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## Holistic Approach to Cancer Treatment Facility Design



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The environment can play an integral, positive role in the healing process. Whether a stand-alone facility or integrated with a hospital, a cancer treatment center's design can incorporate such elements as natural light, plants, water, color, and texture to lessen the stress patients feel during the treatment experience. Light is, of course, a therapeutic fundamental in healing. The sound of water in a fountain is calming.

Equally important as these organically visual elements of healing design is the aspect of functionality, both from the point of view of the patient and the professional staff. The issues of dignity, privacy, visual cues for wayfinding, and compactness of design to lessen travel distance are integral to establishing a comfort level for the patient and an efficient work pattern for the staff.

Dignity can be ensured through such measures as dedicated entrances for patients transported by ambulance apart from public entries, easy navigation, interior pathways that eliminate cross traffic, and plantscapes that provide acoustic benefits and visual privacy.

Holistic design, in essence, provides the environment that perpetuates successful results in cancer treatment.

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Entering an artificially lit, imposing, windowless building filled with a maze of institutionally hard, cold, colorless tunnels devoid of dignity and privacy is intimidating to any patient seeking healthcare services and treatment. To a cancer patient, however, the intimidation is magnified. Such an impersonal, unpleasant atmosphere can trigger fright and panic and leave optimism at the door. It is comparable to jumping into a dark chasm and not knowing how or where you will land.

Perception, in other words, can have everything to do with the attitudes of patients and medical professionals. And attitude matters. For cancer patients, particularly, personal attitude—both their's and the caregiver's—contribute to outcome, as shown by numerous studies. Positive equals positive, and vice versa.

Logic, therefore, follows that a patient's surroundings in a cancer care facility can create a perception or mindset of either optimism or pessimism. This is where the holistic approach to architecture and interior design enters the picture. This approach continues to gain followers for its value in all types of healthcare environments. Incorporation of the basic, organic elements of nature—natural light, plants, water, color, and texture—into a healthcare setting adds sensory dimensions to create perceptions that are soothing.

These organic elements, beyond adding a calming tone, contribute to an overall pleasing ambience and inject the familiarity of human scale into what may otherwise be foreign territory to the patient and family.

"Clinical studies show that patients do better under certain circumstances when placed in a serene atmosphere," says Dr. Julian Josey, medical director of radiation oncology of Spartanburg Regional Healthcare System, which is anchored by the 588-bed Spartanburg Regional Medical Center in Spartanburg, S.C. SRMC Cancer Center is one of the National Cancer Institute's original Community Clinical Oncology Program (CCOP) sites, allowing it to conduct prevention trials and clinical studies and make the industry's latest drugs and treatment options available.

Design is now being looked at in literally a different light than 20 years ago. "Radiation therapy centers traditionally have been placed on ground levels so that they can be backed up to earth," says Dr. Josey. "As if the disease isn't terrifying enough, the

cancer patients are then taken to a 'vault' for treatment. We want to alleviate these fears. When natural elements of sunshine and green grass are added to this experience, the patient gains tremendous benefits."

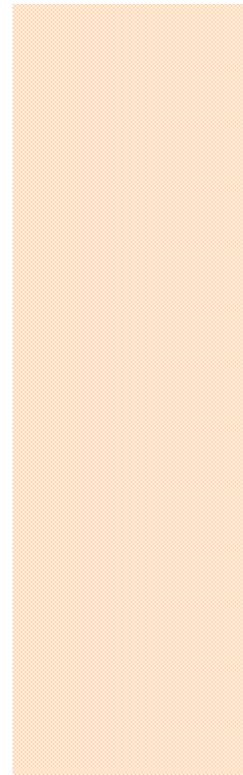
The thought behind the natural, holistic concept is to create a sense of wellness-to build hope rather than dwell on negative aspects of the disease.

Other important, not-to-be-ignored considerations for creation of a patient comfort level include simplistic wayfinding and obvious visual cues to the areas of importance, such as a multi-story lobby visually expressing points of service on upper floors. To dispel confusion and unnecessary steps or wandering, the entrance needs to establish an unmistakable sense of entry and of place.

To make the entry and departure experiences less taxing, the big picture should provide the convenience of immediately adjacent parking and covered entries for the drop-off and pick-up of patients during inclement weather.

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## Freestanding Centers Have Residential Appeal

The non-institutionally designed freestanding Ocala Radiation Therapy and Crystal River Radiation Therapy Centers in Florida both clearly provide comfortable residential settings for cancer treatment. Floor plans for the two centers are similar. The lobbies featuring fireplaces actually have more the feel of a vacation lodge with family-style seating. Contributing to the calmness are lushly landscaped courtyards with fountains in subwait areas. Deep overhangs on the mansard roofs cover the 16-foot-high concrete vaults. Trellised lightwells on covered porches project an outward friendliness and ease any preconceived fears. Natural light is borrowed through clerestory windows for the examination room to make the experience more hospitable.

The dignity issue for extremely sick patients is resolved with the provision of a dedicated ambulance entrance on each building's opposite end of the main entry. The plan is designed for compactness to reduce the number of steps the patient has to travel among the wait area and the dressing, exam, and treatment rooms. As with the larger integrated cancer care facilities, these specialized centers allow for growth and technology advancement within a freestanding, self-sufficient facility.



[Figure 1](#): The exterior of the Ocala Radiation Therapy Center.



[Figure 2](#): Lushly landscaped courtyards with fountains grace the subwait areas to create a calming environment with abundant natural light in the Ocala Radiation Therapy Center.



[Figure 3](#): A large welcoming entry complemented with plants and hospitality-styled furnishings has the appeal of a vacation lodge rather than looking like a physician's office.

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## SRMC Tales Aggressive Role

SRMC Cancer Center is undergoing conversion for a more aggressive role in cancer treatment. The existing understated and architecturally dated two-story building, which is part of the Spartanburg Regional Medical Center, is the site of a radiation oncology department, small chemotherapy suite, and psychiatry inpatient unit. With its expansion and modernization, the building will become an integrated four-story center with an identifiable common entrance to the three floors of the cancer center without compromising the existing inpatient unit.



**Figure 4:** The existing radiation oncology service's understated two-story brick structure with no sense of entry may easily be mistaken for a campus maintenance building.



**Figure 5:** Expansion and renovation changes to existing building through joint venture architecture of ESa and McMillan Smith & Partners.

The program consists of:

- An expanded radiation oncology program
- A new medical oncology group practice and (20-station) chemotherapy suite
- A stem cell treatment program
- A new education and family media resource center
- Expanded oncology research (CCOP) and tumor registry services
- A patient and family common area with open seating, a snack bistro, children's activity area, indoor/outdoor fountain and meditation garden, and art exhibit area
- Professional office space (upper two floors).

Glass fiber reinforced concrete (GFRC) panels update the exterior and become a palette break to expansive masses of red brick walls. High-performance green glass allows a makeover of the existing lowrise by decreasing a dominance of opaque elements. This pleasing combination of materials blends with the adjacent heart center and nearby medical center towers without rendering them obsolete in appearance.

Anchoring the new facility's design is a four-story cascading entrance atrium. Three equal steps in the atrium structure are symbolic of the "steps of healing" in cancer care. Radial segmented portions of the atrium roof direct focus to the main entrance. During the evening hours, light illuminating from within the atrium glass wall will establish an after-hours presence on the campus of the Spartanburg Regional Medical Center. The

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entrance atrium is complemented with an outdoor fountain/reflecting pool and meditation garden.

To reinforce natural light as a therapeutic fundamental in healing, an interior atrium has been incorporated as a four-story conditioned "lightwell." Not only does it serve as interior relief for a large footprint, but it becomes an easily recognizable point of reference for patients and families who require access to multiple floors.



[Figure 6](#) and [Figure 7](#): Exterior and interior of Samaritan North Health Center.

"With the mezzanines looking down into the atrium lobby space filled with arbors and seating areas with a shaft of sunlight, the effect will resemble a hotel," observes Dr. Josey. "The atrium will overlook a magnificent garden so that the parking lot will not be visible. The garden will be walled with trees and include an organically shaped pool as a centerpiece that appears to contiguously flow along a flagstone walk into the atrium. The entire entry experience will be pleasant and calming with the elements of light, water, and music. To continue this experience, skylights will be incorporated in the treatment rooms."

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As observed from her 19 years of experience in oncology, Pam Williams, RN, MSN, CCRA, administrator of the Upstate Carolina CCOP, concurs that such a hospitable, homelike setting will be beneficial to cancer patients. Serving also as director of clinical research for the Spartanburg Regional Healthcare System, she says, "Research has shown that light is a positive factor for all types of patients. Patients seem to better tolerate the overall treatment when they're in a calm, pleasant setting. Chemotherapy patients often want a quiet, private time by themselves. Private rooms and spaces are important in order to decrease the stimuli that can cause nausea and apprehension."

To assist in efficiency and improved patient care, design synchronizes the management of large treatment suites with zoning for appropriate nursing ratios. In the chemotherapy suite, for example, patient treatment bays are clustered in pods of three with nursing sub-stations located at the edge of each pod. Each patient pod includes a patient bathroom as an integral amenity. Physician access to the patient is emphasized, as in the dual doors in the exam rooms in the radiology oncology treatment area.

Spartanburg Regional Cancer Center, as a case study, represents the direction cancer care will be following. While freestanding cancer care centers are still viable, specialized entities, today's trend seems to be leaning toward more comprehensive and less segregated facilities.

"To have one location for all cancer care has been a goal of ours for 10 years," says Pam Williams. "The new center's design will emphasize convenience in providing patients the opportunity to see their oncologists, get a massage, select a wig and, if need be, a prosthesis—all within one location."



[Figure 8](#): Support services and family support areas for cancer patients.



[Figure 9](#): Registration desk for all medical and oncology services.

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## **Cues Come from Hospitality Influence**

This synergy of benefits derived from housing multiple programs under one roof is also exemplified by the cancer center at Samaritan North Health Center in Dayton, Ohio. "We have patient-focused care, with everything for the care of the patient all on one site," says Anne McNeill, vice president of operations of Good Samaritan Hospital and administrator of Samaritan North Health Center.

"Cancer patients don't have the energy to go several places for their needs during the treatment period," agrees Bobbie Martin, director of Samaritan North Cancer Care. "Our center provides everything in one stop-from radiation and chemotherapy treatment to appearance supplemental needs to wellness programs." There are obvious benefits to not going through a multiple registration process, particularly for those patients who have a combination of treatments.

Now gaining more space through a Phase II expansion of the Health Center, the cancer center is contained within the four-year-old satellite outpatient-focused facility of the 560-bed Good Samaritan Hospital. Samaritan North Health Center takes its cues from hospitality and residential design with a holistic approach. Natural light is abundant. These healing elements make the treatment process more palatable, says Bobbie Martin.

The peaceful, relaxing aspects of nature are even carried into the radiation area. Mural transparencies of nature scenes are available to place on the walls and ceiling to benefit those patients who have to lie flat for a period of time during treatment.

For the cancer center, the uniqueness is privacy. Oncology patients, who are often self-conscious about their appearances need never encounter patients, staff, or visitors outside their treatment area. At the same time, the cancer patients have the option to socialize with other patients and converse in a treatment area in which the patients recline in lounge chairs for their treatment.

Etched, frosted glass looking out into the garden courtyard gives it access to the same natural light enjoyed by the rest of the building, while preventing those outside the center from looking in.

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Efficiency counts for cancer patients who tire easily and may be fatigued from treatments, says Jane Boerger, RN, OCN, oncology nurse manager of Samaritan North Cancer Center. "The center's design is such that the cancer patient can come in the entrance and immediately enter the appropriate department for sign-in and treatment—all within a short walking distance."

The attitudes of the staff members encountered by the patient and family members can set the tone for the entire treatment experience and lead to a downhill slide or upbeat optimism. A real key to staff attitude—which equates with patient relations—is convenience of the floor plan.

Operational efficiency is achieved through consolidation and minimizing the duplication of services. Locating departments in a commonsense pattern can meet both patient and staffing needs. "Saving time for a staff member so that they don't feel hurried benefits that person as well as the patient," says Bobbie Martin. "The appearance of a rushed, harried staff inhibits patients from asking questions." Successful design looks at the flow patterns of patients and staff through the system. The patient should be able to move from the radiation area to the chemotherapy area to the oncologist's office in the simplest, most direct way possible, she explains. (See Samaritan North Cancer Care Center's [floor plans](#).)

The center's dedicated entrance is readily identifiable with easy access in and out to nearby parking. Patient dignity is maintained through the separation, yet the advantages of integration are available. Should a patient mistakenly come in the wrong entrance, wayfinding and information points are such that the patient can easily be directed to the point they are trying to reach.

The terraced site actually provided an opportunity to create the dedicated entry and parking as well as an ambulance drop-off for non-ambulatory patients.



[Figure 10](#): Arrangement of support services around the oncology programs.

Making this treatment phase in one's life the least intrusive as possible is important to a cancer patient. Efficiency in design plays a major role. But so does the selection of colors, materials, and general aesthetics to reflect nature. "We have created an atmosphere of healing, both inside and out, through the use of stone, brick, wood, plants, water, and light," says McNeill. "We've often heard patients say that they already feel better by

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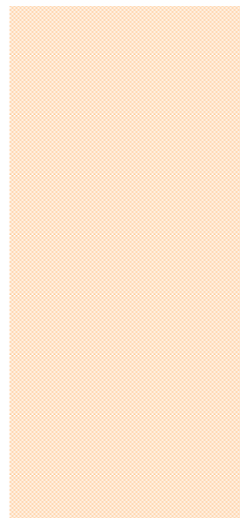
just walking through the door."

This expression of optimism is accomplished by not assaulting the patient's senses. "Once they enter that door, all they hear is the sound of flowing water," says McNeill. "There are no overhead pagers. There are no clinical smells."

Accommodations in space and design are also made for holistic, complementing programs to accompany the oncology medical treatment, including a wellness center, healing touch sessions, massage therapy, meditation classes, and guided imagery. McNeill says the center incorporates a cutting-edge spectrum of program options into its plan of care.

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## Holistic Design Becomes Sum of Its Parts

"A progressive facility includes the more holistic advancements in its program," says Gary Marshall, vice president of oncology services, Premier Health Partners, an umbrella organization for Samaritan North, along with Good Samaritan and Miami Valley hospitals.

He continues, "We have these programs at Samaritan North because it is a part of a larger facility with these modalities already in place."

Providing comfortable, hospitality-style waiting spaces and accessible information sources for family members to put them more at ease throughout a cancer patient's treatment program is important. The unknown is frightening. Knowledge can ease that fear. Well-stocked libraries and education centers with accessible terminals offer family members and patients a resource to better define the illness. Marshall explains that information resources can be offered in a number of ways in addition to libraries, including a helpline with staff to look up information or an online resource availability through a computer. Meeting spaces for support groups provide opportunities to gain strength through sharing experiences. "By making the provision to include the family in care, an atmosphere will be created in which the patient is less anxious and more relaxed," says Marshall. "This approach is also valuable from a productive standpoint in that it relieves some of the burden from staff."

Indeed, providing an ambient, non-threatening environment for the entire family unit during the treatment experience enhances the path for positive results.

The holistic design approach for each of these facilities—both the smaller freestanding specialized centers and the larger integrated facilities—is not as simple as the incorporation of windows and plants. It is a design philosophy, not an afterthought. Thought was translated into scale, space, and variations to better accommodate natural light into the most advantageous, beneficial plan for a wellness environment. An interior courtyard can flood the center of a large floor template with natural light without compromising the efficiency of the plan. Gently flowing water can ease fears. Plants add familiarity. Total plan efficiency incorporating these and other elements of nature enhances both staff and patient attitudes. It's a matter of patient-focused care. It's a matter of design. 🌿🏡

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## Ocala Radiation Therapy Center Exterior



Figure 1: The exterior of the Ocala Radiation Therapy Center projects a residential accented vocabulary with its mansard roofs, deep overhangs, and chimney. the 16-foot high concrete vaults are in effect screened with residential materials.

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## Ocala Radiation Therapy Center Courtyard



Figure 2: Lushly landscaped courtyards with fountains grace the subwait areas to create a calming environment with abundant natural light in the Ocala Radiation Therapy Center.

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## Ocala Radiation Therapy Center Entry



Figure 3: A large welcoming entry complemented with plants and hospitality-style furnishings has the appeal of a vacation lodge rather than looking like a physician's office.

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## **Spartanburg Regional Medical Center** Existing Structure



Figure 4: The existing radiation oncology service's understated two-story brick structure, with no sense of entry, may easily be mistaken for a campus maintenance building.

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## **Spartanburg Regional Medical Center** New Entry Atrium



Figure 5: Expansion and renovation changes to the existing building clearly identify a sense of entry for services. With the addition of the new entry atrium and two new floors, the existing structure has been transformed into a beacon for the SRMC campus. (Rendering by Gerald Harvey).

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## Samaritan North Health Center Exterior



Figure 6: Having the advantage of being located within the Samaritan North Health Center with modalities already in place, the Cancer Care Center can provide a comprehensive program of treatment including holistic advancements and wellness offerings—all under one roof. (Photo by Norman McGrath).

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## Samaritan North Health Center Interior



Figure 7: The ambient lighting and warm colors of the main reception area of Samaritan North Cancer Care Center soften skin tones and create a mood of hospitality. (Photo by Norman McGrath).

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## Samaritan North Health Center Interior



Figure 8: Samaritan North's chemotherapy suite can accommodate the patient's preference for either privacy or conversation with other patients during treatment. Low planter walls also enhance a patient's sense of space without compromising the openness of the suite. (Photo by Norman McGrath).

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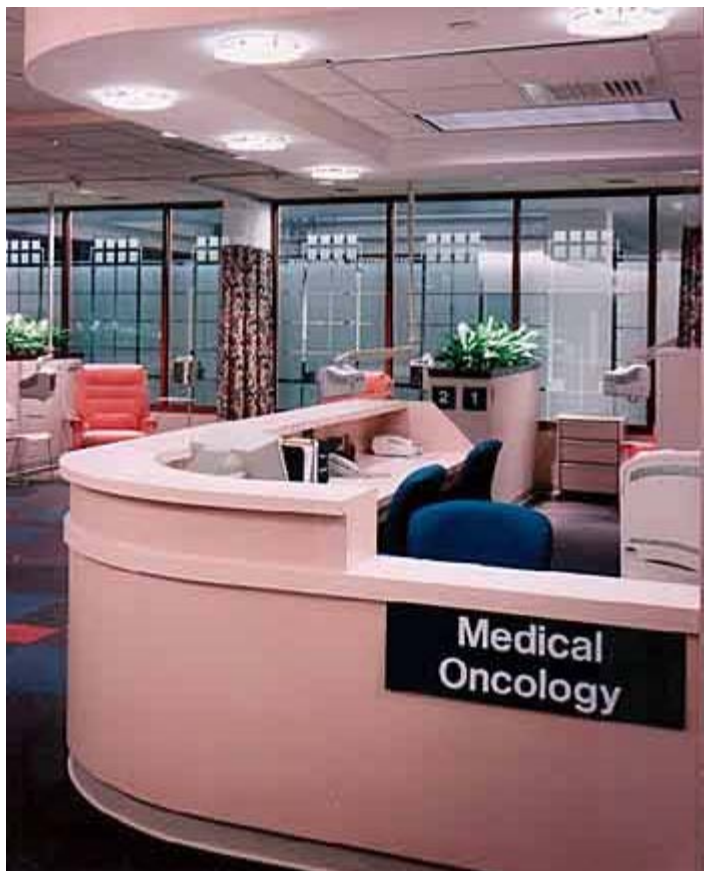


Figure 9: Frosted glass lends an airiness as it filters natural light into the oncology nurses' station and chemotherapy suite at Samaritan North Cancer Care Center. The placement of the nurses' station consolidates staff as it serves as both a reception desk and patient support point. (Photo by Norman McGrath).

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## Samaritan North Health Center Identity and Support Services

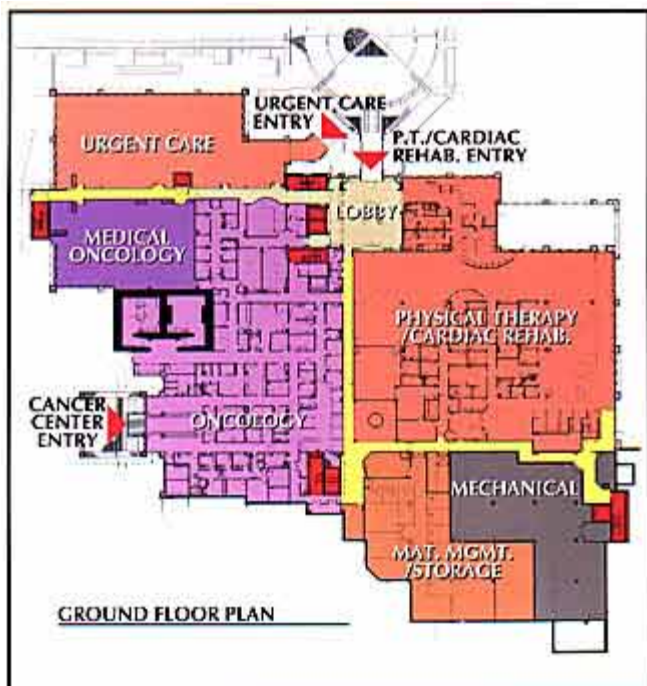


Figure 10: As an anchor clinical department, the oncology programs benefit from support services within the Samaritan North operation while maintaining a distinct entrance and identity.

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