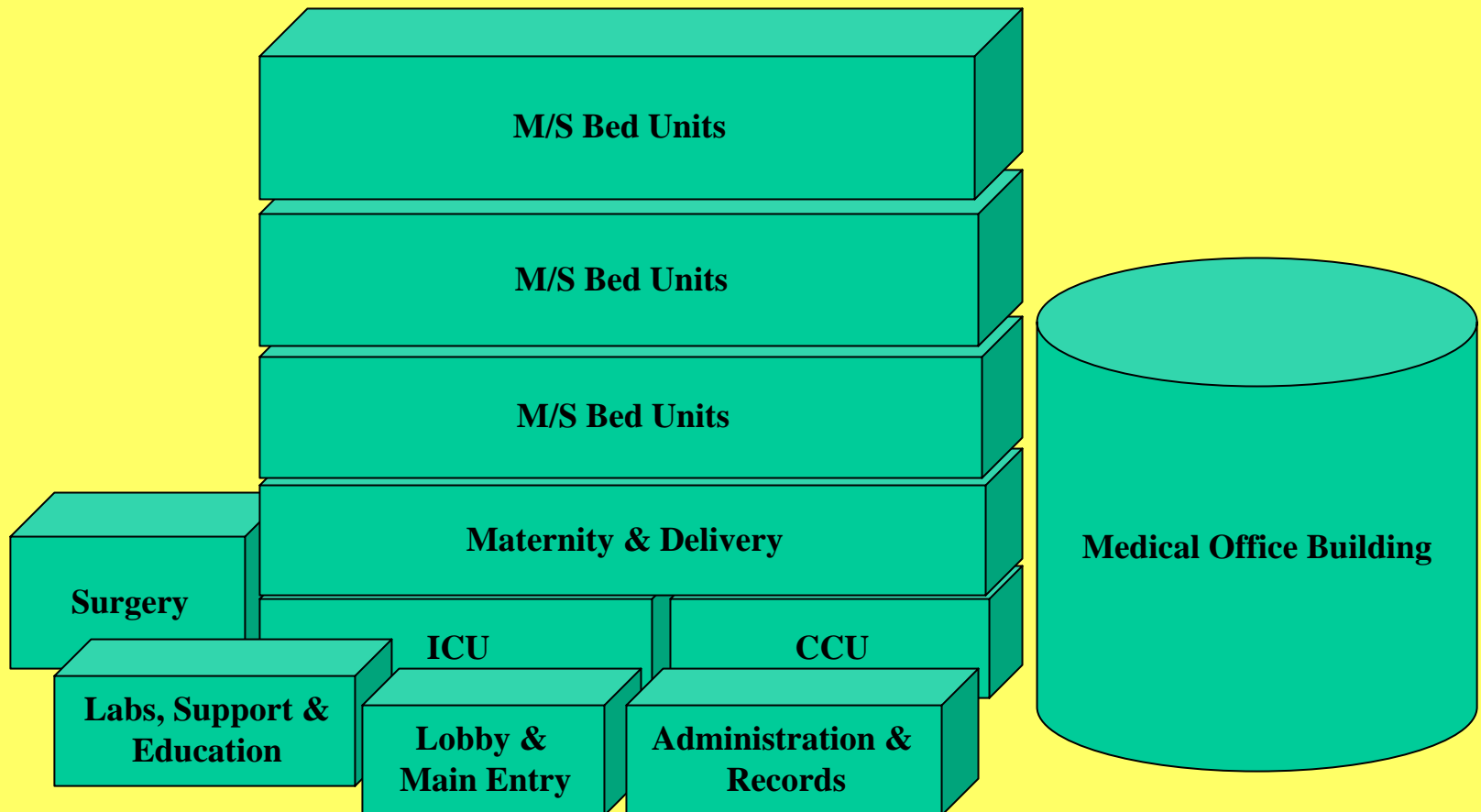
1920 Hospital Configuration



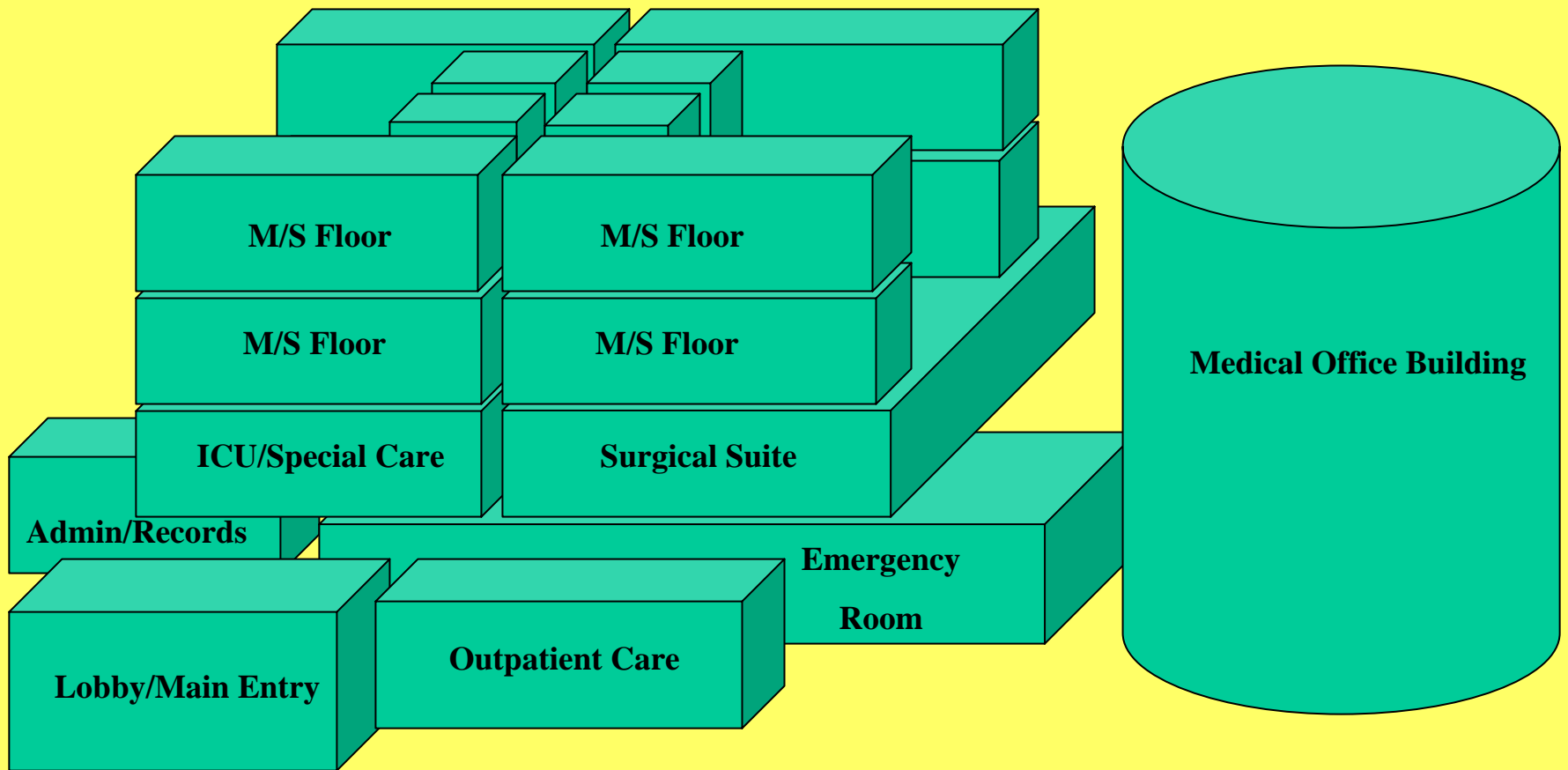
1950 Hospital Configuration



1975 Hospital Configuration



2005 Hospital Configuration

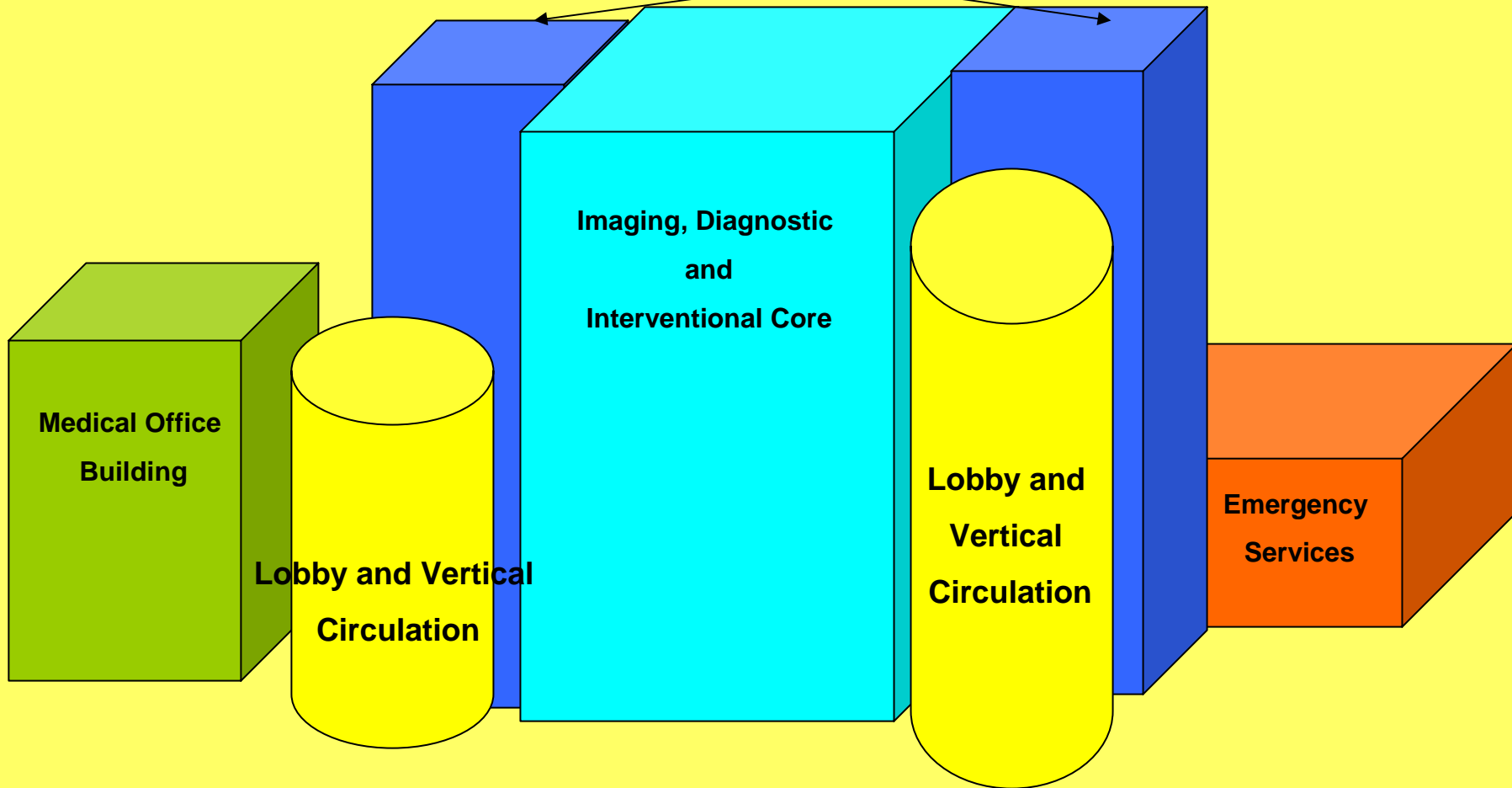


HOSPITALS in the FUTURE

- **How many beds will we need?**
 - Population growing
 - Outpatient modalities continue to increase
 - Public Good Services
 - Definition of Capacity
- **Is Decentralization the future of technology?**
 - Miniaturization of diagnostics and equipment
 - Digital Technology & Communications
- **Regulatory Landscape – Physicians as Competitors**

Hospital of the Future

Variable Acuity Patient Rooms in Vertical Modules



Functional Evolution will impact design...



- **Emergency Room is new “front door”**

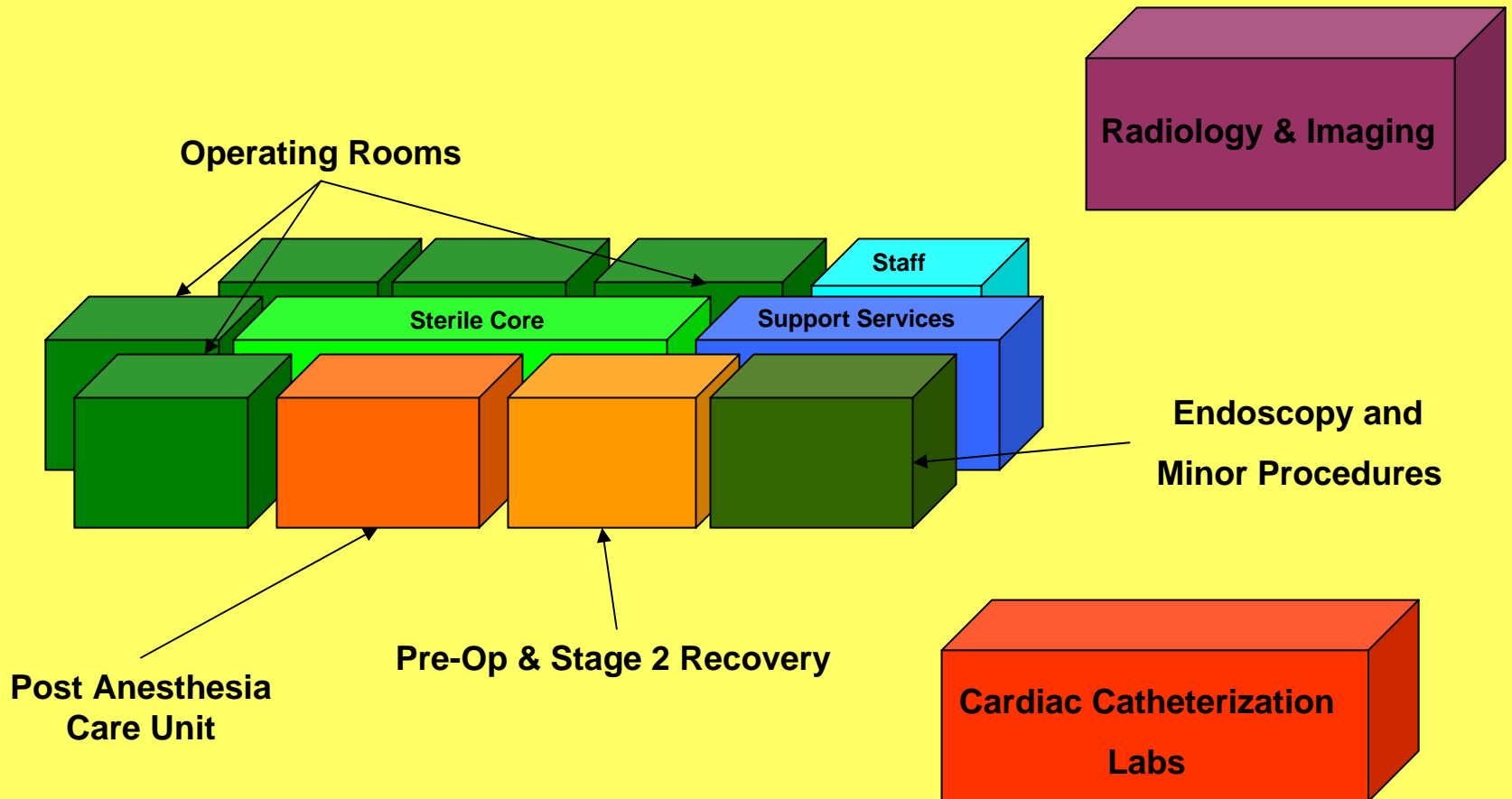
Increased emphasis on flexibility...

- **Universal Interventional Rooms**
 - **Surgery**
 - **Minor Procedures**
 - **Catheterization**
 - **Minimally Invasive**



GE CT Scanner

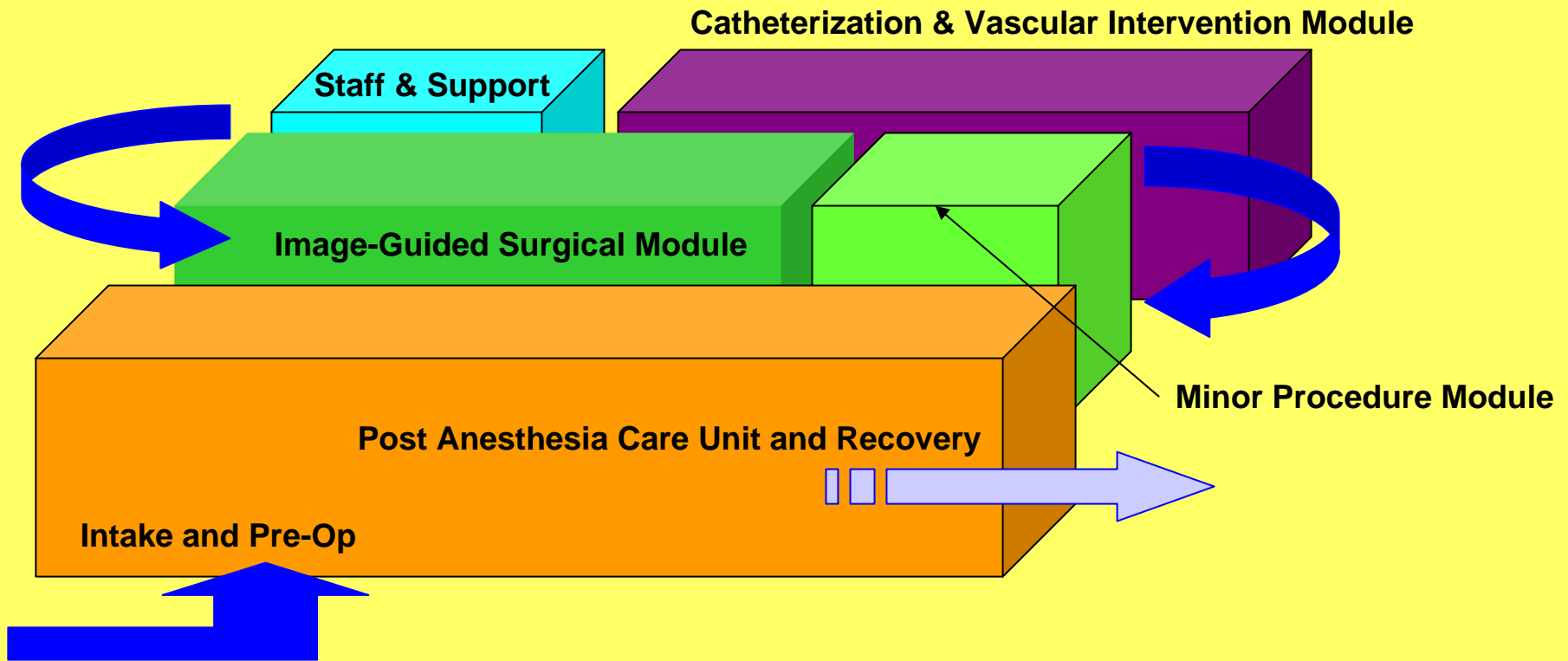
Today's Surgical Suite



Facilitate operational efficiencies...

- Combining Pre- and Post-Op...**
- Combine Radiology and Surgery...**
- Patient Care “pods” should be adjacent**
 - Interchangeable**
 - Allow “flexing” to accommodate fluctuations in demand**
- Centralize interventional suites vs scattered approach**

Tomorrow's Surgical Suite



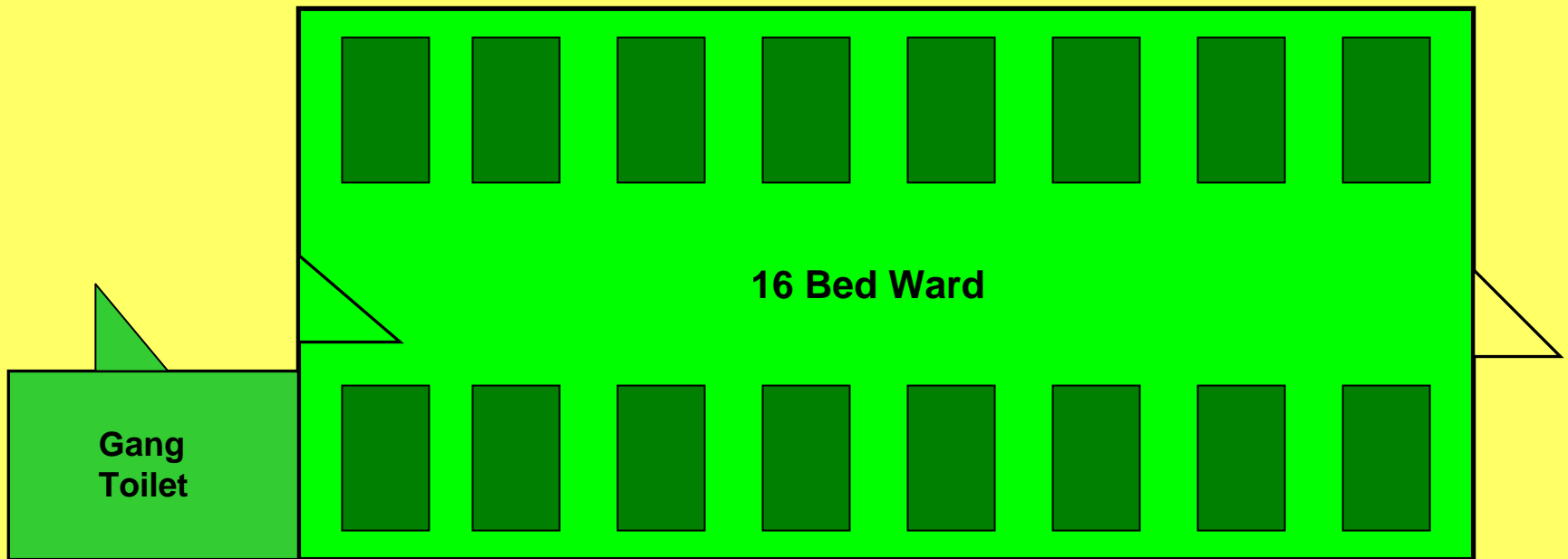
Also structural design...

- **Separate “Structure” from “Utilities”**
 - **“...capital investment needs to be focused on flexibility, interoperability and technology as opposed to ‘bricks and mortar’...”**
 - **Source: Healthcare Reform Working Group – 11/18/04**
- **“Demountable” partitions?**

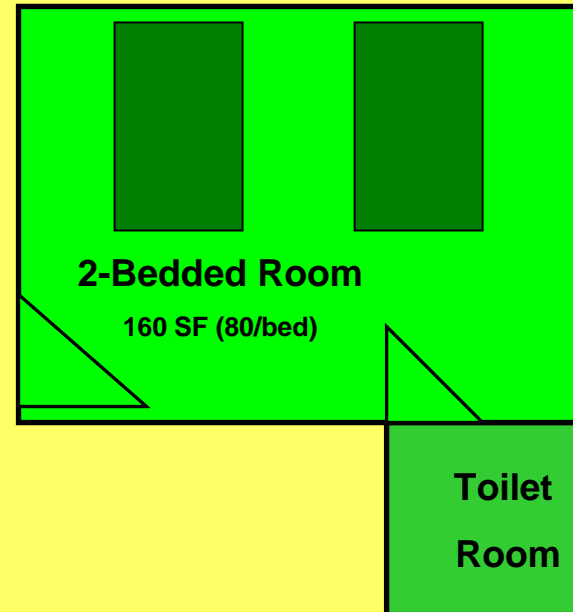
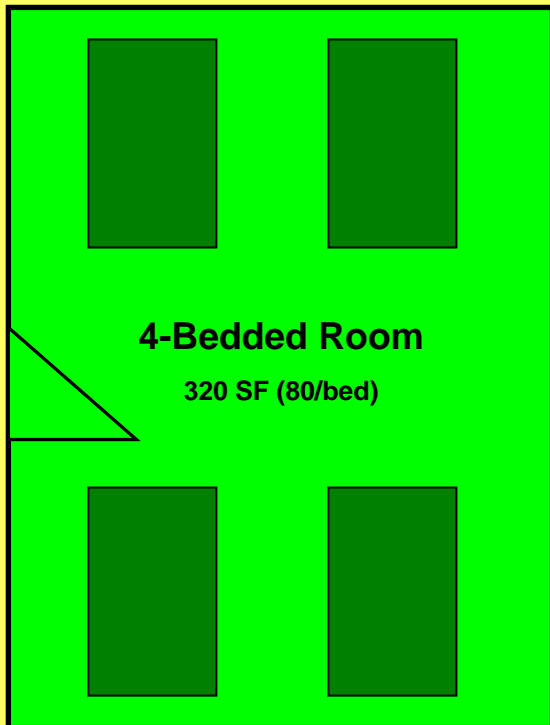
....and equipment....

- **Medical Equipment**
- **Lights and partitions**
 - **Hospitals want to use them...but perhaps not own them (Lease?)**

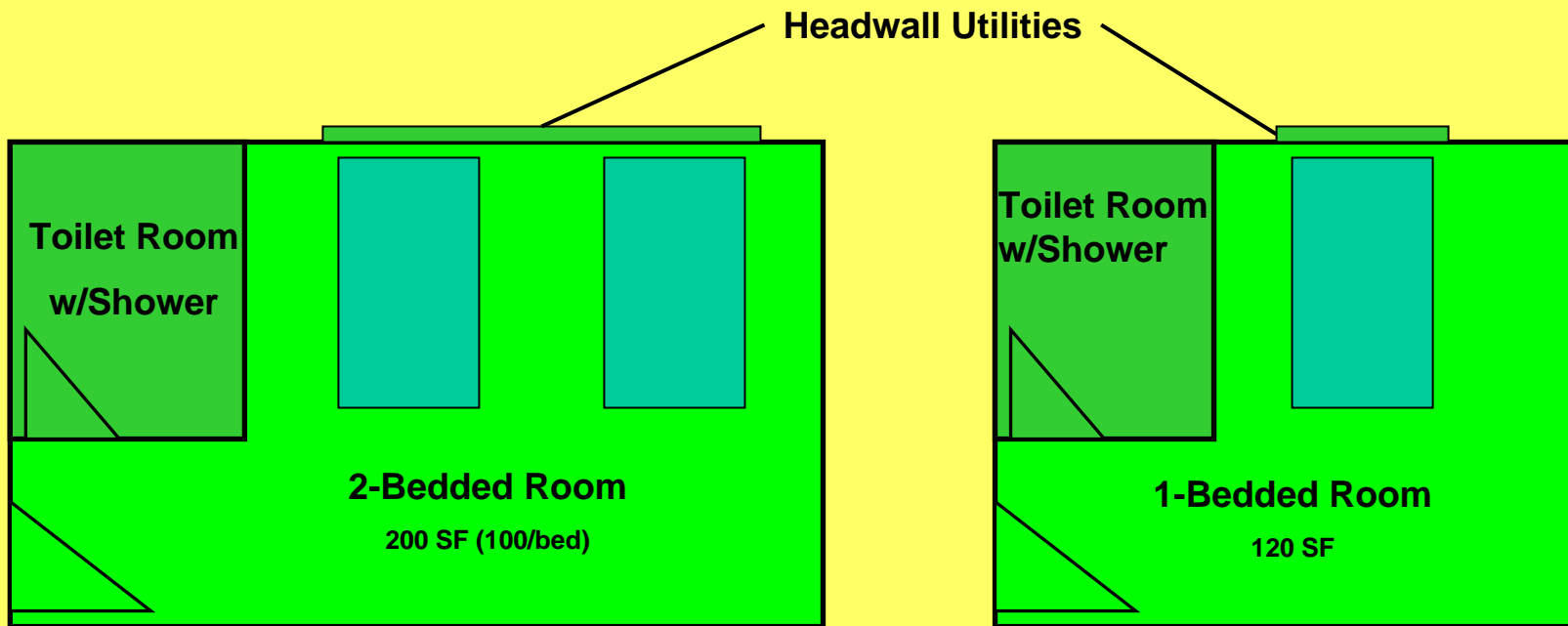
1920's Hospital Ward



1950's Hospital Rooms

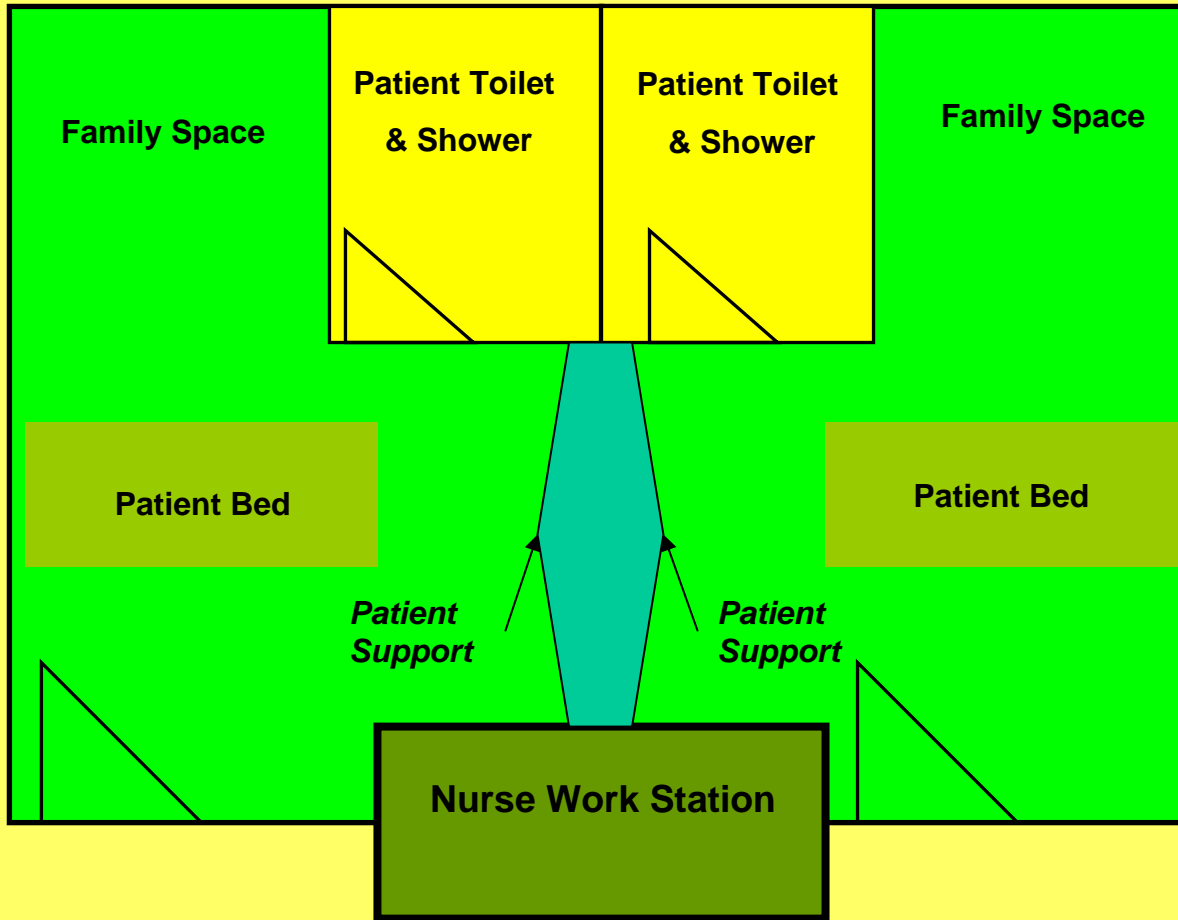


1970's Hospital Rooms



Hospital Room of the Future

Variable Acuity Rooms



Digital Integration

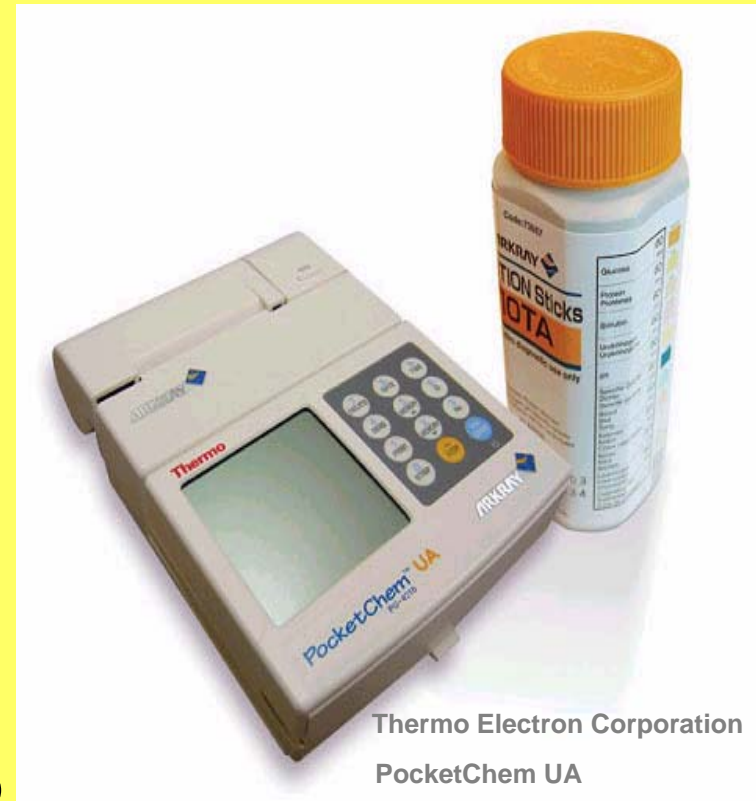
- **Digital Systems and Information Technology**
 - Integrate across continuum of care
 - Clinical-Administrative-Financial
 - Interoperability with Physicians



Raytheon Company EPTS

Anti-”silo” Technology....

- **The Digital Hospital...**
 - **Point of Care: Lab Work & Vitals**
- **Clinical Programs and Functional Systems will likely replace Department Organization.....**
- **Capital Access is Critical to Success**

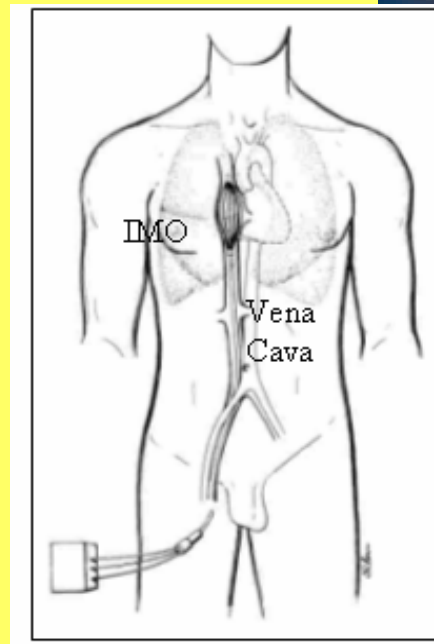


Implant Technology

- Ventricular assist devices for hearts
- Artificial lungs (short-term pulmonary support)
- Bioactive bone cements



Ventracor Cardiac Assist System



Source: National Tissue Engineering Center

New Hospital Models....

- **Critical Access**
- **LTACH**
- **Freestanding
Emergency Rooms**
- **Mobile Services**

Mobile Cardiac Catheterization



Mobile Medical International Corporation

Reserve Capacity: Care Capability

- **Planning for Care**
- **Flexibility in bed capacity.**

Source: Texas A&M University College of Architecture, Texas A&M University System Health Science Center, Office of Homeland Security

