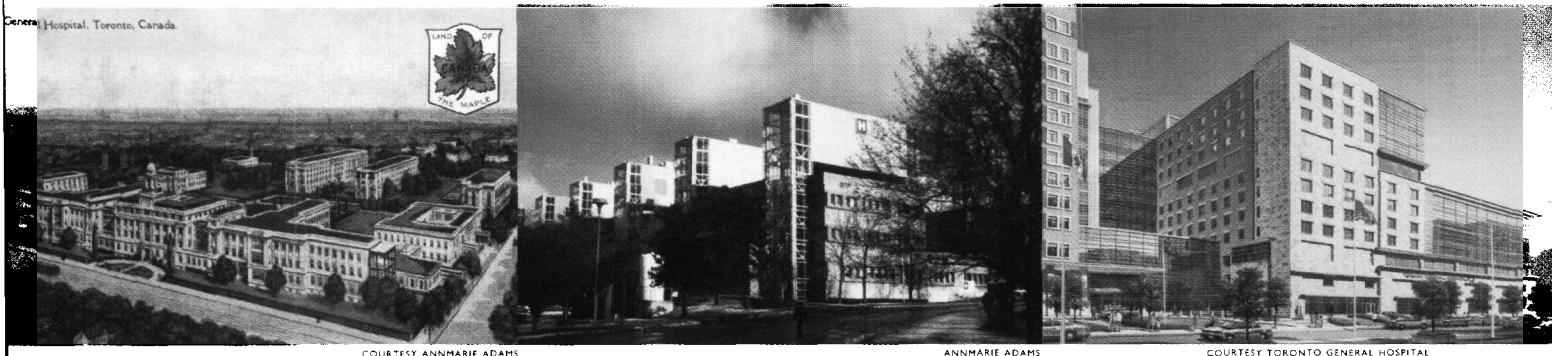


Canadian architects have long been leaders in the development of innovative health care building types.

# Medicine by Design

by Annmarie Adams and David Theodore



Canada figures prominently in the history of health care buildings. Early hospitals in Quebec City and Montreal were among the first in North America. The Royal Victoria Hospital (1894, Henry Saxon Snell) and the Toronto General Hospital (1913, Darling and Pearson) served as models for the American College of Surgeons' influential hospital accreditation program. And architects from around the world flocked to Hamilton, Ontario to visit Craig, Zeidler, Strong Architects' monumental McMaster University Health Sciences Centre when it opened in 1972.

In the last decade, however, administrative mergers and financial restructuring in Canada's health care system have dramatically reshaped our building stock. The spectacular demolition of the 1.1 million square foot Calgary General Hospital in 1998 drew national attention to the plight of hospital architecture. Saskatchewan closed 52 rural hospitals in 1994. Quebec closed eight community hospitals in Montreal in 1997. And beloved buildings like the old Halifax Infirmary are now vacant and deteriorating.

On the other hand, there is also a demand from patients, governments and medical personnel for new, state-of-the-art facilities. Indeed, since the establishment of the Health Care Restructuring Commission in 1996, the Province of Ontario boasts that it has poured \$1.9 billion into the expansion and modernization of 64 hospital sites. The challenge for architects, then, lies not only in designing good medical spaces, but also in establishing historical and architectural perspectives that maintain broader urban and cultural values.

The project Medicine by Design, now under way at the McGill University School of

Architecture, is set up to document contemporary architectural responses to changing needs in the Canadian health care system. It is funded by the Canadian Institutes of Health Research to study the planning and construction of hospitals since 1945, to analyze the history of health care buildings, design firms and planners, and to track industry trends. Medicine by Design also maintains a Web site ([www.mcgill.ca/arch/mbd](http://www.mcgill.ca/arch/mbd)) that informs Canadians on issues related to the destruction and construction of their hospitals.

Despite widespread public interest in health care, hospital design gets little mainstream coverage. One problem is that medical professionals and hospital administrators are encouraged to think of hospitals not as buildings but as technologies. Like personal computers, hospitals must be continually "superceded by the next edition," in the words of medical historian J.T.H. Connor. In fact, as American historians Stephen Verderber and David J. Fine argue in their book *Healthcare Architecture in an Era of Radical Transformation* (Yale University Press, 2000), true innovation in health care architecture is usually the result not of technological progress but rather of non-specialists tackling hospital design for the first time.

After the Second World War, hospital designers innovated by using interstitial floors, long-span structures, and experimental nursing unit configurations. But with the recent emergence of new kinds of health care spaces such as hospices, walk-in clinics, and fertility centres, and a growing emphasis on primary and home care, the building type itself—the modern university-affiliated general hospital with a three-part mandate for research, teaching and patient care—is mutating.

**Above, from left: Darling and Pearson's Toronto General Hospital (1913); Craig, Zeidler, Strong Architects' McMaster Health Sciences Centre, Hamilton, Ontario (1972); Clinical Services Building, Toronto General Hospital, by HOK/Urbana (under construction).**

Hospital planners typically point to the increase in day surgery as a justification for new construction. In general, hospitals are less residential than ever before: very few people who go to the hospital even stay overnight, as opposed to 50 years ago when not just patients but nurses, interns and other personnel lived at the hospital. "Patient-centered care," whereby medical treatment is brought to patients, rather than patients to treatment, is hailed as a more dignified, humane, and efficient mode of medicine. These changes are a striking part of the new \$128 million Clinical Services Building at the Toronto General Hospital site of the University Health Network, designed by HOK/Urbana.

A second important motivator for new construction over renovation is the tangled circulation that can be found in hospitals that have been developed piecemeal. Colour-coding, bold graphics, and even new bridges and tunnels are common ways that architects have tried to ease circulation when renovating historic hospitals. Wayfinding experts are typically employed when pavilions are added or departments moved.

The most important change in the past three decades has been the shift from Modern to Postmodern models of hospital design. This radical reform includes a renewed sensitivity to local context, an increased use of colour and ornamentation, and overt refer-

ences to other building types. More broadly based cultural Postmodernism has meant an acknowledgement of automobile-based suburban living, playful, nearly Disneyesque façades, and the inclusion of shopping facilities in hospitals. Recently labeled "retail therapy" by the *Toronto Star*, this blurring of lines between facilities designed for health care and for profit is most evident in the presence of retailers such as Second Cup just inside the entrances of many Canadian hospitals.

Hospitals now also look like malls. Like so many other late 20th century building types—the spec office tower, the airport, even university buildings—many hospitals employ the atrium as a major parti. Verderber and Fine correctly point to the Walter C. MacKenzie Health Sciences Centre in Edmonton (1986, Zeidler Roberts Partnership/Architects) as an early example of the hospital-mall type. Since the appearance of this hybrid in Alberta, many hospitals in the United States have employed the atrium to gain a competitive edge in a market in which clinics and private practices compete directly with hospitals for patient dollars.

Here in Canada, however, the atrium has more often functioned as a symbol of universality, based almost exclusively on its potential to provide urban, public indoor space. In addition to the MacKenzie Health Sciences Centre, the two most significant examples are Toronto's Atrium (New Patient Tower) at the Hospital for Sick Children (1993) and the Ontario Cancer Institute Princess Margaret Hospital (1995), also designed by Zeidler Roberts (since renamed Zeidler Grinnell Partnership/Architects). Unlike hospitals in the United States, these Canadian atrium hospitals are intended to complement, rather than compete with, each other and the existing pattern of indoor public spaces in Canada's largest city.

When hospitals are not re-used for health care, they are too often summarily demolished. This is a pressing problem, especially for facilities of a type we no longer require, such as veterans' hospitals. Sometimes they can be successfully changed into long term care centres. A model project here is the conversion of the Freeport Hospital, a former tuberculosis sanatorium, into a chronic-care facility, expanded by NORR Partnership in 1989 into a "Health Care Village." But many have met the wrecker's ball. At least a dozen Canadian cities are currently haunted by abandoned hospitals. Apart from their photogenic appeal as film sets, hospitals such as the 1962 Hôpital Bellechasse in east end Montreal are modern ruins.

Montreal is an ideal location for Medicine by Design, as eight major hospital sites will be up for grabs over the next five years. Two mega-hospitals are on the drawing boards.

The McGill University Health Centre (MUHC), proposed for the former Glen railway yards, will see the closing of the Royal Victoria Hospital, Montreal General Hospital, Montreal Neurological Institute and Hospital, Montreal Children's Hospital, and Montreal Chest Institute. The Centre hospitalier de l'Université de Montréal (CHUM) may mean the end for the Hôtel-Dieu, Hôpital Saint-Luc, and Hôpital Notre-Dame. The McGill project is known locally as the "superhospital" thanks to its sheer size (probably over 3 million square feet). According to Professor George J. Mann of Texas A&M University, "This [MUHC] is very likely the largest architecture for health project ever conceived in North America." Ironically, the planners of these mega-health care projects are faced with the cleanup of heavily polluted sites (former railway yards in both cases). No plans have been announced for the re-use of the existing hospitals, even though public hearings were held on the buildings affiliated with McGill over a year ago.

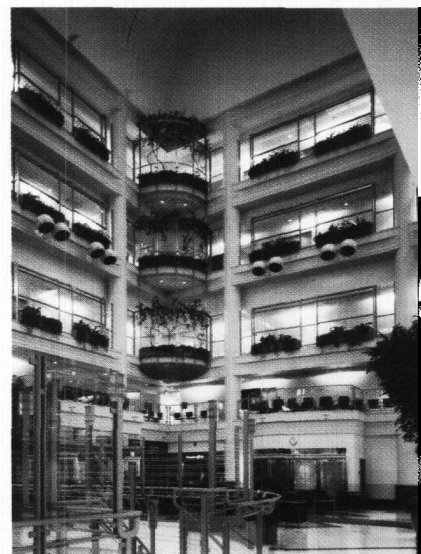
In its first year, Medicine by Design helped shape two significant educational initiatives as part of a concerted effort to link ongoing academic research and the training of Canadian architects. The first was to support a professional Masters studio at McGill that focused on the design of health care facilities in Montreal, in which 27 students were asked to either propose a design for some part of the MUHC project or to work on the modernization of one of the current sites. "We wanted students to take a stand on the difficult social and ethical questions surrounding the future of health care in Montreal," says Professor Robert Mellin, a co-director of the studio. MUHC planners and experts in health care design from Montreal offices participated in the studio, alongside two other schools of architecture—Université Laval and Texas A&M. Second, research gathered by the project informed the annual student charrette organized by the Canadian Centre for Architecture. This year it explored re-use ideas for the Montreal Children's Hospital, one of the sites slated for abandonment by 2006. Students from four universities participated.

Will Canada's role as a hotbed of health care design continue? The RAIC's Architecture for Healthcare Committee is pushing for new design standards. The 3rd International Conference on Health and Design will meet in Montreal in June 2003. Organizers expect 6,000 health care design experts from over 40 countries to attend—a good time for a check-up on Canadian health care architecture.

*Annmarie Adams is an Associate Professor and David Theodore is a Research Associate, both at the McGill University School of Architecture.*



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**Above: three hospital atria. From top: Zeidler Roberts' Walter C. MacKenzie Health Sciences Centre, Edmonton (1986) and Princess Margaret Hospital, Toronto (1995); Toronto Western Hospital (2002), by Dunlop Architects Inc./Murphy Hilgers Architects Inc. in joint venture.**