

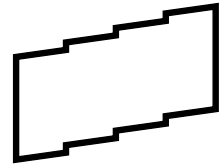


TOGETHER, WE

ENHANCE EXPERIENCE & EMPOWER PEOPLE

THE CULTURE OF CANCER CARE





CANCER CHANGES EVERYTHING.

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Cancer. It's one word that changes everything. A cancer diagnosis throws a patient's whole life into doubt – their health, their future, their job, their family – everything.

To reclaim their lives, patients not only need compassionate and expert oncology care providers, they need an array of support services, from financial counseling to social services and survivorship care. They also need healing spaces that support their care providers' work and well-being as well as their own.

Weaving together all the demands of successful cancer care takes understanding and empathy. That's why GBBN prioritizes oncology design, taking 100% of our cancer care projects through an Evidence-Based Design process.

CANCER CARE

RESEARCH

At GBBN, we understand the dynamic challenges facing cancer care organizations, the rapidly evolving nature of oncology research, and the changing strategies of cancer care delivery. We take the time to understand all this, in order to become integral partners in the ongoing evolution of cancer care.

Our lead researchers conduct primary and secondary research on the unique demands of cancer care and work with our full healthcare market to formulate design strategies to meet these challenges.

View GBBN's Oncology Symposium
where we discuss [Market Challenges](#) & [Oncology Trends](#).



ANGELA MAZZI
FAIA, FACHA, EDAC

Architect and Medical Planner, Angela is not only a Board Certified member of the American College of Healthcare Architects, but her research on salutogenesis (health-generating design), staff respite spaces, and her advancement of research-based approaches to design have also earned her a spot in the American Institute of Architect's prestigious College of Fellows.



KIRSTEN MILLER
AIA, EDAC

Past chair of AIA Minnesota's Health Design Knowledge Community, Kirsten is an Architect and Medical Planner whose research explores therapeutic landscapes, staff respite spaces, and oncology environments (especially, as relates to medical oncology and survivorship community life). A frequent conference presenter, her work has been published in Healthcare Design and The Journal of Therapeutic Horticulture.



Cancer & Blood
Diseases Institute
Pediatric Center

OUR APPROACH

Amplifying Your Care Expertise with Our Design Expertise

- 08** Empower Patients
- 10** Empathize with Staff
- 12** Focus On Clients
- 14** Foster Organizational Health

EMPOWER PATIENTS

Efforts to engage and empower patients (and their families) offer promising strategies for improving health outcomes. One [study](#) by the Georgia Health Sciences Medical Center found that policy changes to increase patient and family engagement led to a 62% decrease in medication errors, a 40% decrease in falls, and a 50% decrease in length of stay. Another [study](#) found that similar efforts led to a reduction in preventable hospital readmissions.

But look at any cancer support forum, and it's clear: From diagnosis to managing the ongoing demands of life and family, from waiting on test results to the enduring physical impact of the disease and its treatment, the experience of cancer is imbued with a sense of helplessness.

That's why we create spaces that empower patients.

Empowering patients means not only mitigating the impact of cancer on patients' lives, it also means enabling choice. Enabling patients to personalize inpatient rooms, to choose between more private or more social infusion bays, and to rest in quieter or more active waiting areas bolsters their sense of well-being and helps them establish a sense of control over their environment.

Offering social spaces, where patients, families and staff can find mutual support and making space for ancillary support services offer other important ways of helping patients feel capable of reclaiming their future.

...increase in patient and family engagement led to a 62% decrease in medication errors, a 40% decrease in falls, and a 50% decrease in length of stay.

—NRC Health
["The Impact of Improved Patient Experiences."](#)



EMPATHIZE WITH STAFF

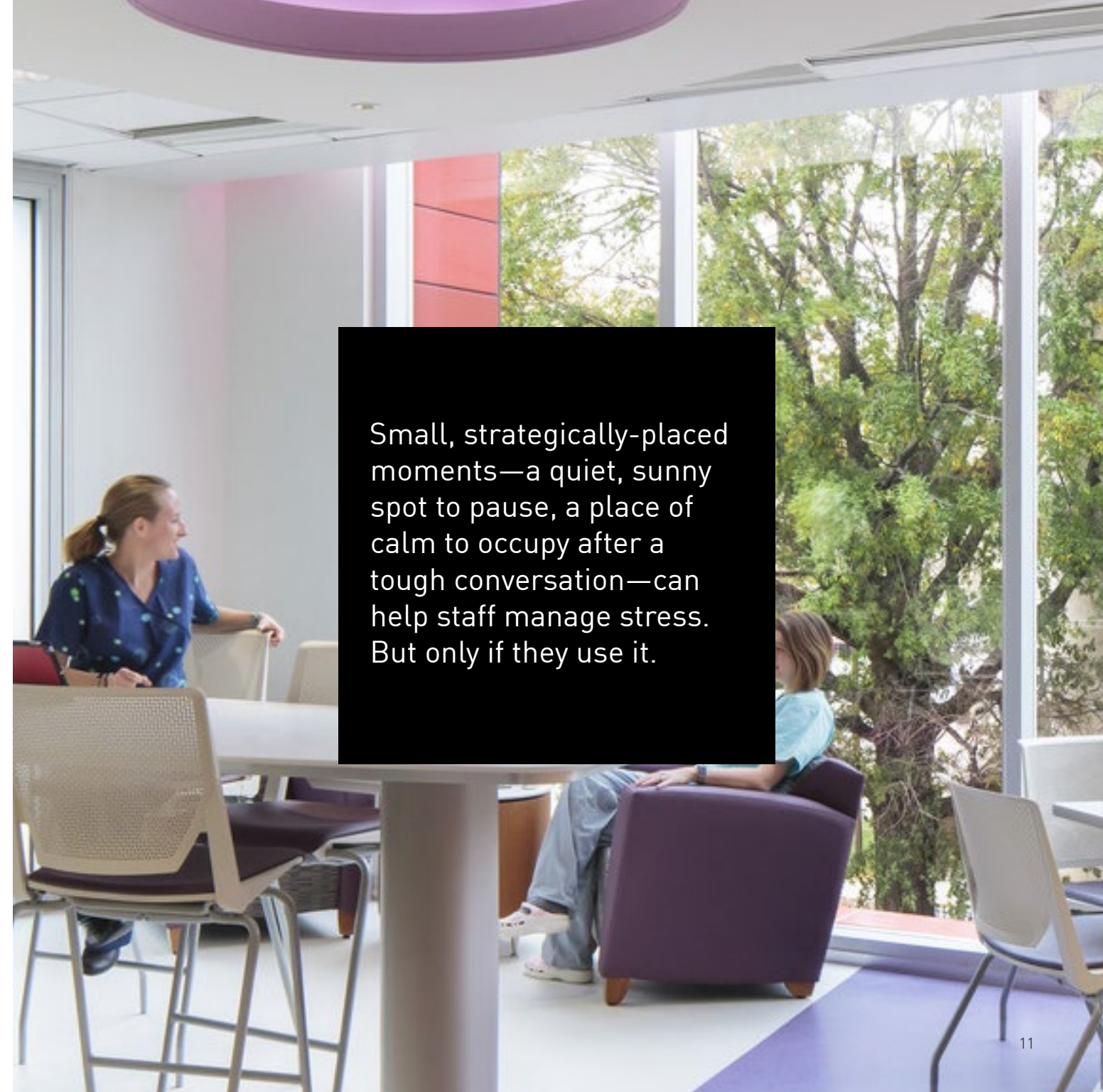
Cancer care providers share their patients' stress and struggles. It's an emotionally demanding job. But providers consistently report that they feel best about their job when they are with their patients. How can we design spaces that enable staff to focus on doing what they love?

At the end of the day, supporting healthcare workers is about more than providing respite spaces.

It begins with the act of listening. By taking the time to listen to staff, to observe their day, to understand their frustrations as well as what they love, we develop spaces that respond to their needs and support their work. That's how we care for caregivers (and they do appreciate it!).

Integrating insights gained from your staff with our research on proxemics and workstyles, we design clinical workspaces that facilitate team communication and support the tasks that need to happen.

Respite spaces offer an important way of fostering well-being and managing stress, but at the end of the day, supporting healthcare workers is about more than providing respite spaces. It's about understanding how they work, so you can provide the space they need and use.



Small, strategically-placed moments—a quiet, sunny spot to pause, a place of calm to occupy after a tough conversation—can help staff manage stress. But only if they use it.

FOCUS ON CLIENT


Whether we're working on a flagship cancer care center or an ambulatory infusion clinic, we work closely with our clients to understand how the project fits into their overall system, their mission, and their vision for the future. That's why 85% of our healthcare clients are repeat customers.

Quality care relies on clinical teams to seamlessly execute a delivery of care process, but it can be difficult to bring more and more staff together within consolidated, multidisciplinary spaces. To navigate the challenges and make the most of the opportunities, we take the time to listen to our clients and uncover their needs.

...the space for delivering care needs to reflect the existing practices and future goals of your healthcare organization.

Our intensive discovery process digs deep into operational issues (to understand workflow and adjacencies), system culture, and staff experience, because these things have an incredible impact on the quality of care that's delivered. A [2018 survey by the Advisory Board](#) reports that heavy workload and workflow inefficiencies were the top drivers of staff turnover.

Using gemba walks, observations, computer modeling, augmented reality, and focus groups, we ask the right questions and uncover transformational opportunities so we can design the space that is right for our clients. Just as cancer care is not one-size-fits-all, but is best adapted to the patient, the space for delivering that care needs to reflect the existing practices and future goals of your healthcare organization.

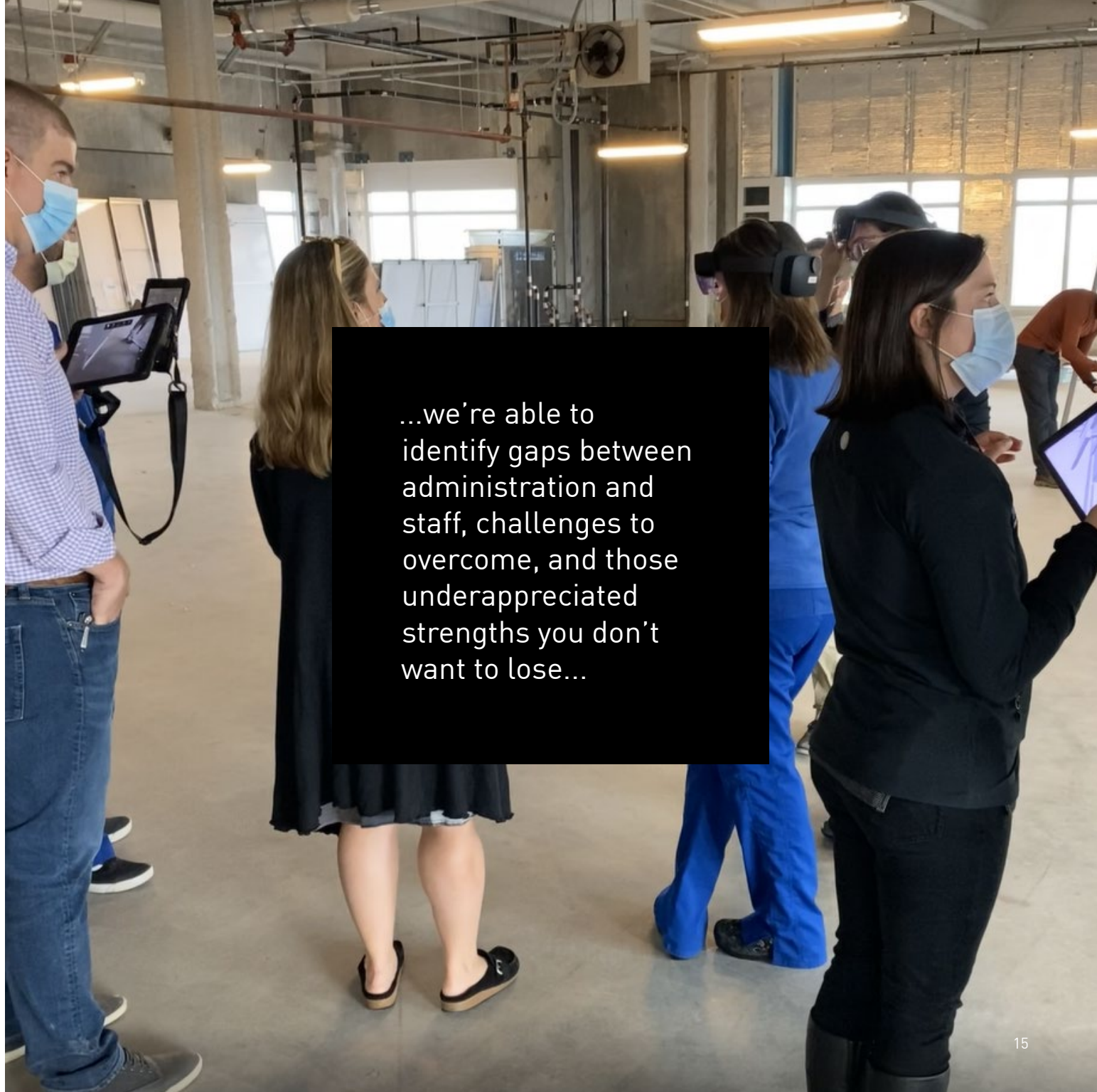


...85% of our
healthcare clients
are repeat customers.

FOSTER ORGANIZATIONAL HEALTH

More than a product, GBBN offers a process. By grounding our design in a deep engagement with your staff, patients, and administration, GBBN develops a valuable snapshot of your organization at a given moment in time. We seek to understand not only where you are (your current practices, strengths, and weaknesses), but where you're going. By engaging a variety of stakeholders across your organization, we're able to identify gaps between administration and staff, challenges to overcome, and those underappreciated strengths you don't want to lose.

A mirror for your organization, we also provide a roadmap from your current to future state.



...we're able to identify gaps between administration and staff, challenges to overcome, and those underappreciated strengths you don't want to lose...

TRENDS

Designing for the Future of Cancer Care

18 Growth of Cancer Care

20 Genomic Sequencing & Multidisciplinary Care

22 Caring for the Whole Person


24 Salutogenesis & Biophilia

GROWTH OF CANCER CARE

40% of Americans will develop cancer at some point in their lifetime.
– American Cancer Society

54% of Americans have a family member who has been diagnosed with cancer.
– CBS News Poll

Improved treatments are extending patients' lives. However, in order to treat an aging population, support survivors, and give more people their lives back, we need to build the infrastructure to deliver the right kind of care. That means it needs to be right-sized, deliver the right services to the right locations, provide the right technologies to attract patients and healthcare providers, and provide the services for a full continuum of care.



Demand for cancer care will grow by 40% between 2015 and 2025.


– American Society of Clinical Oncology
[State of Cancer in America](#)

GENOMIC SEQUENCING & MULTIDISCIPLINARY CARE

As the genomic sequences of different cancers have been unlocked, oncologists are increasingly able to customize treatment plans. Based on the specific genetic profiles of their patients, oncologists are choosing between chemo, immunotherapy, targeted therapies, clinical trials, and other treatments.

This growing world of treatment options and the expansion of multidisciplinary care requires more specialists and the proper mixture of spaces to support them. Multidisciplinary care is not just collaboration among oncology modalities, it's a synthesis with other specialties such as cardiology, endocrinology, pulmonology, and infectious disease.

Navigating this process is complicated, but the experience of it doesn't have to be. We help our clients design close-to-home clinics to provide easy access to infusion and radiation therapy as well as single-destination flagships. Assembling a universe of care around the patient, in one place, flagship destinations not only relieve the patient of the burden and stress of hurrying between far-flung services, but they bring previously siloed specialists together, encouraging better communication across the care team.



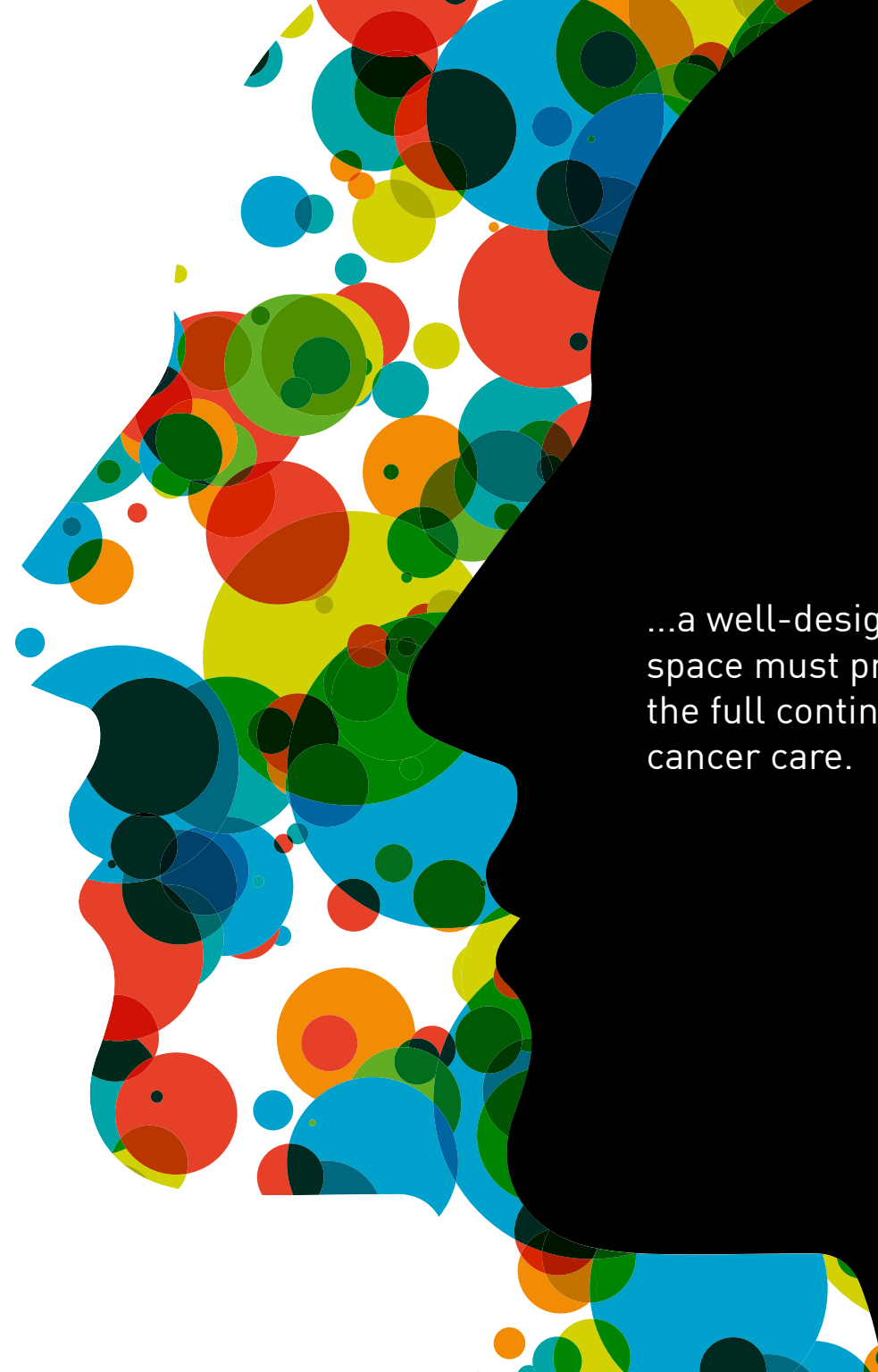
Multidisciplinary care is not just collaboration among oncology modalities, it's a synthesis with other specialties...

CARING FOR THE WHOLE PERSON

When everything's at stake, you need a holistic approach. Top notch oncologists, diagnostic radiologists, surgeons, physician assistants, palliative care specialists, and nurses are essential.

But cancer patients also require other support services to help manage the many stresses cancer introduces into their lives. Onsite access to ancillary services gives patients the support they need to close the gap between what happens in the clinic and the follow up care they need at home. Providing the right kind of social spaces—cafes to visit between appointments, rooms to host support groups, and serenity gardens—can also foster community amongst patients and their families, helping them find mutual support in others who share their experiences. It's also important to provide refuge and dignity for patients who are not self-reliant and for those who would prefer privacy.

Caring for the whole person also means caring for survivors. From early screening to diagnosis, from treatment to follow up and survivorship care, a well-designed space supports a continuum of care before/during/always.



...a well-designed space must provide the full continuum of cancer care.

FUTURE PROOF DESIGN

The pace of cancer care innovation demands designs that are flexible enough to integrate emerging treatments, technologies, and workflows. Universal room layouts for clinics and infusion departments can ease scheduling and facilities management challenges by ensuring providers have consistent room and equipment layouts. Standardization also optimizes opportunities for prefabricated building systems and modular casework, furniture and headwall solutions. Universal design can also provide the flexibility needed to adapt to the coming changes that will be brought on by [the rise of remote care](#).

Radiation oncology has an enormous impact on facility design. Thinking creatively about linear accelerator vault design is essential. It's important to design with both near- and long-range expansion in mind, and it's worth considering modular block vault systems to minimize construction impact and duration. As early detection, prevention, genomic sequencing, and personalized, multidisciplinary care shift care strategies, the need for flexible design is increasingly evident.

Designing for the future of cancer care also means designing buildings that are friendly to the environment, patients, and caregivers. Natural light, sustainable and durable building materials, and energy efficient, responsive mechanical systems are critical. The largest construction and life-cycle cost for the building is its mechanical systems. Specifying the right system – one that is both energy efficient and responsive to the sensitive demands of oncology spaces – is essential in creating and maintaining a resilient oncology care environment.



...design strategies focused on flexibility and standardization are the best way of approaching clinic design and maximizing responsiveness...

– Mickey LeRoy, GBBN
[Beyond the Pandemic: A Long-Term View of Healthcare Environments' 'New Normal'](#)

SALUTOGENESIS & BIOPHILIA

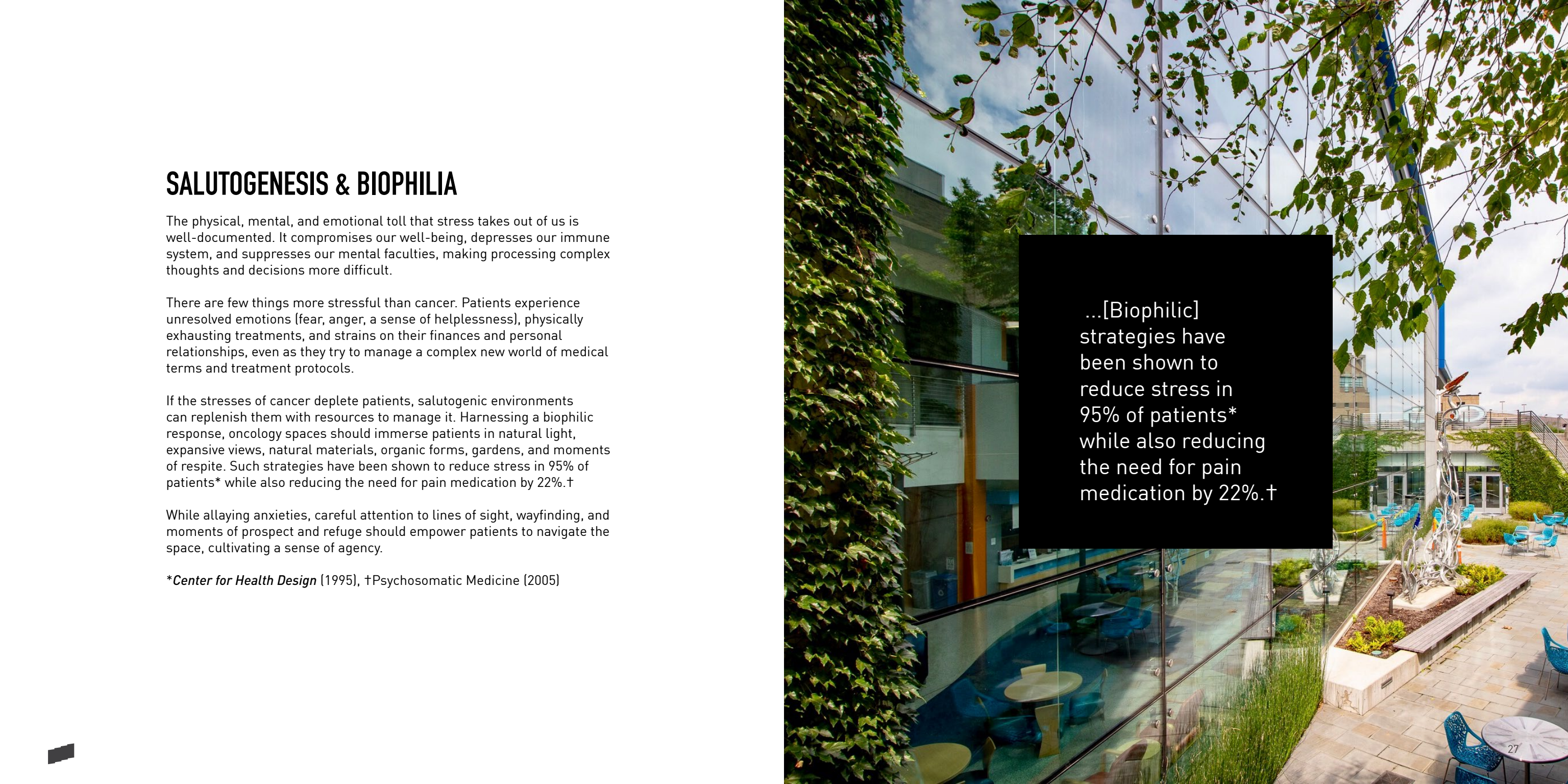
The physical, mental, and emotional toll that stress takes out of us is well-documented. It compromises our well-being, depresses our immune system, and suppresses our mental faculties, making processing complex thoughts and decisions more difficult.

There are few things more stressful than cancer. Patients experience unresolved emotions (fear, anger, a sense of helplessness), physically exhausting treatments, and strains on their finances and personal relationships, even as they try to manage a complex new world of medical terms and treatment protocols.

If the stresses of cancer deplete patients, salutogenic environments can replenish them with resources to manage it. Harnessing a biophilic response, oncology spaces should immerse patients in natural light, expansive views, natural materials, organic forms, gardens, and moments of respite. Such strategies have been shown to reduce stress in 95% of patients* while also reducing the need for pain medication by 22%.†

While allaying anxieties, careful attention to lines of sight, wayfinding, and moments of prospect and refuge should empower patients to navigate the space, cultivating a sense of agency.

**Center for Health Design* (1995), †*Psychosomatic Medicine* (2005)



...[Biophilic] strategies have been shown to reduce stress in 95% of patients* while also reducing the need for pain medication by 22%.†

A close-up photograph of a wooden structure, possibly a chair or a piece of furniture, featuring vertical slats with a series of small, rectangular perforations. The wood is a warm, medium-brown tone. The lighting is soft, creating subtle shadows and highlights on the wood's surface. The structure is composed of several panels joined together, with the perforations creating a rhythmic pattern of light and shadow.

CASE STUDIES

30 TriHealth, Thomas Comprehensive Care Center

32 Cincinnati Children's, Cancer and Blood Diseases Institute (CBDI)

34 Norton Healthcare Novak Center, Pediatric Oncology Clinic

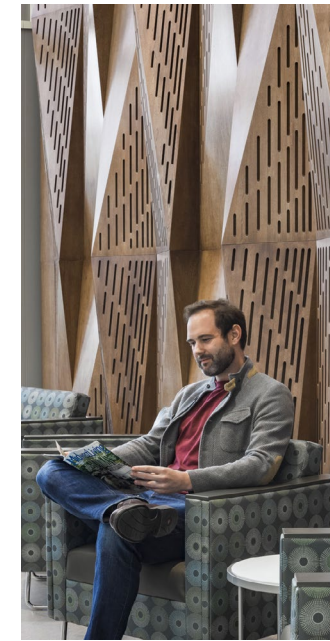
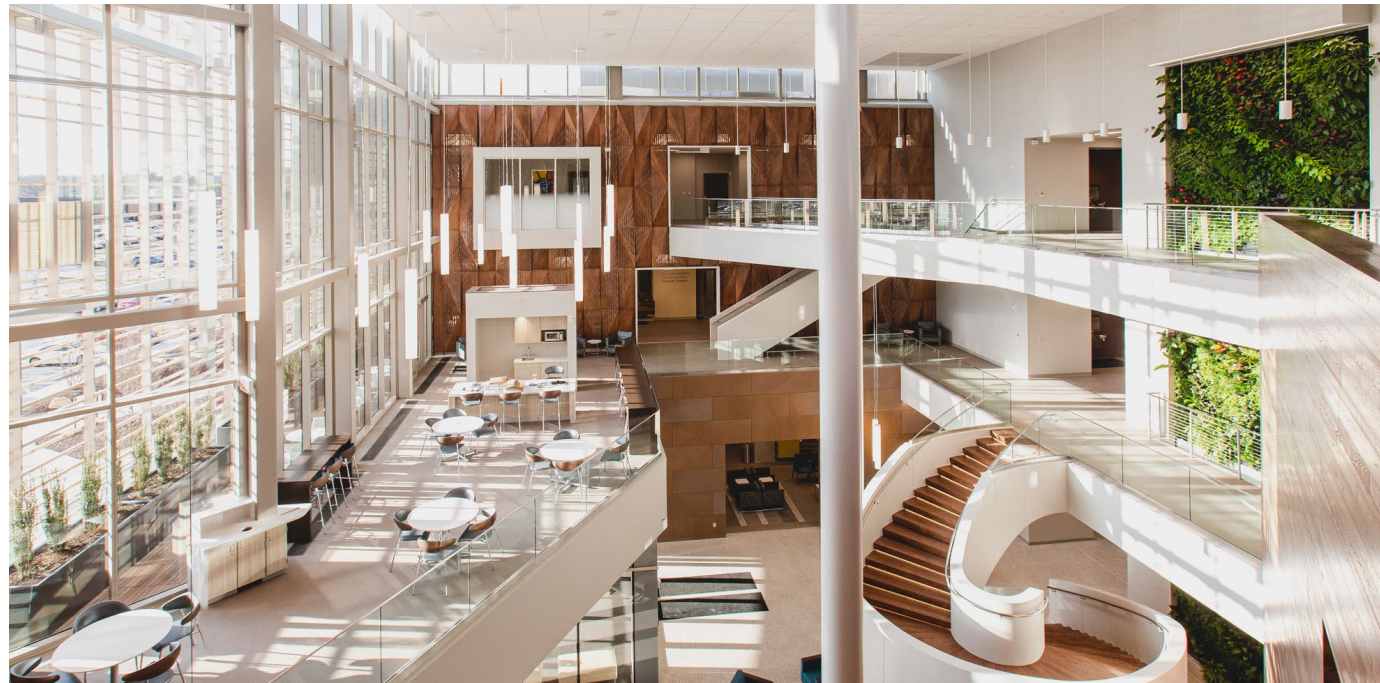
36 UK HealthCare, Markey Cancer Center

38 Undisclosed Client, Oncology Prototype

TriHealth, Harold M. & Eugenia S. THOMAS COMPREHENSIVE CARE CENTER

The Thomas Center reimagines cancer care by putting its patients at the center of a multidisciplinary treatment and support universe. Its salutogenic (health-generating) design fosters empowerment and social choice, provides intuitive wayfinding, and offers opportunities for relaxation and reflection.

The building fosters a connection to nature through material choices, ample views of surrounding landscape, and an interior wall of living foliage, while bringing together resources—dietary, genetic, financial, and other ancillary services—to support the whole person and empower patients to take control of their lives.



Multidisciplinary care is supported through standardized, flexible clinic modules that are centered around caregiver work areas and collaboration zones. The modules include private spaces for heads-down work along with collaborative spaces and touchdown spots for consulting team members, and conveniently located staff respite areas to support the well-being of the care team.

Infusion space features decentralized nurse stations and a choice of quiet zones featuring private bays overlooking a roof garden, or more social, open bays. Patients are free to move about if they feel well enough and socialize in one of several lounges. Radiation oncology enjoys a first floor location with access to natural light and views as well as spectacular lighting effects to provide positive distraction.



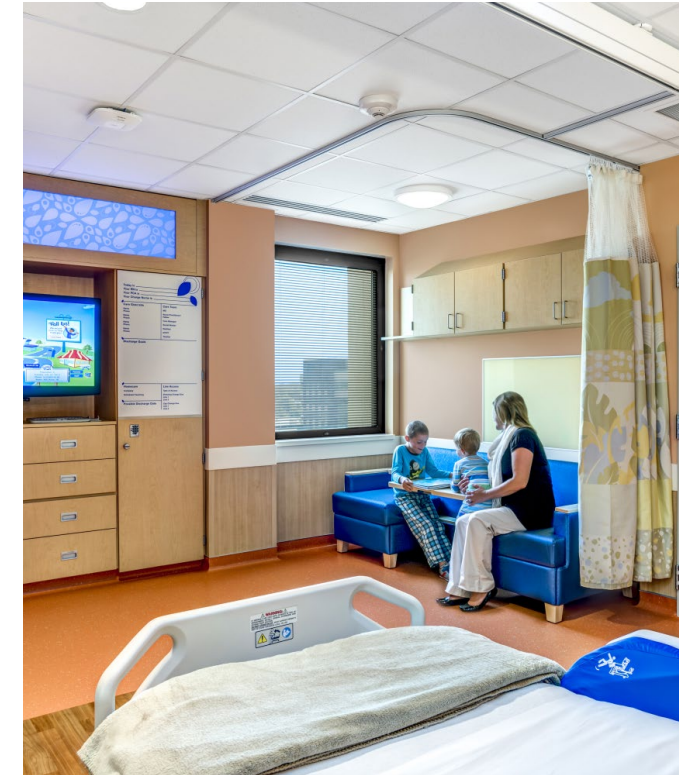
Its salutogenic design fosters empowerment and social choice...



Cincinnati Children's CANCER & BLOOD DISEASE INSTITUTE (CBDI)

Advancing Cincinnati Children's successful effort to develop a top-ranked pediatric oncology program, CBDI provides a continuum of care from diagnosis to treatment to survivorship. Integrating research on salutogenesis, the facility is designed to meet psychological and social needs of children and young adults in inpatient and outpatient settings.

The design of the inpatient unit supports the well-being of young patients as they endure long hospital stays by promoting a sense of coherence and normalcy.



...the facility is designed to meet psychological and social needs of children and young adults...

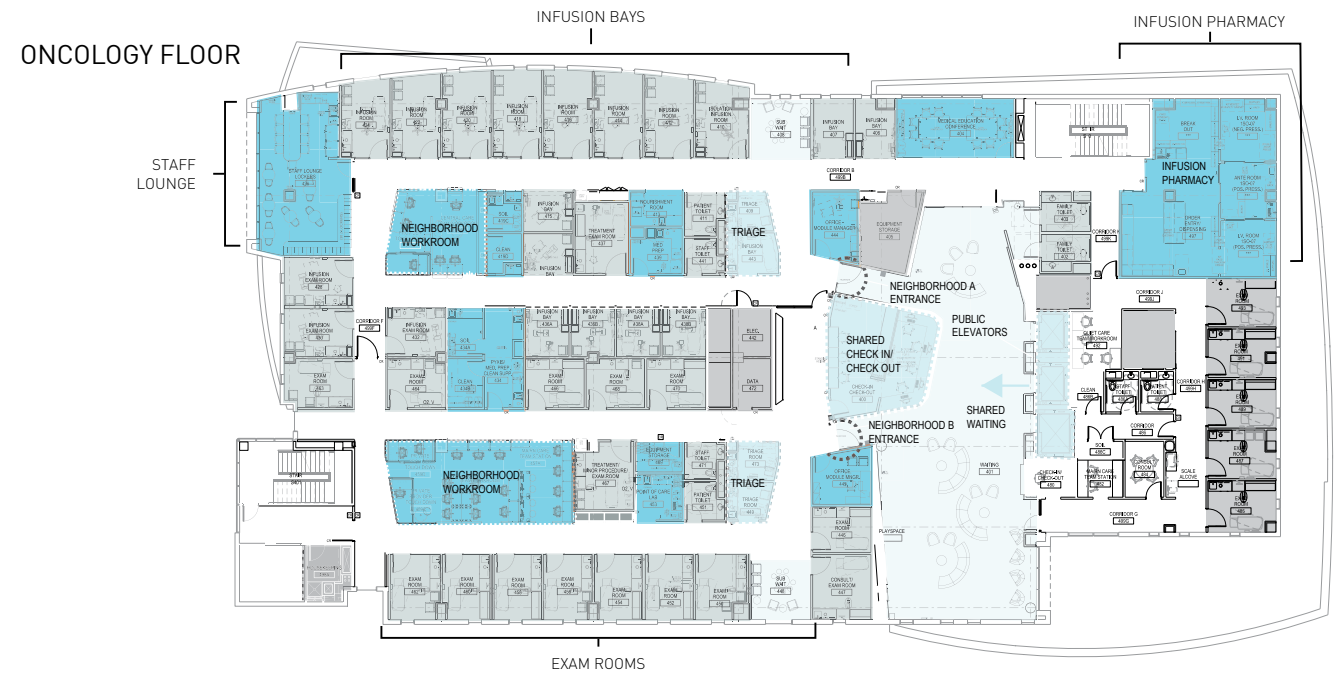


Modeling patient rooms after studio apartments (with customizable elements and different zones for different activities), the design builds a 'neighborhood' of amenities and destinations around them. CBDI's award-winning pet visitation center, which produces therapeutic effects as patients anticipate, enjoy, and relive visits with their beloved pets, has contributed to a reduced need for pain medication.

To support the hospital's teaching mission, staff workrooms offer benches with computers on articulating arms to allow groups to gather or convert a cluster of workstations into an impromptu conference table. Integrating space for ancillary staff, consulting physicians and nurses, workrooms foster team communication while shortening the duration of outpatient visits.

Norton Healthcare Novak Center PEDIATRIC ONCOLOGY CLINIC*

The infusion suite, pharmacy, and shared clinic space at Norton Healthcare Novak Center's Pediatric Oncology Clinic are designed to support a delivery of care model that highlights the innovation and research taking place within this academic medical center. Proxemics research and Lean design principles were used to develop efficient spaces capable of transforming 19 co-located specialties into one comprehensive continuum of care.



Decreasing patient stress with connections to nature and intuitive wayfinding, the Novak Center's design empowers patients and their families with consultation spaces for care planning and offers choice between private and open infusion bays while universal exam rooms improve safety in care delivery and centralized staff workspaces support tasks instead of roles.

Staff respite is provided through relaxing spaces with natural light and views. Conference spaces support the organization's teaching mission. The result is a flexible, efficient space that provides convenient access to care in an uplifting environment.

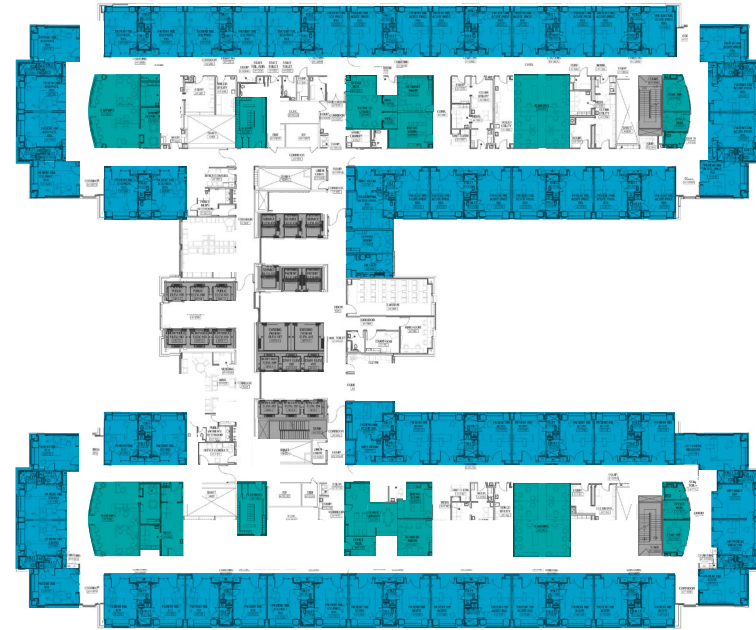
...transforming 19 co-located specialties into one comprehensive continuum of care.



UK HealthCare
MARKEY CANCER CENTER
11TH FLOOR FIT-OUT

Designated one of the Top 50 Cancer Centers in the nation by *U.S. News & World Report*, UK HealthCare's Markey Cancer Center supports its cutting edge treatment and research with a patient experience that promotes healing and well-being. To help fulfill this mission, the design transforms a hospital setting into a luxury hotel environment.

Nearly half of the 11th floor within Pavilion A of the Albert B. Chandler Hospital is now dedicated to bone marrow transplant care in a space that delivers state of the art treatment with the comforts of home.



PATIENT ROOMS

STAFF AREAS

CIRCULATION



Building community around its patients, the space not only offers comfort during long stays, but it helps provide the support they need to speed their recovery.

Pavilion A's existing lab and infusion pharmacy deliver quick, on-site service to the oncology floor. New amenities include two VIP inpatient rooms featuring dedicated family space that exceeds typical room standards; a business center for family and visitors; a library and lounge space; and laundry services for family members during extended stays with loved ones.

Building community around its patients, the space not only offers comfort during long stays, but it helps provide the support they need to speed their recovery.

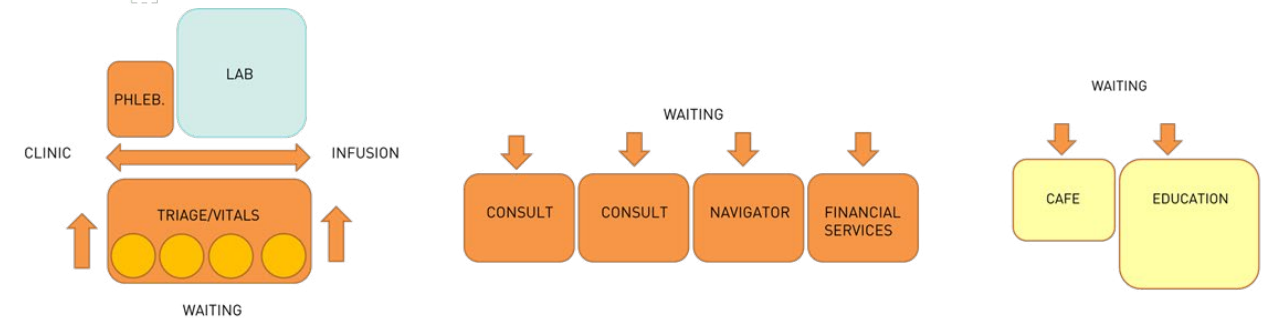
Undisclosed Client ONCOLOGY PROTOTYPE

Developed for our client in Kentucky, this infusion clinic prototype will fit into a larger system of prototypes that can be reproduced in other locations throughout the healthcare system. The project adapts the system's standard clinic module to meet the unique needs of medical oncology while developing new system modules for infusion and radiation oncology.

Focusing on the personal aspect of caregiving (a core component of our client's mission), every aspect of the facility has been designed to put patient comfort and convenience first. Our research prompted an investment in robust patient amenity spaces to promote education, nutrition and financial counseling, and social support. Set on a hilltop near the hospital, the site will include a patient garden and natural light and views in all clinical spaces.

The infusion area, which is served by two centralized nurse stations, is designed to empower patients to choose among private, semi-enclosed and open bays, depending on how they feel.

Right-sizing staff workspaces and providing private respite areas help ease burnout for caregivers who work long hours. The clinic workroom design develops in clusters to support physician and midlevel provider teams. With clinic space adjacent to radiation oncology, exam rooms that flex between the two modalities, and streamlined access for nonclinical visits, this new oncology module will provide an efficient, flexible work environment for staff while supporting compassionate care for their patients.



Streamlined Triage Process

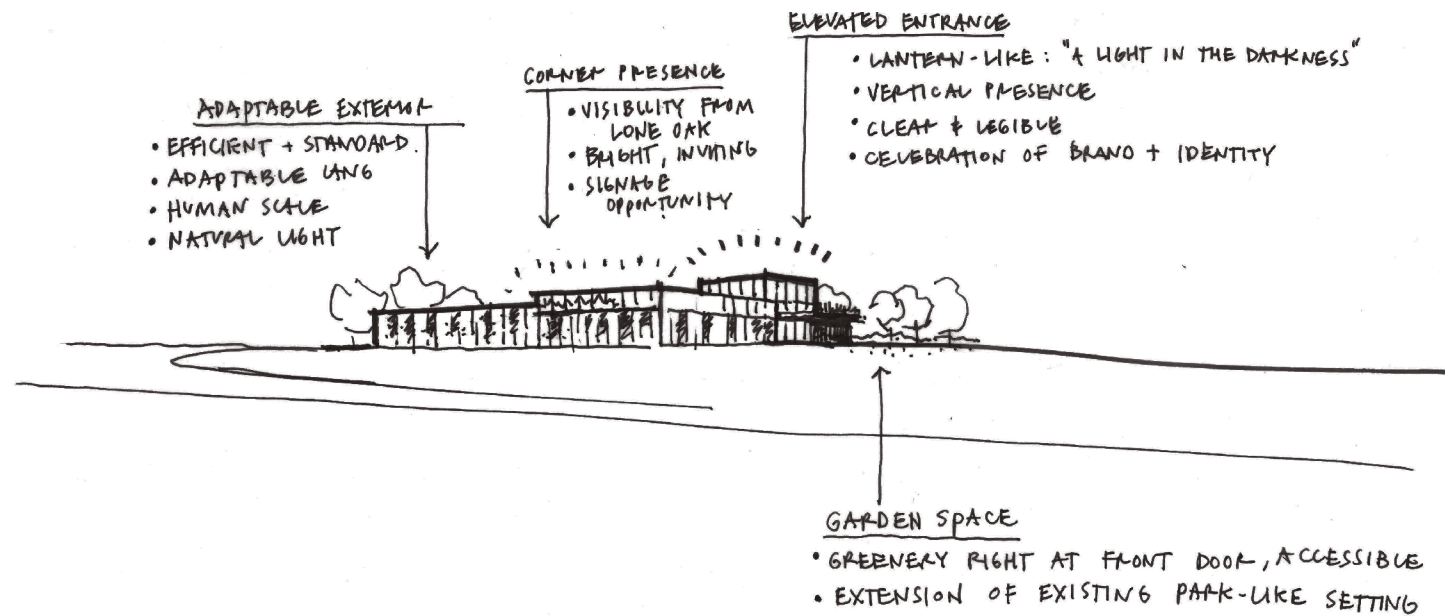
- Interim Lab Checks
- Oncology Clinic
- Infusion

Integrated Ancillary Services

- Clinical Trials
- Care Coordinator
- Financial Services
- Nurse Navigators
- Genetics Counseling
- Nutrition Counseling
- Psychological Counseling
- Palliative Care

Social Support

- Cancer Support Groups
- Education
- Training (food prep)
- Survivorship Program
- Family Support



GARDEN SPACE

- GREENERY RIGHT AT FRONT DOOR, ACCESSIBLE
- EXTENSION OF EXISTING PARK-LIKE SETTING

Sample of

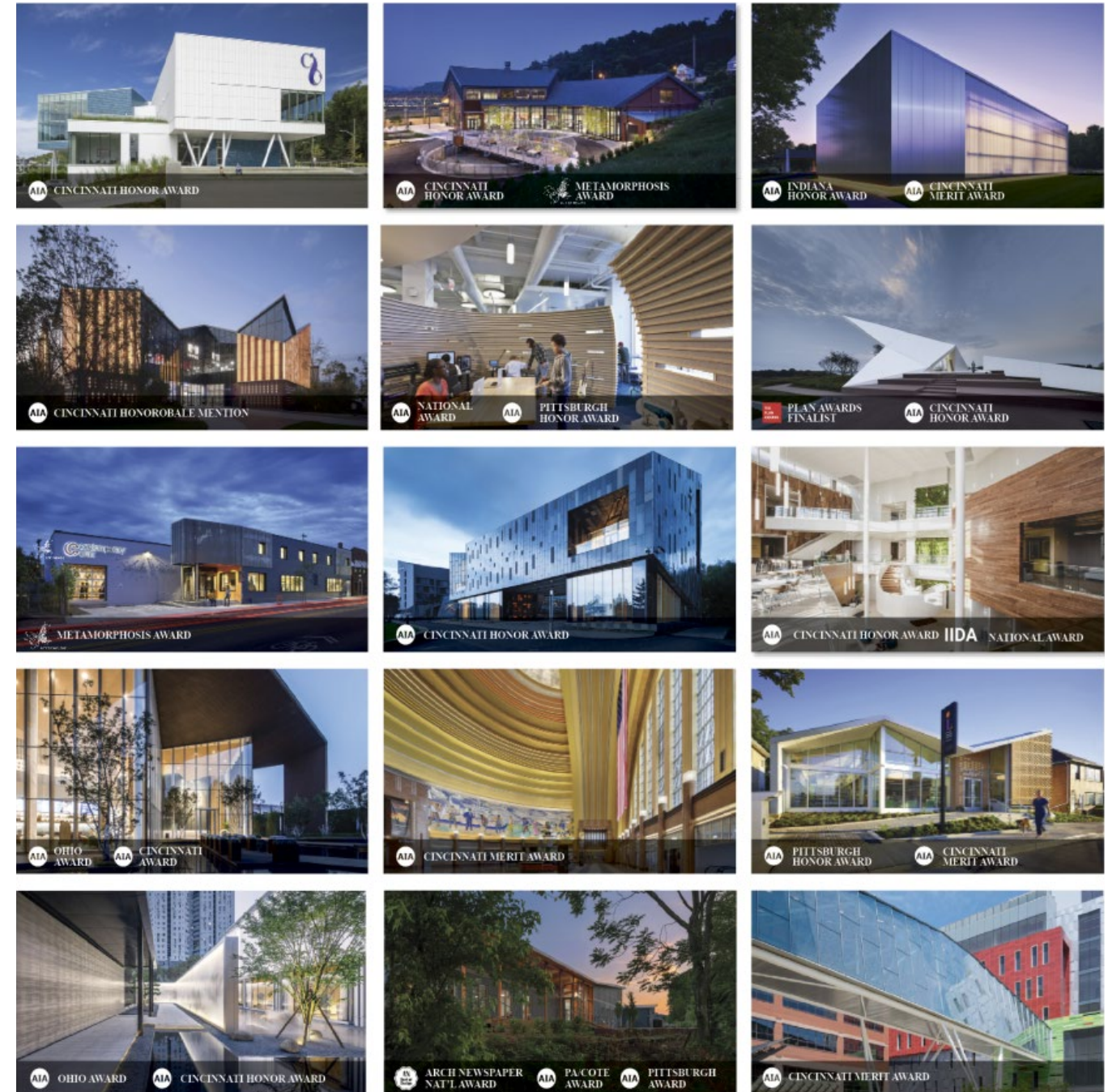
NATIONAL REGIONAL & LOCAL AWARDS



We work with visionaries to create spaces that **enhance experience and empower people.**

We combine technical mastery and creative tenacity to find design solutions that enhance healing while empowering patients; foster collaboration while supporting care providers; and set our healthcare clients up to reach their long term goals.

We see architecture as more than just buildings, because positively impacting people is the most important thing we do.





ENHANCE & EMPOWER