

# A CASE STUDY of the WINDSOR REGIONAL CANCER CENTRE

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As the provincial government of Ontario's principal adviser on cancer issues, Cancer Care Ontario is responsible for long-term planning of the cancer care system. The organization sets directions and provides leadership in cancer surveillance, prevention, screening, research, treatment, supportive care and facility planning.

Studies conducted in 1995, projected a need for significant increases in capacities for radiation treatment throughout the province. To deal with the increased caseload, Cancer Care Ontario embarked on a capital expansion plan that included expansion of existing facilities and new centres. At present there are eleven capital

projects in design and construction with a total project value of \$365 million Canadian dollars. These projects include expansions to seven of the eight existing centers and four new centers.

The new building for the Windsor Regional Cancer Centre, which began planning in 1997 and opened in the spring of 2001, is the first of these new centres to be completed. It serves as the present constructed model for the vision of Cancer Care Ontario.

## **Overview of Cancer Care Ontario**

The mission of Cancer Care Ontario is to lessen the growing burden of cancer in Ontario by ensuring that all Ontario residents have timely, equitable access to an integrated system of excellent, coordinated and efficient programs in prevention, early detection, care, education and research.

Cancer Care Ontario currently oversees the operation of eight regional cancer centres and ninety breast screening centres. These regional centres form a network of hubs for regional cancer coordination. Their emphasis is primary care, secondary care and counseling.

To ensure all patients throughout the province of Ontario receive equal, high quality cancer care, consultation is provided through eight Regional Cancer Advisory Committees (RCAC). The purpose of the RCAC is to provide advice and report on ways to improve local cancer service delivery with an emphasis on improving coordination and integration of care. RCACs solicit feedback from the public and advise the Board of Cancer Care Ontario. Committee members include a broad range of stakeholders to fairly represent the people of the region.

All centers are ambulatory facilities associated with partner hospitals. Programs are integrated with the hospital inpatient and outpatient activities. The Cancer Centres rely on their partner hospital for provision of inpatient services, diagnostic imaging, laboratory, operating theatres, emergency room and building environmental services. This partnering avoids duplication of services and ensures that the Cancer Centre medical community is part of a larger critical mass of professionals offering training, research and professional development.

Cancer Care Ontario is an organization that provides the ability to share ideas, treatments, and technologies. On the prevention side there is a network of preventative breast screening centres throughout the province. On the treatment side, each centre provides radiation, systemic, genetic and surgical treatment. Supportive care is provided through pastoral care, nutrition social work, holistic care and important linkages back to community resources such as home care and hospices.

The system provides practice guidelines developed by Cancer Care Ontario to ensure consistency of patient care throughout the province. The standard of care is the same for a patient living in a city of 3,000,000 to a smaller northern community of 100,000.

The ambulatory care model was adopted because patients do better, costs are reduced, patients can be treated in the most appropriate environment and resources are used most effectively.

Primary care is provided through access to appropriate front line medical resources through a multi-disciplinary approach bringing together surgeons, radiation oncologists and medical oncologists. Secondary care is available through resources in the facility providing counseling and coordinating outreach to programs in the community.

The facilities range in size from three radiation treatment machines with twenty-five exam

rooms up to twelve radiation treatment machines with seventy exam rooms.

### **Typical Facility Program**

Cancer Care Ontario has developed models of care that form the basis of the facility design.

#### ***Outpatient Clinics***

In the 1990's a shift towards multi-disciplinary care was made. The philosophy of the model was to provide a facility design that allowed the patient "one stop shopping". Different disciplines such as oncologists, clinical trials researchers, nurses and supportive care staff would work side by side and visit the patient during the same visit in the same examination room.

#### ***Radiation Treatment Rooms***

With a commitment to providing patients with the most current forms of radiation treatment, Cancer Care Ontario has developed a standard radiation treatment room design to maximize flexibility. The layout allows flexibility in the choice of the radiation equipment and flexibility in the type of treatment that can be performed in the room. A doorless design provides shielding through a maze configuration rather than a shielded door. A new standard for Cancer Care Ontario is to provide a swing bunker in each centre to accommodate machine replacement without reducing capacity. In the larger centres machine replacement is expected once per year.

#### ***Chemotherapy***

Expanding on the multi-disciplinary model, a pharmacy is included in the chemotherapy suite to provide drug education and counseling, patient resources for home training, and tracking of medications to monitor any potential conflicts. A day hospital is also incorporated in the suite to provide coverage for patients waiting to receive radiation treatment.

#### ***Patient Resources***

To promote the use of the facility by well patients, spaces for the public are programmed for

the facility. Patient resource library, Group Rooms, Conference and education rooms, Healing Gardens and Alternative and Holistic Therapy Rooms are provided to encourage patients and partners to view the centre as a place of wellness and prevention, rather than strictly treatment.

### **Regional Centre Case Study: Windsor Regional Cancer Centre**

The Windsor Regional Cancer Centre was constructed to meet the increasing volume demands for cancer treatment in Essex Country.

Located at the southwest edge of the Windsor Regional Hospital's Metropolitan campus, the building is sited to address the neighbouring residential streets and tree lined boulevards of Kildare Road and Alsace Avenue.

The centre is based on a three radiation treatment room module of approximately 6500m<sup>2</sup>.

The design is the result of an extensive discussion process involving users from each department in the centre, hospital maintenance personnel and representatives from Cancer Care Ontario's planning office.

### **Basic Organization**

The building is spatially organized over three storeys. The main entrance is located on the south side of the building off of Alsace Avenue. Patient parking is provided adjacent to this entry. A pedestrian entrance from Kildare Road is provided on the west side for visitors using public transit. Ambulances arrive at the hospital's ambulance bay located east of the centre.

The building's section follows the existing grade to the south at the entrance at Alsace and then drops approximately one meter, to align with the Windsor Regional Hospital first floor level. The change in floor level creates a natural separation of public and clinical spaces. The building's sectional design was developed to

spatially interconnect the patient treatment floors, levels one and two.

Public activities are consolidated at the entry level. Radiation treatment is located on the first floor. Chemotherapy and outpatient clinics are located on the second floor and administration and staff offices are located on the third floor. A direct link to the existing hospital is provided at the ground floor and second floor.

The two storey main lobby acts as a spatial hub offering access to the centre's various facilities. Surrounding the main lobby are non-clinical functions such as suites for supportive care, group rooms, touch therapy, volunteer kitchen, specimen collection, conference rooms and a patient garden.

A ramp along the western edge of the lobby leads patients and visitors down to the radiation treatment area. An open staircase leads patients up to the outpatient clinics and the chemotherapy suite overlooking the entry garden.

Once past the main lobby, patient circulation follows the western edge of the building, along which are located a series of waiting and counseling areas with extensive day lighting and garden views. Along this route are the departments of Patient Review and Simulator. At the extreme north end are the radiation suites. The suites are accessed through a two storey high corridor with north facing clerestory glazing.

### **Design Inspiration and Approach**

The project reflects the Client's particular concern for patient focused care and the design team's interest in reinforcing the site context.

Overall the design strives to create a state of the art cancer facility that instills confidence in the care being delivered and to provide an environment that is comforting and promotes a sense of life, hope and harmony with nature.

Providing a regional identity, integrating the building into the surrounding residential neigh-

bourhood and reinforcement of the existing mature landscape were important influences in the design decisions.

### *Site Planning and Identity*

The region of Windsor and Essex is located at the southern most tip of the province of Ontario. It's similarity to the American Midwest, a landscape of tall grasses and vast, flat planes, led the designers to explore the 'Prairie style' architecture of Frank Lloyd Wright, a style that uses natural 'grounded' materials and projecting planes to achieve a very strong connection between building and landscape. The influence of this exploration is evident in the strong horizontal expression of projecting rooflines, canopies, elongated brick and the prominent freestanding fireplace.

The surrounding neighbourhood is characterized by single-family one and one half storey homes, built in brick, stone and wood in the 1940's and 50's.

To integrate the bulk of the new cancer centre into the neighborhood, components of the building's program that are closer in scale to the neighbouring homes, such as waiting areas and supportive care rooms, have been separated from the main mass of the building. The increase in perimeter wall of the projecting elements brings light into the interior spaces and provides opportunities for individual expression on the building façade. To reduce the apparent height of the building from the street, the third floor is set back from the floors below.

A material palette of red clay brick, Ontario limestone and wood is used to create an atmosphere that is comfortable and familiar to patients and the surrounding neighbourhood.

The Cancer Centre is oriented to face outward to the residential streets. The views out to the homes give visitors a sense of being within a residential rather than a hospital setting.

### *Landscape*

The designers were fortunate to have several large street trees on the property. These trees help to mitigate the scale of the building, provide shade and make the new landscape areas appear more mature. New gardens were created along the building's south entry façade and west façade, adjacent to patient circulation. The gardens not only provide interesting views, they also greatly assist patients in way finding.



A partially walled entry garden was constructed on the southern side of the building. The garden features a linear water garden that serves as a calming space to visit or pass by upon entry of the facility. The garden is viewed from the main lobby, the waiting area for specimen collection and from the chemotherapy suite on the second floor.

A sunken garden along the west façade follows the patient circulation routes to the treatment areas.

As Windsor has the longest growing season in the province of Ontario, the gardens contain a wide variety of plant specimens including several healing plants used in cancer treatments.

The gardens were designed by the architect, landscape architect, healing plant designer, plant designer, water garden specialist and lighting designer. Businesses and the local community provided partial funding for the gardens.

### *Interiors*

The interior design builds on the notion to incorporate the essential elements of life into the public areas of the building: air, water, fire and earth.



### *Water*

The entry sequence brings visitors along the entry garden where the element of water is the overwhelming focus.



### *Fire*

Once inside the main entry lobby, the focus shifts to a freestanding brick and stone fireplace.

### *Air*

A feeling of loftiness is created in the public areas. They are a minimum of five meters in

height and have clerestory glazing in two orientations.

### *Earth*

All public areas and major circulation routes follow the perimeter of the gardens. As the ground floor level is one meter below grade, the sunken garden accentuates the sense of shelter and being part of the earth.

The interior design strives to balance the highly technical nature of the treatment equipment with the basic elements inherent in natural materials and daylight. Clay brick, limestone and douglas fir, used on the building exterior, are carried through to the interior. Paint and plaster colours of ochre and green were selected to enhance the connection with the outdoor landscape and contrast with an extensive use of rich cherry paneling.

Careful consideration has been paid to the design of the ceiling plane and light quality. The designers have used fluorescent light sources in indirect applications only. Accent lighting is provided at feature walls and low level lighting provided in patient corridors and at interior brick piers.

### *Summary*

The Windsor Regional Cancer Centre project began with the Client's clear vision for patient care. The project integrates all design disciplines, from lighting to landscape, to reinforce that vision and provide a building that responds to the users need for function and efficiency and the patients need for comfort, confidence and hope.

Its architecture is described in the March 2002 issue of Canadian Architect as "a dignified public building devoid of any associations with the ostracism or taboo that often accompany serious illness. The Windsor Regional Cancer Centre illustrates a growing awareness that health care needn't be reduced to a clinical model: the attention paid to creating an amenable environment suggests that what's being treated here isn't the illness, but the patients."