

CHAPTER 1

PERSPECTIVE

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Now, more than ever, the U.S. healthcare system is under tremendous pressure to reduce its costs, to provide greater convenience in a manner more responsive to consumers, and to hold itself more accountable for improving safety, quality, and outcomes. Seldom has an industry that serves all Americans been under such pressure to reinvent itself and to redefine the roles of its component parts—the institutions, caregivers, and physical environment. By designing facilities that promote healing, advance discovery, and support strategic and operational goals, architects can play a vital role in helping healthcare institutions not only meet the challenges they face today but also position themselves for tomorrow.

Demographics for the United States show significantly increasing populations over the age of 80. Traditionally, aging populations are the largest users of healthcare services. In response to this “aging of America,” healthcare payors—namely large employers and the U.S. government—are generating the greatest pressure to contain the cost of health care. At the same time, consumers are more and more dissatisfied with the system, the options available to them, and their experiences in receiving health care. To understand this rapidly evolving phenomenon, it is useful to look back at the last 30 years in U.S. health care.

As recently as the 1970s, the U.S. healthcare system was, by and large, a cost-plus system of reimbursement. Physi-

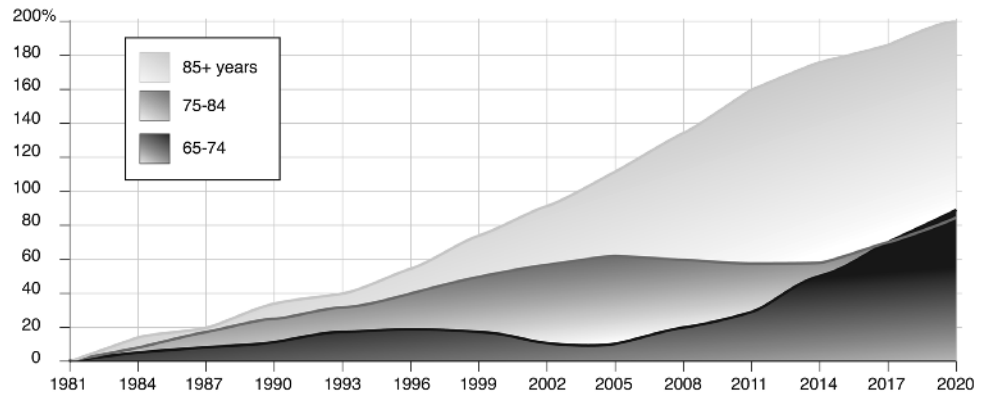
cians and hospitals were paid on the basis of actual costs, plus a margin for reinvestment and recapitalization. Among the big winners were physicians, who were the drivers of this lucrative reimbursement system; hospitals, for whom a cost-plus environment meant freedom to charge at will; insurers, who simply passed on cost increases to payors through higher premiums; and healthcare consumers, who were happy with unlimited choices and few restrictions on access to care.

The big losers were the payors, who were jolted in the late 1970s as per capita utilization of health care, cost and use of pharmaceuticals and technology, and caregiver compensation rates outpaced inflation, and the percentage increase of healthcare benefit costs soared into double digits. The first attempts to contain costs included the advent of managed care and the introduction of diagnosis rate groups (DRGs) by the federal government. Expanding cost-containment measures in the early 1980s sent the first tremors through the healthcare industry, warning of an accelerating cycle of cost-control initiatives. Hospitals and physicians responded to these early attempts by increasing the number of services they provided, which further fed the double-digit inflation and caused payors to demand relief through even more aggressive means.

Insurers, responding to their customers in corporate America, squeezed providers to achieve lower utilization of

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► *History and Projected Growth in the Aging U.S. Population. 65+ in the United States, National Institute on Aging, December 2005, Authors: Wan He, Manisha Sengupta, Victoria A. Velkoff, and Kimberley A. De Barros (pp.1 and 35).*



Source: U.S. Census Bureau

healthcare services. Thus, reductions in lengths of stay in hospitals became the norm. Increasingly, patient care was moved to the ambulatory setting.

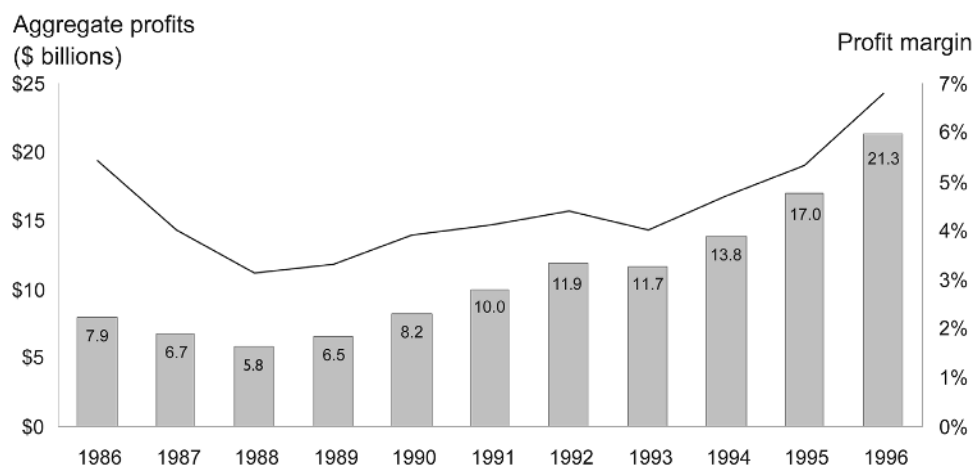
Inpatient bed use in the United States dropped from nearly 1,000 days per 1,000 population in the early 1970s to as little as 250 days per 1,000 population in some areas, as more and more procedures transitioned from inpatient to ambulatory. Reimbursement arrangements became more aggressive, placing the risk for healthcare costs on the provider rather than the insurer. Attempts to establish so-called capitated markets—in which provider organizations such as health maintenance organizations (HMOs) and health systems bore the financial risk of healthcare services within their covered population—appeared in the early 1990s, and such arrangements were predicted to become the norm by the turn of the century. Healthcare organizations—hospitals, in particular—lost market clout as the ability to price for services freely gave way to the need to accept market risks

that had traditionally rested with healthcare insurers.

Recognizing that the earth had moved beneath them, hospitals began to develop new ways to regain market standing. They began to consolidate with one another to form healthcare systems in the hope that scale and vertical integration would help them overcome the challenges they faced.

Hospitals branched out from inpatient care to offer a wide spectrum of services, including ambulatory care, home care, and extended care for aging and chronically ill patients. To lower the cost of providing for aging populations, the more sophisticated players formed integrated delivery systems that were intended to provide vertical services—from health care for individuals and groups to proprietary managed-care networks, from home care services to traditional inpatient and extended care services.

Integrated delivery systems (IDSs) represented the full potential of managed care by appearing to address the needs of all parties. They created local brand identification,



◀ Profits from U.S. Hospitals and Hospital Systems. U.S. Census Bureau.

whereby healthcare became a recognizable consumer product associated with one institution or another. These integrated delivery systems also stabilized costs and potentially increased profits by coordinating care within set budgets and, at the same time, improved the health status of the patient populations covered.

It seemed that managed care had delivered on its promise to contain healthcare costs while creating a highly profitable industry. In the early 1990s, trends in healthcare cost expenditures per capita were at a 30-year low. Physician salaries had stabilized, premiums for healthcare-insurance products had dropped, increases in the aging population promised phenomenal growth and profit opportunities, and physicians managed their practices more efficiently by forming physician practice management (PPM) organizations. Hospital and hospital system profits climbed throughout the 1990s.

But the picture was not as rosy as it seemed. Despite prosperity, job growth, and

disappearing budget deficits in the general economy, the late 1990s were disastrous for managed care organizations' profits. Well-publicized crashes of such organizations shook confidence in the industry and raised new questions about the future of managed care. Overall, the HMO industry lost more than \$41 billion in 1998. Among the contributing factors were:

- Limited market-share gains
- Declining physician productivity
- Flat or lower payment rates to IDSs
- Negative underwriting cash flows resulting from stabilized payments
- Unrealistic rate guarantees that did not match cost experience
- Sparring over acquisition prices to increase the size and scope of the IDSs

Adding to the woes, organizational difficulties within IDSs became insurmountable. Few economies of scale were realized, and transaction costs were higher than expected. Staff morale deteriorated, and productivity

declined. Coordination of services was difficult, and the relationship between management and care providers grew increasingly strained.

As a result, 1999 saw an unprecedented rise in labor union activity among healthcare providers. Nurses, medical technicians, and even physicians sought protection for themselves, and for the relationship between care providers and patients, through organized labor movements. In June 1999, the American Medical Association (AMA) endorsed union activity for physicians hoping for increased physician control over decision making for patients and improved physician-patient relationships. Dissatisfaction within the healthcare sector had reached an all-time high.

Compounding the organizational and economic problems in the industry was a spectacular consumer revolt. Managed care, while appeasing payors and providers, had neglected its most important constituency—the patient. The consumer movement against managed care has been fueled by a backlash against limited choices and poor access, increased costs, dissatisfaction with service and quality, increased knowledge about health issues, and a more assertive, demanding, educated, and sophisticated patient population. By exerting pressure on a number of fronts, dissatisfied consumers quickly achieved significant clout to increase legal and legislative action and media attention to expand healthcare options. Unhappy consumers defected in droves from unsatisfactory relationships with managed care organizations, opting for other choices that appeared to offer a higher degree of access and satisfaction.

We have now entered the age of healthcare consumerism. Healthcare organizations

must understand the link between satisfied patients and revenue. Patients are walking, talking advertisements for how well or poorly the current healthcare system and its providers meet consumer needs. Employers and managed care organizations will leave providers who do not meet consumer service standards. To retain their customer base, healthcare organizations must become consumer-driven.

Among the changes consumers are increasingly demanding are:

- Participation in healthcare information and decision making; open and ongoing communication
- A greater choice of providers
- Respect, dignity, compassion, and empathy
- Timely, convenient, and reliable services provided in a high-quality and caring environment

Healthcare organizations must focus on improving encounters between patients and care providers in order to make patients feel valued. Patients remember most the quality of their contacts with healthcare staff. The quality and character of the physical environment goes a long way toward supporting good relationships between caregivers and patients.

A healthcare organization can no longer rely on its reputation, name, or standing within the community to convey a sense of quality to its consumers. In a phenomenon called the “take-it-for-granted” effect, healthcare consumers assume that they will receive the very best health care, much as airline passengers assume that their flight will arrive safely, grocery shoppers assume that fresh meat and produce will meet

health standards, and new-car buyers assume that their vehicles will deliver trouble-free driving for five years or more. Healthcare consumers take it for granted that the quality of care provided to them will be equal among reputable healthcare providers.

At the same time, healthcare organizations have worked diligently to reduce their costs. Reductions have been so great that few healthcare provider organizations see any way to lower costs other than through further reductions in staff, economies of scale, or limitations on utilization of healthcare resources.

If healthcare organizations cannot compete on quality or lower costs, they can compete only on perceived quality of patient relationships, on convenience, and on continuity of care. The rise of two-income families has further complicated the healthcare consumer picture. With more parents working, the average family has a harder time juggling multiple schedules to accommodate healthcare diagnostic and therapeutic visits. This need for convenience has driven consumers to choose organizations that can structure themselves to provide the “Ideal Patient Encounter,”¹ wherein caregivers, technology, information, and the patient are brought together to limit the amount of time spent and the number of steps required for any healthcare experience. Examination, diagnosis, consultation, and follow-up should all be provided within a predictable time frame and environment.

As informed consumers and primary family caregivers, women are particularly demanding of healthcare organizations. Their

role as family healthcare decision makers is well known. It is estimated that more than 75 percent of all healthcare decisions are made by women for themselves, their family members, and, often, their aging parents.² Healthcare organizations ignore the demands and concerns of this important constituency at their peril, as women are increasingly voting “with their feet” by leaving unsatisfactory healthcare relationships and encouraging others to do the same. To meet the needs of women and their families, healthcare architects must work with healthcare organizations to design facilities that expedite care in an attractive and efficient environment.

RIISING COSTS, CONSUMER DEMANDS, AND NEW BENCHMARKS CALL FOR INNOVATIVE DESIGN SOLUTIONS

More than 30 years since the first shock waves rippled through the healthcare industry, costs continue to rise on many fronts. The promise of many new pharmaceuticals is great, but the costs of discovering and developing them are growing out of proportion to the national GDP (gross domestic product) and other healthcare cost increases. The future benefits of new technologies for imaging, surgical intervention, and other therapies hold similar promise, but their costs are also great. Regulations imposed by the federal government and private healthcare payors—particularly regulations related to quality and safety issues—are increasing the cost of managing, measuring, and reporting on patient care. Personnel costs

¹ The phrase—“Ideal Patient Encounter”—was trademarked by Hamilton KSA (1996).

² Beatrice Black, *Marketplace*, Public Radio International, 26 January (1999).

continue to rise with increased training, higher expectations, and chronic shortages in many areas of the country. Finally, global pressures on the cost of raw materials, construction materials, and labor have resulted in skyrocketing construction costs per square foot within the United States. From December 2003 to August 2007, cumulative construction costs rose 28 percent—more than double the 13 percent increase in the most common measure of overall inflation, the consumer price index (CPI)—and that number is expected to rise.³ Owing to the intensity of life safety, mechanical, electrical, and specialized systems throughout their facilities, hospitals and healthcare organizations have been particularly hard hit by the need to keep pace with technological, medical, and pharmaceutical advancements in health care and the need to contain costs while providing high-quality, accessible health care.

Dissatisfied with the state of their “care relationships,” both patients and providers continue to look for greater contact than is currently allowed for under the managed-care model. Adding to the demands on the healthcare system is the “graying of America,” as average lifespan increases and the average age of the American population continues to rise.⁴ Compounding the problem is the enormous baby boomer generation, which is now reaching the age of increased healthcare needs.

Several other trends also affect healthcare organizations and facilities. Though quality and safety have always been ingrained in

healthcare, a new emphasis on those two features as benchmarks has spurred numerous changes. The first is a much greater focus on the measurement of care quality and public reporting of this data. Criteria include everything from the efficacy of an individual physician’s work, to the number of accidents, medication errors, and other mistakes that occur within an individual healthcare institution. Reporting requirements are being promulgated by the federal, state, and local governments, federal and private insurers, and other payors. While these processes have benefits, they may also lead to misunderstandings about care quality. For instance, cardiac surgeons may refuse the most complex procedures if the likelihood of a positive outcome is low.

This focus on quality and safety has led to an emphasis on *evidence-based care*, which requires that outcome measures be derived from sound principles and guidelines. Evidence-based care demands that care and treatment guidelines are based on empirical data showing that a treatment or care option is preferred or superior to other forms of care. This data, in turn, is used to develop *care-mapping mechanisms*, which define preferred patterns of care delivery. Many caregivers think that the care-mapping approach takes away from individual initiative and judgment, since payors will only provide payment for services within prescribed care maps.

The notion of evidence-based care extends to healthcare design as well. Many

³ Ken Simonson, *AGC’s Construction Inflation Alert*, Associated General Contractors of America, October 2007.

⁴ Wan He, Manisha Sengupta, Victoria A. Velkoff, and Kimberley A. DeBarros, *65+ in the United States*, National Institute on Aging, December 2005, pages 1 and 35.

Rising Costs, Consumer Demands, and New Benchmarks Call for Innovative Design Solutions



◀ Six-bay, single-handed patient-room modules, University of Minnesota Children's Hospital, Fairview, Minneapolis. Tsoi/Kobus & Associates and Hammel, Green and Abrahamson (HGA).

clients are asking architects to provide evidence that certain design features improve the quality of patient care. The effect of the physical environment—e.g., healthcare facility—in reducing stress and aiding healing is being tested in a variety of venues; facility designs intended to provide safer, more efficient environments are also being tested.

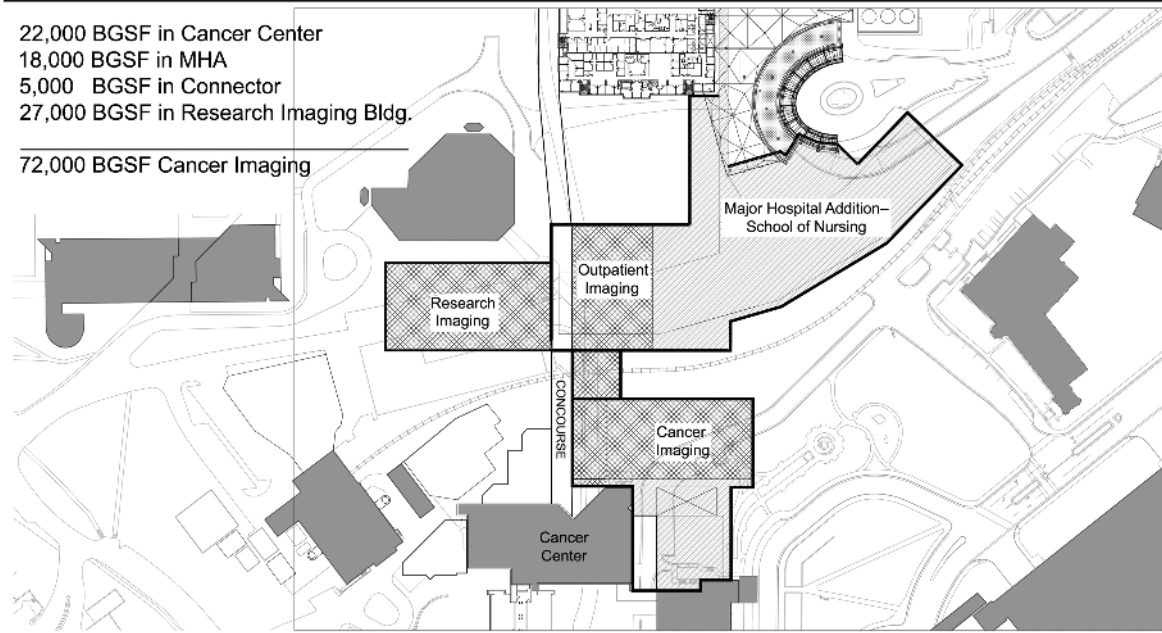
The convergence of these trends—e.g., evidence-based care, care-mapping, and contribution of the healthcare environment on patients and patient care—has placed new

emphasis on information management, specifically on how care measurements are made, how data is collected, and how evidence is sought. The demands of the Health Insurance Portability and Accountability Act (HIPAA) require more attention to patient-record privacy and data collection and affect the ever-growing population of physicians and nursing staff who use personal digital assistants (PDAs), computers on wheels (COWs), and wireless notebooks. To increase the quality of one-on-one patient

Imaging Connector Study - 408' Level

22,000 BGSF in Cancer Center
 18,000 BGSF in MHA
 5,000 BGSF in Connector
 27,000 BGSF in Research Imaging Bldg.

 72,000 BGSF Cancer Imaging



Duke University Medical Center

Scale: 1" = 100'-0"

▲ Research, Outpatient, and Cancer Centers at Duke University Medical Center, Durham, North Carolina. Tsoi/Kobus & Associates.

care, providers also want complete data management of each individual patient. Healthcare designs must take into account this growing demand for data management, and architects must realize that the built environment is measured as a part of the success of caregiving.

Another evolving trend is the increased emphasis on building new beds. In the 1990s, it appeared that the reduced rate of hospitalization per 1,000 population would substantially reduce the need for inpatient beds. Some believed that no new inpatient beds would be built until existing bed inventories needed to be replaced. To the contrary, the change in intensity of care needed by patients who are hospitalized has required hospitals to increase the number of

intensive care and intermediate care beds and to address growing patient desire for private rooms. Private patient rooms aid efficiency by allowing rooms to be assigned by patient rather than according to census factors such as gender and infectious disease. As a result, the utilization rate of private patient rooms may actually be greater than the rate for semiprivate patient rooms.

Architects are designing private patient rooms with safety features in mind. There is strong debate about the desire for *single-handed patient rooms*, where the care provider approaches the patient from the same side of the body in every case. Single-handed rooms are thought to ensure that care-mapping models will be easier to apply. Rooms also are being designed to reduce the

risk of falls by placing the patient toilet closer to the patient bed. Caregivers are demanding greater visibility of the patient from the corridor, which may, in turn, provide less privacy for the patient and his or her family. In response, rooms are being designed to incorporate zones that provide a sheltered area for patient and family activities outside of the zones used by care providers to care for the patient.

The presence of technology in the healthcare environment continues to grow. Diagnostic imaging is providing more information about not only the structural nature of the body and disease mechanisms but also the functional nature of diseases as they progress and are treated. Genetics-based testing and treatments are becoming more frequent, and proteomics is growing in popularity as new measurement tools and data collection mechanisms allow for the implementation of models based on the work of proteins within the human body. Therapeutic technology also is changing care models. The most obvious example is the cardiac stent, which has substantially reduced the incidence of cardiac bypass surgery while also raising questions about the long-term safety of these devices. Similarly, statin-based pharmaceuticals have reduced the frequency of cholesterol-related, cardiologic, and vascular conditions.

We are at the threshold of realizing the promise of individualized medicine. Cancer therapies are now, more than ever, guided by imaging technologies. Today, it is possible to determine the efficacy of chemotherapeutic

and radiation therapy treatments within hours rather than weeks. Immediate adjustments to therapeutic regimens can be made, thereby reducing the toxicity of treatments and making treatment modalities more effective for individual patients and their symptoms. New chemotherapeutic agents are being used to reduce cancer cell growth by attacking the ability of the cells to develop vascular networks⁵ and/or to inhibit their ability to digest glucose,⁶ the tumors' main source of energy. Radiation therapy is becoming more focused through the use of intensity modulation, which allows the radiation to be pinpointed to the tumor site, lessening collateral damage. Proton therapy promises even better results with lower collateral damage since the energy can be discharged entirely within the tumor cells.

Impact on Design

On the surgical front, joint replacements have become commonplace, and minimally invasive procedures are rapidly becoming an option for many senior patients. Similarly, new trends in treatment of neurological and gastrointestinal diseases are reducing the invasiveness of procedures and improving the success of therapeutic interventions.

As all of these trends converge to increase the average lifespan, the healthcare environment must accommodate a larger population of elderly patients who—owing to the rise in ambulatory procedures and the decrease in invasive procedures—are hospitalized less frequently but with more intense illnesses. Family members are becoming a

⁵ Judah Folkman, *Nature Reviews Drug Discovery* 6 (2007) (pp. 273-286).

⁶ Wolfram Goessling, Trista E. North, and Leonard I. Zon, "New Waves of Discovery: Modeling Cancer in Zebrafish," *Journal of Clinical Oncology* June (2007) (pp. 2473-2479).



▲ The atrium of the M. D. Anderson Cancer Center, The University of Texas, Houston. Tsoi/Kobus & Associates. Photo: ©Jonathan Hillyer.

critical part of the care team as aging patients become less capable of making informed decisions on their own.

At the same time that the age of patients and the intensity of their care is on the rise, staffing shortages are challenging the health-care industry to provide the quantity and quality of care needed by their patients. Shortages exist among physicians—particularly primary-care providers, as well as nurses and medical technologists. This brain drain has resulted in increases in overseas recruitment of physicians, nurses, and other health-care professionals,⁷ bringing into question language barriers, cultural differences, and concerns about safety and quality. Many healthcare organizations are raising the stakes to attract more nurses to the profession. Nurses are better compensated,⁸ may work more flexible hours, and have seen growth in stature and responsibility within the health-care environment.⁹ “Care extenders”—i.e., nursing aides, orderlies, and attendants—are taking on some of the tasks traditionally associated with nurses, allowing nurses to focus on higher-intensity aspects of patient care. While this arrangement offers some relief for nurses, it also increases the need for supervision as these lesser-trained staff members participate in patient-care activity.

Staffing shortages and costs are driving hospitals to seek greater efficiencies, which are often interpreted as needing to care for more patients in less time. This idea, however, raises questions about the quality of the healthcare encounter, as providers feel they have less time to spend with patients, and patients feel they are given insufficient time

⁷ Lucille A. Joel, “Facing a Visionary Future,” *Global Relevance*, Annual Report 2006, Commission on Graduates of Foreign Nursing Schools, page 2.

⁸ Health Resources and Service Administration Bureau of Health Professions, National Center for Health Workforce Analysis, “National Sample Survey of Registered Nurses,” March 2004.

⁹ Ibid.

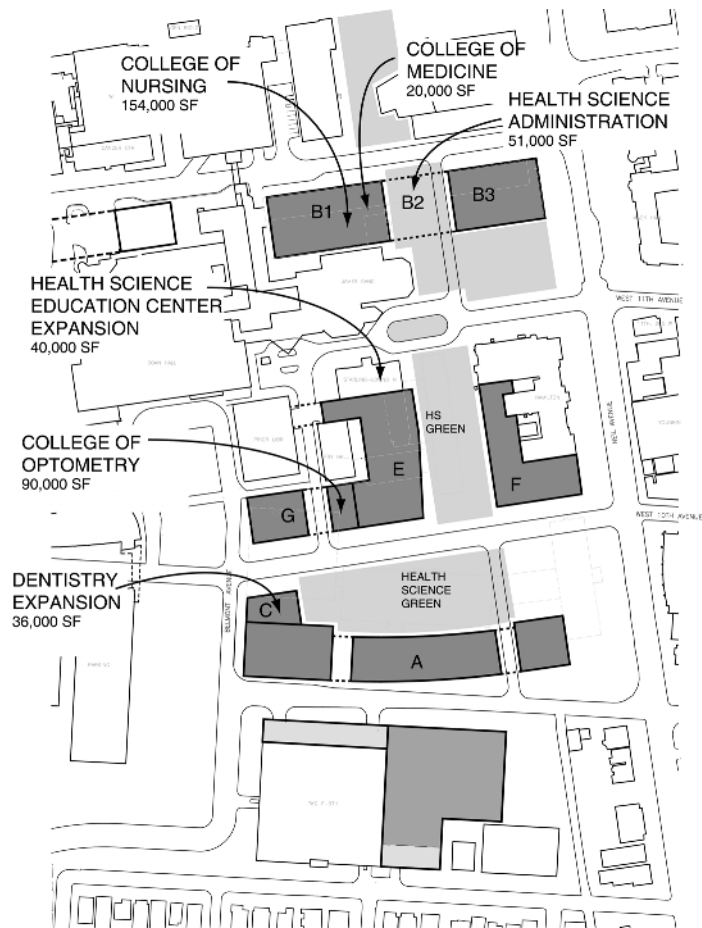
to discuss their illness or health concerns, diagnostic and therapeutic options, and the impact of their illness on their life and their family's lives.

Incorporating Healthcare Trends in Facility Design: Lean Design, Evidence-Based Medicine, and Translational Medicine

Taken together, these trends in staffing and operations play a powerful role in shaping the design of new healthcare facilities. Add in the rising cost of healthcare construction, and healthcare institutions and architects find themselves juggling multiple pressures. To allow them to respond more quickly to changes in cost reimbursement and achieve maximum utilization, hospitals are trying to standardize operational models across disciplines—from care mapping to how supplies are delivered, to how much time a physician spends with a patient. As a result, facilities must be designed for optimal flexibility, often in the form of larger, less purpose-specific spaces. Not surprisingly, balancing this mandate for generic, flexible space with the need to attain the lowest initial construction cost will likely challenge many organizations.

Some healthcare institutions are going so far as to employ “lean design” techniques. *Lean design* was pioneered by Toyota Motor Company and its manufacturing plants in the 1970s. Since then, many other industries have employed its principles—chief among them the idea that providing a worker with everything he needs to do his job as close to his work site as possible cuts down on repetitive motions, shortens distances between tasks, and eliminates unnecessary waste of time and resources, thereby increasing overall productivity—to realize enormous cost savings and to improve their

competitive position. In the healthcare world, lean design is seen as a way of improving the efficacy and efficiency of the care process. Healthcare architecture offers an array of opportunities to put lean design principles into action. Nursing units, for instance, should be designed to minimize the distance between the nurses’ station and patient rooms, and between the nurses’ station and the supplies and medication nurses need to treat their patients. By bringing these



▲ The Health Sciences Quadrangle at Ohio State University Medical Center, Columbus. Tsoi/Kobus & Associates.

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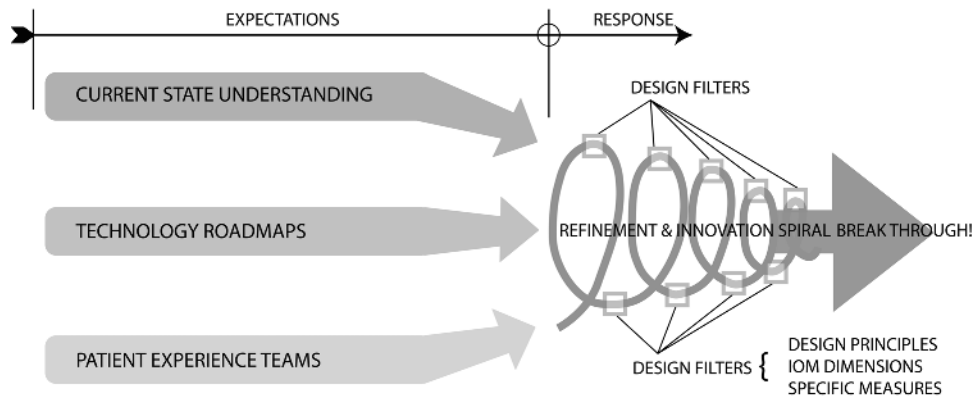
► A floor plan showing modular ambulatory planning at The Children's Hospital of Pennsylvania, Philadelphia. Tsoi/Kobus & Associates.



functions together as seamlessly as possible, healthcare architects can contribute not only to a hospital's operational efficiencies but also to the overall patient experience.

Administrators are also seeking to identify how well facility designs are working through evidence-based measurements—such as fewer falls and reduced rates of

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◀ Outline of the lean design process used by HGA and SSM Healthcare at St. Clare Hospital, Fenton, Missouri. HGA.

nosocomial—or hospital-acquired—infections. So-called healing environments are believed to be essential to reducing recovery time and length of stay, improving staff efficiency, and lowering operating, housekeeping, and maintenance costs. All of these trends are increasing the role and responsibility of the healthcare-design architect. Hospital administrators no longer are willing to accept at face value architects' suggestions that certain design features improve patient care; instead, they are asking designers to provide proof that particular design features indeed improve patient care, quality, and safety.

Translational medicine—i.e., the transfer of clinical research knowledge to patient care—is a growing strategic focus for many healthcare, research, and academic institutions. This new paradigm, or working model, requires new communication, operations, and management modes as well as new scientific and clinical practices. The implications of these new modes and practices on an institution's physical environment are significant. The space must support communication among disciplines, not only between

researchers and clinicians within the institution but also among colleagues at institutions around the world.

From an operational and management standpoint, physical space must be viewed not only as a capital asset but also as a means of integrating the processes of scientific discovery and clinical treatment. From a scientific and clinical practices standpoint, physical space must be appropriate for today's practices but also flexible enough to adapt to future practices. The promise of translating basic research results into new diagnostic and treatment modalities is great, and an effective translational medicine program can help an institution compete for top clinical and research staff, funding, and patients. Essential to the creation of a successful translational medicine program is a nurturing practice environment. Healthcare administrators and architects must ensure opportunities for interdisciplinary collaboration in the form of clinical, laboratory, and office spaces in close proximity to one another as well as the complex infrastructure to support them.



▲ Atrium at the Fletcher Allen Health Care Patient Access Center, Burlington, Vermont. Tsoi/Kobus & Associates. Photo: ©Robert Benson.

PATIENT-CENTERED CARE: THE ARCHITECT'S ROLE

On the business front, architects practicing in the healthcare industry today face a growing focus on limiting the cost of construction and the cost of their services. To respond to the demands of their clients, some may choose the route that leads solely to greater efficiency while forgetting their re-

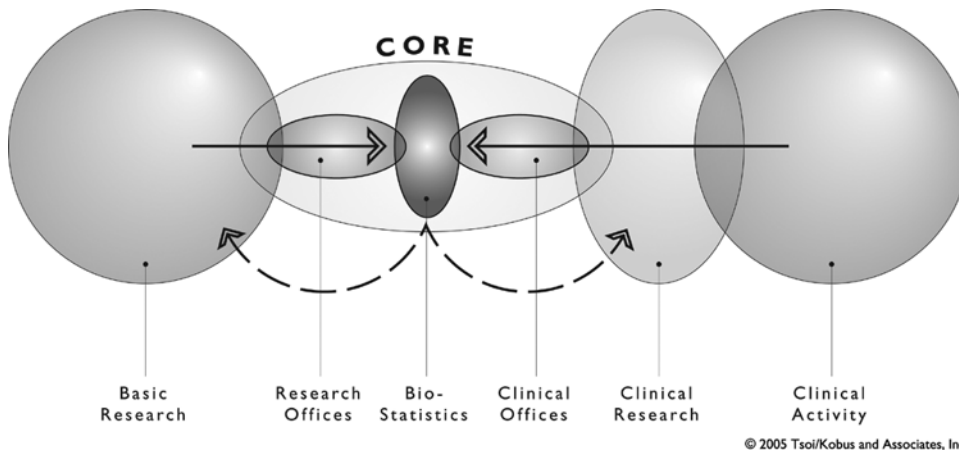
sponsibility to the health care of their prime consumer, the patient. The emphasis of healthcare architecture today must be on improving the quality of the healthcare environment for patients and caregivers alike. Architects can best support healthcare management through efficient solutions but not those that ignore the physical environment and the quality of the patient-caregiver encounters it supports.

As baby boomers age, they will place increasing demands on healthcare organizations. Those institutions most responsive to patients in terms of convenience, positive patient encounters, service orientation, and quality of care will do best in meeting these new expectations.

Architects are regarded as talented problem solvers. The problem to be solved here is to find a way to continue to deliver a high level of care and access in a setting that also supports human relationships during times of great anxiety and fear. With their particular skills and strengths, architects are well suited to meeting this challenge. They can help caregiving organizations look beyond conventional healthcare settings (e.g., the hospital) to settings that are more conveniently located, that emphasize “one-stop shopping” by providing all the care that is typically required in a consolidated setting, and that satisfy basic human needs for orientation, safety, comfort, respect, and dignity.

Good architecture in the healthcare setting starts by acknowledging the unique nature and function of the healthcare environment, but it does not end there. It must also meet the special needs of the people who use such facilities in times of uncertainty, stress, and dependency on doctors and nurses. It must recognize and support patients' status and treatment options.

Patient-Centered Care: The Architect's Role



◀ Translational research diagram. R. Kobus/ASHE.

▼ Translational campus plan at the University of North Carolina at Chapel Hill. UNC Hospitals and Tsoi/Kobus & Associates.



Clarity about destinations and processes must start from the moment a patient arrives on the healthcare campus and carry through to treatment and discharge.

When a patient enters a hospital or healthcare setting, he is a stranger in a strange land. In this unfamiliar terrain, wayfinding is particularly important. Keeping patients separate from back-of-house activities (such as supply distribution and trash removal), and inpatients from outpatients, provides a much-needed sense of comfort, dignity, and repose. In an environment that all too often lacks natural light, appropriate lighting is critical. Patients also want orientation to natural light, time of day, and familiar views as they move around a facility. Finally, materials, colors, and finishes should convey a sense of quality and familiarity while providing for durability and ease of maintenance.

At its most basic level, in today's healthcare scene, the architect's role is to help focus healthcare organizations on their customer, the patient. Orienting healthcare facilities to the patient and the quality of the patient's care encounters will ultimately lead to higher satisfaction with care providers and the healthcare organization.

This book focuses on the key trends in architecture that are serving patients well. It is easy in times of turmoil to forget the basic instincts that lead to success. The most basic instinct in health care, the one overwhelming success pattern, is to focus energies on the patient and the patient's family. By following this instinct, architecture can uniquely serve the patient through its art and its technical expertise by providing an environment that is fully supportive and familiar, lending respect and dignity to the patient's life-enhancing encounters.