



# SLAM Healthcare



# RESEARCH DRIVES INNOVATION

We are specialists in a client-centric, integrated planning and a design process that helps healthcare institutions visualize their future.

SLAM's healthcare practice is based on the principles of person-centered care, enabling professionals and institutions to develop and utilize best practices that continually improve the quality and efficiency of healthcare. As Charter Members of the Planetree Visionary Design Network, we understand that a renewed focus on patients and families can improve economic performance and strengthen an institution's sense of mission and community identity.

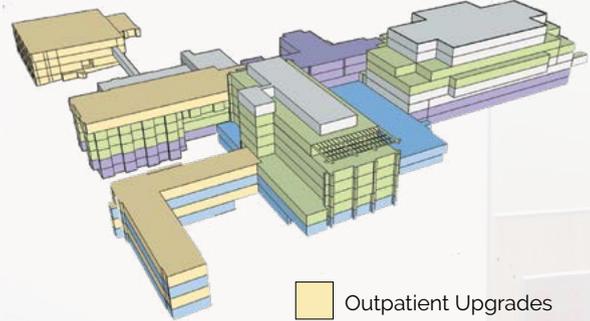
Our team contributes to and is inspired by ongoing research and industry trends that document how healing environments affect patient outcomes, staff satisfaction and organizational behavior. This research, supplemented by our successful client relationships and design expertise, has become an important pillar of our practice as we look to the future of healthcare design—planning for the medical enterprise, creating flexible/transitional facilities, emphasizing innovation and the patient experience, and forming strong academic medical partnerships.





# ENTERPRISE PLANNING

Recapitalization has moved to the forefront of facility strategy for health systems to remain viable in an ever-changing marketplace.



- Outpatient Upgrades
- Diagnostic & Treatment Upgrades
- Support Services Upgrades
- Inpatient Upgrades

## Modernizing in Pace with Capital Availability

Creative, achievable road maps for re-investment in core facilities are crucial as evolving technology and service models drive demand for modern, efficient acute care platforms to serve an aging population more cost-effectively.

Over the past 12 years, UMass Memorial Health Care has invested in the incremental upgrade of acute care platforms across its network.

## Investing in the Future

The recent "MC 2020" Project is a \$200M+ phased renovation of the inpatient units at both the University and Memorial Campuses. Recognizing the need to invest in both of its facilities and programs, UMass made strategic investments focused on improving the patient experience, clinical/operational platform efficiency and caregiver collaboration.

“ All of our private patient rooms are designed as flexible rooms—we’re not building a PA room, orthopedic room, or isolation room, but rather rooms that can be used at any given time for any type of patient, and in turn, allowing for staff to be run accordingly. ”

— Martha Boyd, UMass Memorial Health Care

# INTEGRATING THE ENTERPRISE

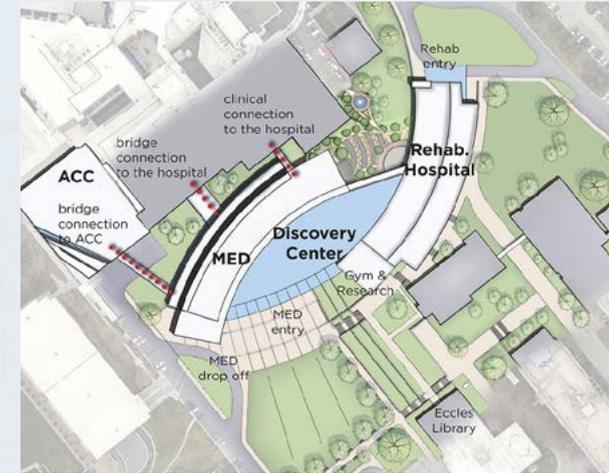
Health Sciences Institutions are in a period of historic transition as they navigate an exciting but uncertain future - for Academic Medical Centers. This means training interdisciplinary care teams to deliver better care, cheaper and to accelerate the translation of science to cures.



The Evansville Health Science District is a joint initiative by the City of Evansville and **Indiana University** to create an urban destination for healthcare and academic institutions that builds on extensive recent civic and commercial investment. The first phase is a Multi-Institutional Academic Health Science and Research Center for IU and its partners to support the growth of neighboring healthcare institutions. Future phases will include commercial, entrepreneurial and innovations partners.



At **Emory University**, the Health Sciences Corridor is anchored at one end by the Pediatrics Clinical and Research building and the Rollins School of Public Health at the other, while optimizing functional adjacencies between the multiple research, education, and healthcare buildings in a campus environment distinguished for its beauty and collegiality.



The academic healthcare mission of the **University of Utah** is strengthened by development of the Medical Education Discovery Center, the Rehabilitation Hospital, and Ambulatory Care Center in close proximity to the Medical Center.

Actionable strategies to optimize investment in Health Sciences facilities include:

- Cross-disciplinary programming, planning and design teams that anticipate the convergence of academic, research and clinical structures that comprise the Health Sciences enterprise.
- Planning for shared resources at the building and campus levels that maximize utilization and optimize capital investment.
- Flexible models for teaching, healthcare delivery and research that embrace new pedagogies and modalities with the understanding that these models will continue to evolve.
- Beautiful buildings and engaged campus environments that align program, capital budget and enterprise strategy; optimize the patient experience and contribute to the ability to recruit top faculty and students.

# FLEXIBLE / TRANSITIONAL FACILITIES

Comprehensive care requires comprehensive design solutions, providing inpatient facilities the ability to quickly adapt to changing models of care. At the end of 2017, there were more than 3,000 retail health clinics in the U.S. and over 9,300 walk-in, stand-alone urgent care centers, with 50 to 100 new clinics opening every year.

“ We’re looking at how we can design the most efficient floor plans and buildings and determine their operating models [so] that as we invest in new facilities, we can operate them as efficiently as possible... Back office operations will continue to be centralized and patient throughput will utilize modern, clean, efficient, and safe methodologies while providing the best possible patient experience. ”

— Stephen J. Carbery, Yale-New Haven Health



## Providing Care Conveniently Close to Home

As its practice grew, SLAM helped longtime client Yale-New Haven Health deliver its plan to provide convenient, accessible ambulatory care to its patient population.

# FLEXIBLE / TRANSITIONAL FACILITIES

Today's outpatient healthcare facility must find the sweet spot between operational efficiency, service offerings, and access to care.

## Collaborative Spaces for Collaborative Treatment

Universal adjoined exam and consult rooms provide flexibility based on patient demand for specialties and break down the barriers between the patient and their physician to provide a more equal partnership emphasizing face-to-face communication and increased patient engagement.

Co-locating provider offices and flexible examination spaces to encourage spontaneous interactions helps to break down the silos of the profession. Encouraging dialogue enhances treatment planning and ultimately affords access to a coordinated medical outcome for each patient.

“Isn't it nicer to be in a room... where the environment supports a collaborative interaction, where the patient and the physician can be partners in the patient's health journey? That is a design feature we incorporated to reflect our commitment to the patient experience.”

— Dr. Mary O'Connor,  
YNHH Long Ridge Medical Center



## The Best of Both Models

A hybrid model of care was created for Stamford Hospital's Ambulatory Services Center which included features from both a linear organizational model and an “on-stage/off-stage” organizational model. The “on-stage/off-stage” model enhances patient privacy, staff productivity, efficiency, and team-based collaboration amongst practitioners. The “off-stage” aspect provides physicians with private spaces for staff meetings and collaboration, as well as shared clinical “touch down” areas to input and receive electronic patient care information. The new hybrid model also introduces a semi-private collaboration area between exam rooms where patients can effectively communicate and partner in their care with their clinicians.



# INNOVATION

Innovation is more than just technology: it is the holistic fusion of design, process, and technology to create a fully comprehensive, state-of-the-art practice.



MORNING



NOON



EVENING



## Design Methods Drive Healing Benefits

Biophilic Design continues to evolve with technology such as circadian lighting simulating natural color shifts in nature and diurnal rhythms to support a natural sleep/wake cycle – a benefit to both patients and staff. Circadian lighting and simulated daylight has proven to be an innovative design method allowing for the maximization of space in healthcare facilities by taking advantage of windowless spaces and transforming them into more pleasant environments. In an effort to activate underutilized space at Danbury Hospital's Cardiac Rehabilitation, garage spaces under the first level were reconfigured into programmable space using LED "light wells" and perimeter "cove" light fixtures to simulate skylights allowing patients and staff to have a sense of exterior daylight.



# INNOVATION

While technology is constantly evolving, methodologies such as LEAN, sustainable design, person-centered design, patient safety metrics and evidence-based design can ensure facilities align healing environments with the latest technology, set objectives and measure end results.

## Merging Holistic Design with Technology

Griffin Hospital's new Interventional Radiology (IR) Suite features both the latest in surgical equipment and Planetree Design, humanizing a technologically advanced and traditionally intimidating space for patients.



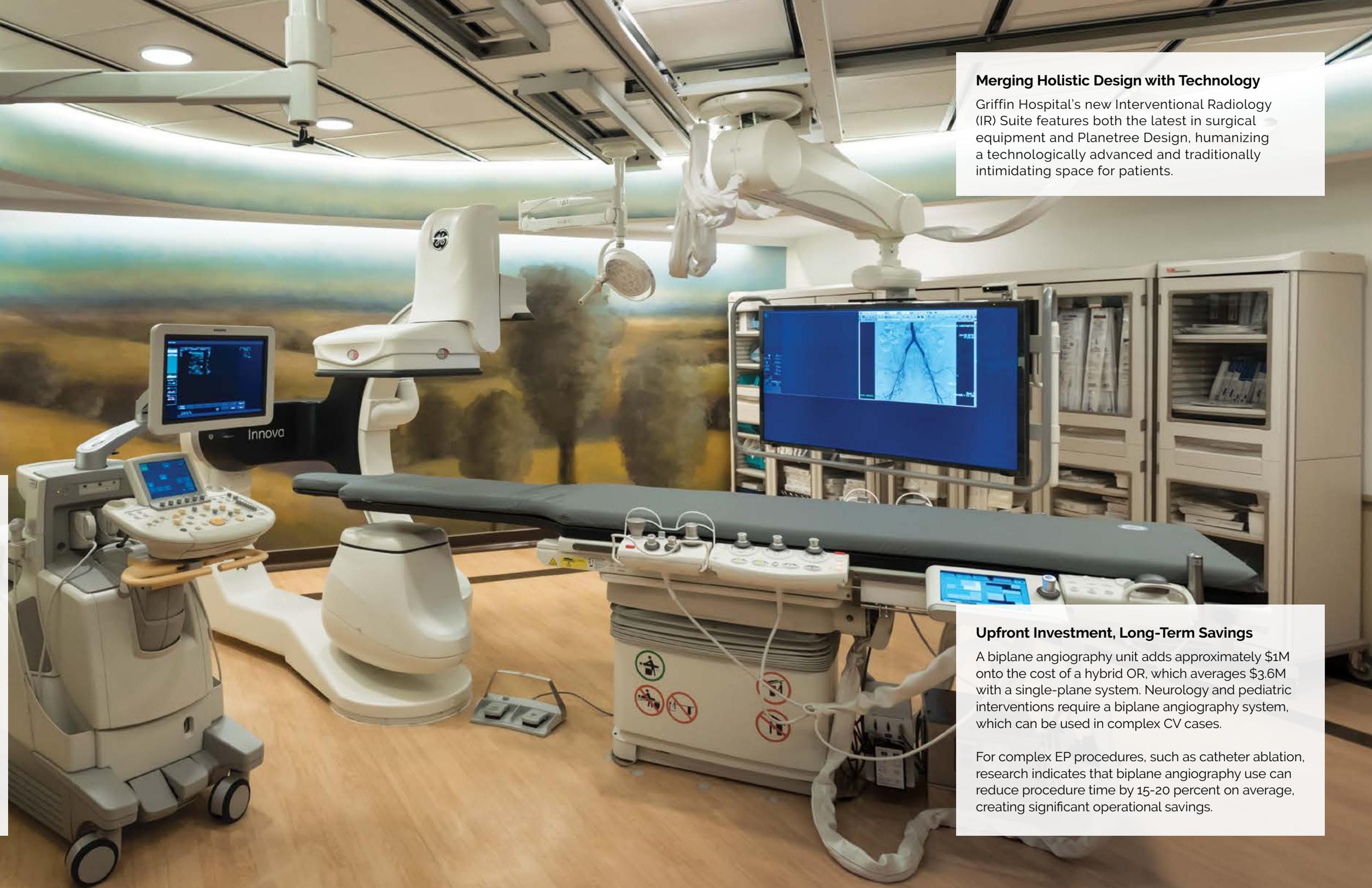
## Utilizing Technology in Design and Delivery

3-D Visualization and cutting-edge technologies such as Virtual/Augmented Reality are presenting not only additional fundraising mechanisms by allowing clients and donors to better understand their projects before construction begins, but also helping accelerate decision making, reducing project costs, and creating higher productivity during design.

## Upfront Investment, Long-Term Savings

A biplane angiography unit adds approximately \$1M onto the cost of a hybrid OR, which averages \$3.6M with a single-plane system. Neurology and pediatric interventions require a biplane angiography system, which can be used in complex CV cases.

For complex EP procedures, such as catheter ablation, research indicates that biplane angiography use can reduce procedure time by 15-20 percent on average, creating significant operational savings.



# PATIENT EXPERIENCE

Customer service and patient satisfaction have become the main differentiators among healthcare facilities, driving institutions to think about the interactions that occur throughout the continuum of care and the impact of their health care environments.

“Griffin’s facility and care model have set a new standard for hospitals and architects. Griffin has won numerous industry awards for innovative, patient-centered design... Groups from more than 500 hospitals, both domestic and foreign, have visited Griffin since 1994.”

— Pat Charmel, CEO - Griffin Hospital



## Setting a New Standard for Patient Satisfaction

As the pioneering institution of the Planetree model of person-centered care, when it came time for Griffin Hospital to develop its new Community Cancer Center, the patient was at the forefront of the discussion. The facility maximizes the diversity of experience using flexible and layered environments, both indoors and outdoors with a landscaped healing garden as a central organizational element. Supporting the delivery of coordinated care with combined modality, the facility includes radiation and medical oncology, as well as laboratory services.

## The Chief Patient Experience Officer

The patient experience has come front and center in the design process, with firms even calling on patient experience studies as they develop plans. Some executives say their organizations have created new Chief Patient Experience Officer positions.

# PATIENT EXPERIENCE

The patient experience is defined not only by the aesthetics of an environment, but by innovative solutions to increasing efficiency, productivity, wayfinding, patient choice and wellness.



## Building Hope for Patients, Families and Staff

Samaritan Medical Center's new 22,000 SF Walker Center of Cancer Care brings Medical Oncology Infusion and Radiation Oncology together, consolidating all practices in one comprehensive cancer facility for both local and regional patients. With a central theme of "hope", the design for the Cancer Center invokes a strong feeling of hope for patients, family members, and staff. The facility's modern design features abundant natural light, easy and convenient accessibility to staff and support services, and a calm, healing environment.



“ Being cognizant of the power and reach of patient experience and then acting with intent and purpose may be the greatest commitment to be made in healthcare today. ”

— The Beryl Institute

# ACADEMIC MEDICAL PARTNERSHIPS

Creating an environment for students and doctors to team, collaborate, and connect is critical in advancing an institution's mission to teach, heal, and discover.

## Bridging Relationships

The Center for Innovation at Saint Francis Hospital and Medical Center provides a new destination where teams of medical practitioners, students, and administrators can gather and collaborate on medical research and training. The facility includes a large, flexible, high-bay Simulation Studio where an infinite number of environments can be mocked up and explored for training, research and development focusing on building team and communication skills. This high-tech space is devoted to conducting groundbreaking research on the best ways to deliver primary care to patients, improving education and increasing retention of primary care trainees and providers.



## Simulation is Becoming a Shared Platform for Student and Staff Training

Simulation centers, featuring virtual and augmented reality technology as well as collaborative and quiet learning/study spaces offer the perfect setting for partnerships between health practitioners and doctoral students alike within the academic medical center.

Simulation provides opportunities for students from various academic programs to work as part of a team prior to their clinical experiences providing the benefit of producing health care professionals that understand not only their unique role, but also the significance of each other individual's role.

# ACADEMIC MEDICAL PARTNERSHIPS

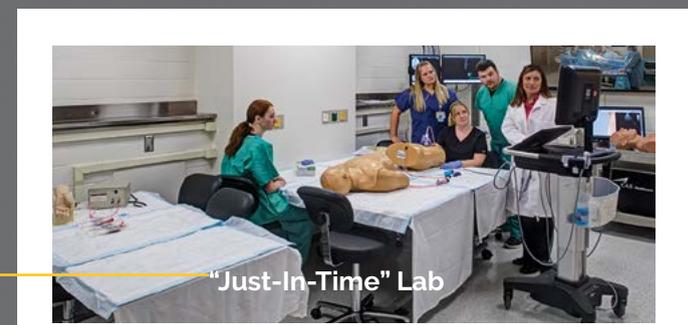
As medical and health sciences education becomes interprofessional, academic medical centers (AMC's) have been forming clinically integrated value-based networks forming partnerships with other entities along the continuum of care while reducing costs. These facilities encourage clinical interaction, cross-disciplinary collaboration, and teaching opportunities to advance the healthcare industry and improve the patient care experience.



Critical Care Simulation



OR Simulation



"Just-In-Time" Lab

## Building Collaborative Healthcare Relationships Through Shared Facilities

Johns Hopkins Hospital's current re-purposing of its former 13-story, 370,000 SF Children's Medical and Surgical Center (CMSC) originally constructed in 1963, includes a new Simulation Center on two floors for the School of Medicine students and Hospital staff. The remainder of the facility is being designed with flexibility in mind, encompassing environments inclusive of research, clinical care, and potential living space. Leveraging a key location on the campus, the renovations are designed to facilitate greater collaboration between the Hospital and the School of Medicine.

## Technology as a Driving Force in Academic Medical Center Design

"Dark fiber" is becoming just as important as medical gases and fixtures. The ability to broadcast surgical procedures in real-time to learning centers has helped train students without necessitating additional OR space.

The development of haptic feedback technology and virtual reality technology in recent years has led many hospitals to invest in providing space and equipment for "Just-In-Time" Training. These surgical and task trainers provide students and physicians with the opportunity to practice procedures through prepared modules that provide objective feedback.



SLAM design promotes healing, spontaneity, innovation and collaboration; encourages interdisciplinary efforts and problem-solving; accommodates changing technology; and reflects the vision of owners, staff, patients, family, and community. While the methods, means, and technology in healthcare design constantly evolves, SLAM's commitment to our core principles, valued clients, and the patients they serve will never change.



