



MODELS FROM PAST MOLD THE FUTURE

IN EVIDENCE-BASED HEALTH CARE DESIGN

BY DOUGAL G. HEWITT

Over the centuries, Christ's call to heal the sick has inspired many different forms of service delivered in a multitude of settings. Today, an emerging trend among those who follow that call is the impact of the built environment. Around the country, bold Catholic health systems are creating a new generation of hospitals and other facilities, reshaping the design by applying new knowledge related to how surroundings affect individual and community health. Based on growing evidence that the physical environment can promote healing, Catholic facilities are expressing the charisms of their founders in physical structures, some focused on ecological stewardship, others on patient outcomes, others on creating thriving communities that will serve generations to come.

One way to gain a deeper understanding of where we are today and where we could be going is to look backward — to delve into the past, exploring the rich legacy Catholic health care has inherited. Christian hospitals played a role in improving the health of their communities as early as the fourth century, when Saint Basil the Great, following the recommendation of the First Council of Nicea, built a hospital in Caesarea. This hospital was renowned not only for the care it delivered, especially to the poor, but also for the buildings that surrounded it, which included churches, houses, schools and a marketplace. So famous was this “new town” of health care and related buildings that Saint Basil was later designated patron saint of hospital administrators.

As the Roman Empire collapsed, St. Basil's efforts to house and care for the sick poor prompted monasteries to incorporate infirmaries. Often these became key sources of hospitality and medical care to surrounding communities. These complexes generally featured cloisters or courtyards that afforded opportunities for fresh air and exercise, along with herb and kitchen gardens for the manufacture of medicines. The cloister style of such great monasteries as the Cistercian Abbey of Fontenay in the Burgundy region of France provided a model that would be used for hospitals in towns and cities for years to come.

In the late Medieval and early Renaissance eras, increasing urbanization and a growing bourgeoisie led to

the establishment of hospitals in many cities. Regardless of whether these hospitals were built by religious orders or secular societies, institutions like Ca' Granda in Milan, Italy, or the Hospital de los Reyes Catolicos in Santiago de Compostela, Spain, were sources of pride. Specialized institutions developed too — the Ospedale

degli Innocenti, a children's hospital in Florence, Italy, for instance, as well as hospices, orphanages and various other facilities to care for the poor. For centuries, these institutions were built in the monastic style of colonnaded courtyards and were woven into the urban fabrics of the cities or towns in which they were built.

In every community, the hospital stood among the most important of civic buildings. This perspective was shared across countries and religious divides, and it was brought to the Americas during the colonial period when the Pennsylvania Hospital in Philadelphia and the Hospicio Cabañas in Guadalajara, Mexico, were numbered among the finest structures in those cities. However, these “institutions of confinement,” al-





Natural light and stone and wood surfaces bring the outdoors into the lobby at Saint Alphonsus Regional Medical Center, Boise, Idaho.

though outwardly handsome, were not always welcoming to people perceived as undeserving. Too often, in U.S. society's nativist climate, these were the immigrants.

It was left to the religious orders, the sisters who consistently cared for the sick and served the injured on both sides during the Civil War, to offset the frequently hostile prejudices of the American majority. Pioneering and courageous, women religious created hospitals that were immersed in and reflective of the communities they sought to serve. Often religious hospitals were begun in large private homes by small groups of sisters and expanded as funds became available. This occurred rapidly as the reputation of Catholic hospitals for high quality and compassionate care became widespread.

Medical advances, too, such as recognition of the importance of sterile techniques

and the invention of the X-ray machine, inspired exponential growth in the number and size of hospitals. Many of these institutions were recognized as places of outstanding beauty and were valued as important components of their region's heritage. Indeed, community pride was often such that Catholic hospitals featured as popular images on picture postcards. In many cases these institutions were built along the lines of local architectural styles — Hôtel Dieu in New Orleans, for instance, featured wrought iron porches and bal-

conies — and always included sacred spaces such as welcoming hospital chapels that represented the values of the religious congregations that built them.

Throughout the 20th century, changes in architectural fashion, combined with the advent of mechanical heating and cooling, led many institutions to abandon the courtyard and pavilion models and to focus on internalized spaces. Forfeiting the gardens and courts that brought light and air in exchange for "centralized cores" was intended to increase efficiency of staff and provide readier access to machines. The unfortunate result was the myriad spaces marked by confusing interiors with little access to daylight. Frustration levels and dissatisfaction with health care delivery in such environments are evident in staff and patient surveys drawn from across the country. Although multiple factors affect these survey results, especially interactions between patients and those caring for them, environmental factors clearly play a role.

DESIGN AND CONTEMPORARY CONCERNS

Concerns over the patient experience certainly are not new. One well-known attempt to develop a patient-centered care approach, the San Francisco Planetrete Model Hospital (circa 1980s), embraces strengths inherent in partnerships among health care professionals and patients and their families. Today, the Institute for Family-Centered Care in Bethesda, Md., serves to advance the effort to provide relationship-based care, and several forward-looking hospitals, such as Mercy Gilbert in Gilbert, Ariz, are renowned for providing extraordinary patient-care environments. (See page 26.)

Along with a growing focus on relationship-based care, mortality rates and pa-



A second-floor waiting room at Mercy Gilbert Medical Center contains the framework for the dome of the chapel directly beneath, on the hospital's first floor.

tient safety have recently emerged as important concerns. The Institute of Medicine's *Quality Chasm* and *To Err is Human* reports and the Institute for Health Improvement's *100,000 Lives Campaign* brought significant attention to the processes and procedures that protect patients. These activities parallel a growing understanding of evidence-based design; that is, a research-based understanding of the ways in which the built environment can affect patient outcomes and staff well-being.

In 2004, a landmark report, "The Role of the Physical Environment in the Hospital of the 21st Century: A Once-in-a-Lifetime Opportunity," prepared by a team of researchers led by Roger Ulrich and Craig Zimring, described the results of more than 600 studies on the linkages between patient outcomes and physical setting. Ulrich, Zimring and colleagues reported on a growing body of scientific studies "confirming that the conventional ways that hospitals are designed contributes to stress and danger, or more positively, that this level of risk and stress is unnecessary: improved physical settings can be an important tool in making hospitals safer, more healing, and better places to work." The report focused on how organizations could reduce staff stress and fatigue, improve patient safety, reduce patient stress and improve outcomes along with overall health care quality.

As the number of studies examining the effects of evidence-based design continues to grow, several health care organizations share their growing knowledge through participation in the Center for Health Design's Pebble Project. The concept behind this initiative is that multiple demonstration projects (or "pebbles") could create a ripple effect over time. The project allows participating health care organizations to learn from one another about design that works well. The sharing of



A waiting area and café overlook a large courtyard at Providence Newberg Medical Center in Seattle.

results has advanced understanding of the built environment upon patient care. Findings range from such details as the way in which the number and positioning of areas for hand-washing affect spread of infection to larger issues related to reducing stress and noise within the health care environment. Participants in the Pebble Project also address the design of interior spaces that provide for greater social support, such as private rooms large enough to accommodate loved ones. For example, "care zones" for family members and clinical staff were incorporated into the redesign of Saint Alphonsus Medical Center in Boise, Idaho. (See page 14.) Health systems also have designed buildings that improve access to natural light, which is widely recognized for its positive impact on patients and staff.

In addition to a core focus on improving quality of care, hospital leadership teams have begun to take note of the potential economic benefits of evidence-based design. Shorter

lengths of stay, reductions in patient falls and fewer medication errors are among demonstrable cost-related effects. The financial imperatives related to Medicare's movement toward non-payment for errors may also increase enthusiasm for environments that are proven to provide the safest and best outcomes.

Another significant community consideration relates to how lightly an institution lives on the land. Catholic health care has once again led the way. Several Catholic health systems have been at the forefront of ecological awareness and most have made major commitments to the stewardship of Creation. The fact that Providence Newberg in Oregon was the first hospital in the country to achieve Leadership in Energy and Environmental Design (LEED) Gold certification is particularly notable. However, it is only recently that health care organizations have begun to make the leap from such laudable efforts as recycling materials and

eliminating mercury to address deeper issues, such as the ways in which positioning and organization of health care campuses affect the environment.

REFOCUSING ON COMMUNITY

In addition to frequently challenging physical structures, hospitals face difficulties related to geographic distance from the communities they seek to serve. Until recently, as population shifted from urban cores to suburbs, many Catholic institutions followed, and hospitals were constructed along zoning models that isolated housing, retail and education from one another. The compartmentalization of daily life into separate areas reachable only by automobile has had calamitous effects on public health. A rapidly accelerating obesity epidemic with its attendant increased risks of diabetes, stroke, hypertension and heart disease provide the most tangible evidence, but effects related to stress and social isolation deserve recognition too.

In addition, a growing body of research indicates the benefits of community engagement and social support in maintaining and improving overall health and well-being. In the September 2003 edition of the *American Jour-*

How can Catholic health care organizations strengthen community both within their institutions and in service to those beyond their walls?

nal of Public Health, Kevin Leyden noted “a growing number of researchers agree that social networks and community involvement have positive health consequences. Persons who are socially engaged with others and actively involved in their communities tend to live longer and be healthier physically and mentally.”



A fountain-fed pool soothes visitors to a seating area in a garden at Providence Hospital in Washington, D.C.

How can Catholic health care organizations strengthen community both within their institutions and in service to those beyond their walls? The contributions and legacy of those pioneering early Catholic sisters who embraced

new technologies while providing places of healing within the fabrics of their communities provide guidance for the future. Their facilities reflected a focus on connectivity that must be restored if Catholic health care is to advance the cause of healing and wholeness. Overcoming the negative health effects of suburban sprawl is one of the great challenges confronting Catholic health care today.

COUNTERING SPRAWL

Catholic health care institutions now have tools and trained professionals to assist them in exploring how the built environment they shape can enhance

the well-being of local communities. Principles of urban planning, especially New Urbanism, provide a framework for the design of health care campuses intended to support an improved quality of life for patients, visitors, staff and others. Bon Secours St. Francis Medical Center in central Virginia offers one vivid example of how a hospital can form the core of a future community. (See page 20.)

Even a relatively rural hospital draws numerous people to it and so has a degree of density more like a village center than its physical location might suggest. Yet health care institutions continue to be designed as though they belong in a suburban corporate office park rather than woven into and becoming part of the fabric of a community. One striking exception to this was the decision by Catholic Health Initiatives to locate its headquarters within the urban core of Denver.

Conventional approaches to the planning of health care facilities have not generally explored the potential for improving the health of their communities other than by providing medical services. The potential to make a difference is profound, given the significant growth in hospital construction from the late 1990s through the early years of the 21st century. According to the Healthcare Financial Management Association, construction-related expenses doubled in the years 2004-2006 and in the United States were headed towards \$60 billion in 2010. The current recession has had a chilling effect on most sectors of the economy, and certainly had an impact on hospital construction, but health care overall is demonstrating a degree of resilience.

A PAUSE FOR PLANNING

Perhaps this present economic climate provides time to pause and reflect on how projects that are in the planning stages should proceed. The selection of a sustainable site that contributes

to community health sends important messages about that institution, as does the expression of charism and values through context and site planning and through architectural expressions, both exterior and interior. From the way a facility treats its region, municipality and near neighbors to the design of patient rooms, each decision becomes an outward expression of the institution's mission. At a time when the number of women religious continues to decline, there is an urgent need to express Catholic health care's identity as a part of Christ's healing ministry. Should a new Catholic hospital fall into the current trap of whatever architectural fashion is in vogue, or should it consider the light of eternity

as its source, illuminating the sacred acts that will occur within, the history of its founding religious congregations as well as the history and aspirations of its region and neighbors?

Catholic health facilities (hospitals, nursing homes and more) have shaped communities all across America. While that legacy is certainly at risk, hope for the future is alive. Institutions that question the illness-based focus of the conventional hospital model are demonstrating possibilities inherent in a new emphasis on community health. In the process, illness is ameliorated.

Indeed, Catholic health care always has sought to address illness as part of the larger goal of bringing individuals to wholeness. Based on this historic and

present mission, the role of Catholic institutions in supporting and enhancing the fabric of community life has never been more important. Catholic health care can embrace this mission in local neighborhoods as it connects its hospitals and other buildings in ways that truly build community. Partnerships with those interested in enhancing the built environment will be crucial to the success of these efforts. The Catholic health ministry now has the models and the potential to achieve an extraordinary transformation of community health and well-being.

DOUGAL G. HEWITT is senior vice president for mission, Bon Secours Richmond Health System, Richmond, Va.



Illustration courtesy of Bon Secours Richmond Health System

This site plan for a future community around St. Francis Medical Center reflects the work of a charrette.

JOURNAL OF THE CATHOLIC HEALTH ASSOCIATION OF THE UNITED STATES

www.chausa.org

HEALTH PROGRESS®

Reprinted from *Health Progress*, March - April 2010
Copyright © 2010 by The Catholic Health Association of the United States
