

PEOPLE CHOOSE DOCTORS. NOT BUILDINGS.

But when people come through your doors, what they experience impacts how they feel when they're in your hands.

We do our best work with ambitious leaders in health, who want to design an experience that patients seek out over a lifetime; and one that attracts and retains the best talent. Rooted in evidence-based design, we combine creative design thinking with research, technology, energy modeling, and modular and prefabrication techniques to help you create healthy, sustainable, efficient environments that uplift your patients and professionals.

Positively affecting people, from your patients to your professionals, is the most important thing we do.













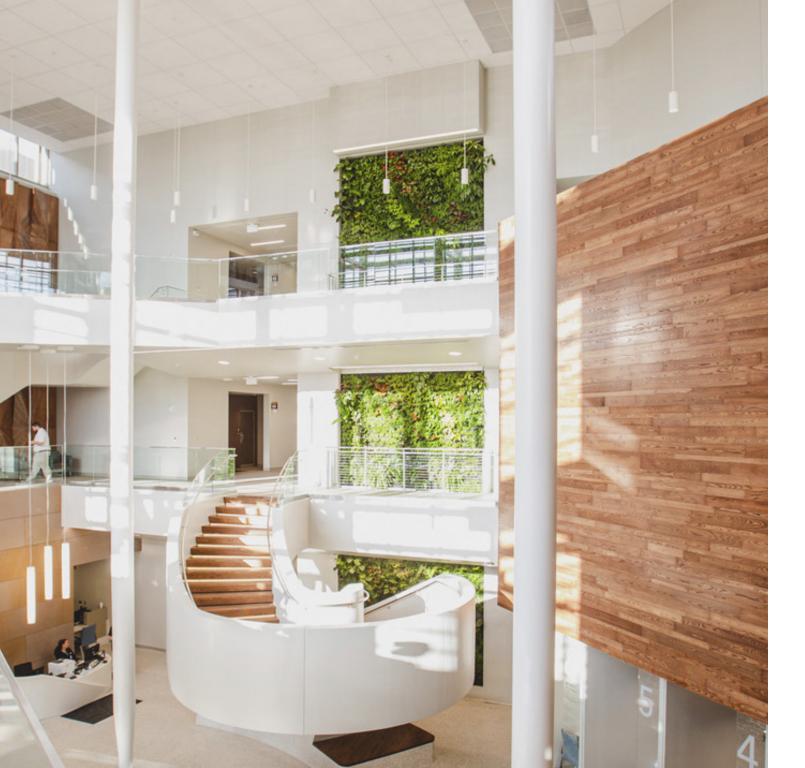












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AMBULATORY CARE

A cohesive experience—across multiple buildings and locations or in telehealth consultations—helps reinforce your values and express your distinctive brand, no matter how people engage with it.

We combine Evidence Based Design, Lean principles, research, simulation, augmented reality, prefabrication techniques and other technological advances to make the design and construction process more efficient. Our development of a new system of modular clinical prototypes helps clients adapt their facilities to specific site, staff, and patient needs; the prototypes can also be configured at various scales from large, regional medical centers to community and neighborhood clinics.

Staying ahead of research and trends in healthcare helps our clients get the most out of their facilities. Our practice includes experts in research, sustainability, and digital fabrication and regular community engagement and educational initiatives like our Oncology Symposium and Health Equity Symposium.

HIGHLIGHTED PROJECTS



Cincinnati Children's Eastgate Cincinnati, Oh Full Architectural Services 110.000 SF

Novak Center for Children's Health

Norton Healthcare

Exterior Lead Design

& Medical Planning

Collaborated with EYP

Louisville, Ky

174,000 SF



Bon Secours Simpsonville Medical Center Simpsonville, Sc Full Architectural Services 53,000 SF



TriHealth Good Samaritan Western Ridge Cincinnati, Oh Full Architectural Services 92.000 SF



TriHealth Liberty **Ambulatory Center** Montgomery, Oh Full Architectural Services 50.000 SF



Mercy Health Deerfield Cincinnati. Oh Full Architectural Services 55,000 SF



AMBULATORY EXPERIENCE

Bon Secours Mercy Health

- Mercy Rookwood Medical Center*
- Mercy Deerfield Medical Center
- Mercy Kings Mills MOB
- Bon Secours Simpsonville
- Bon Secours Chester
- Bon Secours Millennium ASC Study
- Bon Secours Ashland

CHRISTUS St. Vincent

• Cancer Center

The Urology Group

- Ambulatory Surgery Center
- The Urology Center

Allegheny Health Network

Westmoreland MOB

UC Health Physicians

- Florence MOB
- Midtown MOB
- Primary Care Prototype
- University Pointe

St. Elizabeth Healthcare

- North Unit MOB
- MOB III

TriHealth

- Good Samaritan Hospital MOB
- Kenwood MOBAnderson MOB
- West Chester MOB
- West Chester MOD
- Western Ridge MOB
 Anderson Surgery Cent
- Anderson Surgery Center Exterior Design
- Thomas Comprehensive Care
- Liberty Township MOB
- Butler County MOB
- FinneyTown MOB

Norton Healthcare

- Audubon Heart & Vascular
- Prevention and Wellness Center Masterplan
- Springs Heart Specialty Clinic

UC Health Physicians

- Over 35 Outpatient Clinics
- Lindner Center of HOPE Accelerator

Cincinnati Children's

- Over 35 Outpatient Clinics
- Eastgate MOB and OSC
- Union Township MOB
- Liberty Township*
- Centerville MOB
- Winslow MOB
- Crestview Hills MOB

The Christ Hospital Health Network

- Green Township Outpatient Center
- Montgomery Surgery Center
- Montgomery Outpatient Center
- Liberty Township Outpatient Center*
- Green Township Bldg II Site Planning
- F. Mill I II O I II I I O I II
- Ft. Mitchell Outpatient Campus Study

Norton Healthcare

• Novak Center for Children's Health*

Bugshan Investment

• Saudi Arabia Clinics & Day Surgery

PUBLICATIONS & PRESENTATIONS











Campus Configuration and Building Approach Design on Patient Arrival and Spatial Navigation at Large Hospitals

EDRA Conference » Shan Jiang

Prototyping 2.0: On-Site Prefabrication Minimizes Risk, Speeds Delivery

PDC Summit

» Mickey LeRoy

Improving our Environment: Exploring the Design/Health Axis

Symposium on Design and Health, Practice, Research, and Social Relevance

» Angela Mazzi

Health Equity Symposium

How Can a Health System be a Health Equity Anchor? » Angela Mazzi Working Towards Health Equity

» Shan Jiang

Improving Healthcare Resilience Through an Equity Focused Framework

AIA/ACSA Intersections Research Conference: Resilient Futures

» Tiffany Broyles Yost, Greg Coni, Angela Mazzi

New Strategy, New Journey, New Vision

China Hospital Construction & Development Conference and Exhibition

» Jervy Zhu

10 Essential Design Components Your Facilities Should Include to Attract & Retain Staff

ACHE Annual Congress,

» Angela Mazzi

Leveraging Technology for Better Design

Medhealth Outlook

» Troy Malmstrom, Angela Mazzi, Steph Shroyer

*Collaborated with additional firm



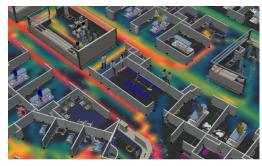


EMERGENCY DEPARTMENT (ED)

Planning for the volume fluctuations experienced by emergency departments means more patients get timely treatment.

We use gemba walks, observation, and simulation modeling software to map the detailed steps of medical processes that take place within a space—including patient and staff paths, the duration of procedures, and equipment used—

to build an independent model that can show how the space operates under different levels of demand. We use these tools to demonstrate how and when backups occur, and how design can help disentangle the symptoms of delays from their causes.



Patient and staff simulation for TriHealth ED.

HIGHLIGHTED PROJECTS



Bon Secours Chester Chester, Va Full Architectural Services 24,000 SF



TriHealth Good Samaritan Hospital ED Cincinnati, Oh Full Architectural Services 33,000 SF



Bon Secours Simpsonville Simpsonville, Sc Full Architectural Services 53,000 SF



TriHealth
Bethesda North ED
Cincinnati, Oh
Full Architectural Services
50,000 SF



UK HealthCare
Level 1 ED Expansion
Lexington, Ky
Full Architectural Services
7,000 SF



Hardin Memorial ED Elizabethtown, Ky Designer of Record 32,000 SF



ED EXPERIENCE

Children's Hospital of Pittsburgh ED Expansion

UK HealthCare

- Patient Care Facility ED**
- Pediatric ED**

The Christ Hospital Health Network
ED Renovation

St. Claire Regional Medical Center
ED Renovation

Mercy Health**

Rookwood Freestanding ED

Cincinnati Children's ED Renovation

Cleveland Clinic - Hillcrest Hospital* ED & Pediatric ED Renovation &

ED & Pediatric ED Renovation & Expansion

Cleveland Clinic - Euclid Hospital*

ED Expansion & Renovation

Cleveland Clinic - Twinsburg*

Mercy Health Fairfield Hospital

ED Level II Trauma Center

TriHealth

Good Samaritan ED Renovation Bethesda North ED Renovation Liberty Urgent Care

St. Elizabeth Healthcare

Grant ED Expansion

Margaret Mary Health

ED

Bon Secours Mercy Health

Kings Mills ED Simpsonville ED Chester ED

Mercy Health WI

ED PUBLICATIONS & PRESENTATIONS

Optimize Your High Volume ED



HEALTH FACILITIES

Trends 💪

Healthcare Design

» Jason Groneck



The editor of this book chose to feature our project as a case study as exemplary planning and design of their emergency department.

ED Design Consideration - Two Different Approaches to Workflow

Healthcare Facilities

» Benjamin Earls

Healthcare's New Normal:

Employing Cognitive Research to Create Patient-Centered Solutions, ASHE PDC Conference » Angela Mazzi

Angela's presentation focuses on salutogenesis and other cognitive research to provide evidence-based solutions that promote well-being. Part of the Through the Patient's Eyes Series.

^{*}Completed by GBBN team member while employed by another firm.

^{**}Collaborated with additional firm





NEONATAL INTENSIVE CARE UNITS (NICU)

Our NICU designs combine expertise and empathy.

We understand the nature of the NICU's highly specialized care as well as the physical and emotional highs and lows that families and staff experience in this emotionally intense environment. Controlling light, temperature, and noise around vulnerable premature babies is critical to their survival.

Equally important is the balance of privacy and proximity: Rooms private enough for parents to stay close yet accessible enough for nurses to get there in a heartbeat. Decibels and lighting degrees; patient rooms arrayed into manageable neighborhoods for staff coverage; family support and respite spaces, intuitive wayfinding, and security considerations all come into play in the NICU environment.

HIGHLIGHTED PROJECTS



Cincinnati Children's
NICU
Cincinnati, Oh
Medical Planning &
Full Architectural Services
28,000 SF Renovation*



UK HealthCare*
NICU
Lexington, Ky
Medical Planning & AOR
39,000 SF Renovation
Collaborated
with HGA Architects, Inc.



Cincinnati, Oh Medical Planning Full Architectural Services 28,000 SF Renovation

TriHealth Good Samaritan

NICU



Children's Hospital of Philadelphia NICU Renovation Philadelphia, Pa Programming, Design, CDs, CA 39,900 SF Renovation

^{*}Collaborated with additional firm



ICU

Critical care environments are complex. More resources—from specialist physicians and nurses to medical equipment—need to come to the patient. Lighting and acoustics require careful consideration. Thanks to advances like portable ventilators, patients may spend less time in bed and more time moving about, often accompanied by family who want to remain by their loved one's side.

The use of Augmented Reality (AR) allows us to enhance an existing, realworld environment with an overlay of digital information that allows clients to see the digital and the real at the same time and better understand how

different design elements will appear within the actual space. An intuitive, easy to understand mode of communicating, AR can bridge the interpretive gap, enabling the project team to gather better feedback, resolve construction and maintenance issues before they happen, and save our clients' money. From quick iterations and testing to better collaboration, construction and communication, AR models are changing the way healthcare facilities are designed and are opening a new world of design possibilities.



Virtual walk through of UK HealthCare's 12th floor

EXPERIENCE

UK HealthCarePatient Care Facility ICUs**

TriHealth Good Samaritan Hospital ICU 7A Renovation

TriHealth Good Samaritan Hospital ICU 7B Renovation

TriHealth Good Samaritan Hospital Neuro ICU

TriHealth Good Samaritan Hospital Cardiac ICU

TriHealth Good Samaritan HospitalNICU

UPMC Mercy ICU Study

TriHealth Bethesda North Hospital NICU

Mercy Health Fairfield Hospital NICU Cincinnati Children's NICU

Cincinnati Children's CICU

Cincinnati Children's PICU

St. Elizabeth SICU

**Collaborated with additional firm





INPATIENT

Whether 24 beds or 600, planning inpatient facilities requires the tools, expertise, and resources to both design new buildings from the ground up and find new ways to leverage space within existing systems. From community hospitals to regional health systems spanning multiple campuses, we work with clients on renovations and new construction that express their brand and promote their quality of care.

We embrace collaboration and coordination early in the design process to optimize patient flow and operational efficiency. We use Augmented Reality to help medical staff feel what spaces will be like and give real time feedback and we continually build on our archive of research to create positive experiences for patients, families, and staff. We use prototyping, prefabrication, and on-site fabrication to help speed new facilities to market by improving labor utilization rates and reducing safety incidents during construction.

HIGHLIGHTED PROJECTS



Bon Secours Mercy Health Kings Mills Cincinnati, Oh Medical Planning & Full Architectural Services 172,000 SF



UK Healthcare
5th Floor Neuroscience
Lexington, Ky
Full Architectural Services
67.000 SF Renovation



TriHealth Bethesda North Cincinnati, Oh Medical Planning Full Architectural Services 120,000 SF Addition and Renovation



TriHealth Good SamaritanCincinnati, Oh
Medical Planning
Full Architectural Services



Bon Secours Mercy Health Confidential Location Medical Planning Full Architectural Services 531,000 SF





SURGERY

Getting ORs right is as critical as the surgeries performed within them. From the world's first pediatric hybrid OR at Cincinnati Children's, the nation's #1 pediatric medical center, to specialty and hybrid ORs across multiple systems, we work with leaders in healthcare to craft operating rooms that are flexible, efficient, and optimized.

We understand the complexity of surgical environments— the flows, the codes, the equipment, circulation, turnover, safety, and the technological advances impacting the future of surgery—and deploy tools like full-size mockups and AR, close collaboration with surgical teams, and our established relationships with specialty consultants and equipment manufacturers— to design optimum spaces

HIGHLIGHTED PROJECTS



Cincinnati Children's
Surgery Masterplan &
Phased Implementation
Cincinnati, Oh
Full Architectural Services



UK HealthCare
Surgery Suite
Lexington, Ky
Full Architectural Services
Collaborated with HGA



Bon Secours Mercy Health Kings Mills Cincinnati, Oh Full Architectural Services



The Christ Hospital
Montgomery Surgery Center
Montgomery, Oh
Full Architectural Services



TriHealth Good Samaritan
Surgery Suite
Montgomery, Oh
Full Architectural Services



EXPERIENCE

We have experience in the following surgery typologies

ORTHO **HEART** UROLOGY/GYNECOLOGY **ENDOSCOPY CYSTOLOGY NEURO** EAR, NOSE, THROAT EYE **C-SECTION TRANSPLANT**

FETAL

HYBRID

Cincinnati Children's

Surgery, Masterplan & Implementation

Nationwide Children's Surgery Masterplan

The Christ Hospital Health Network Montgomery Surgery Center

The Christ Hospital Health Network** Liberty Surgery Center

The Christ Hospital Health Network Ft. Mitchell Surgery Center Study

The Christ Hospital Health Network Green Township Outpatient Center w/ Surgery

The Christ Hospital Health Network Redbank Surgery Center

UK HealthCare** Surgery Suite

St. Elizabeth Healthcare Surgery Renovations

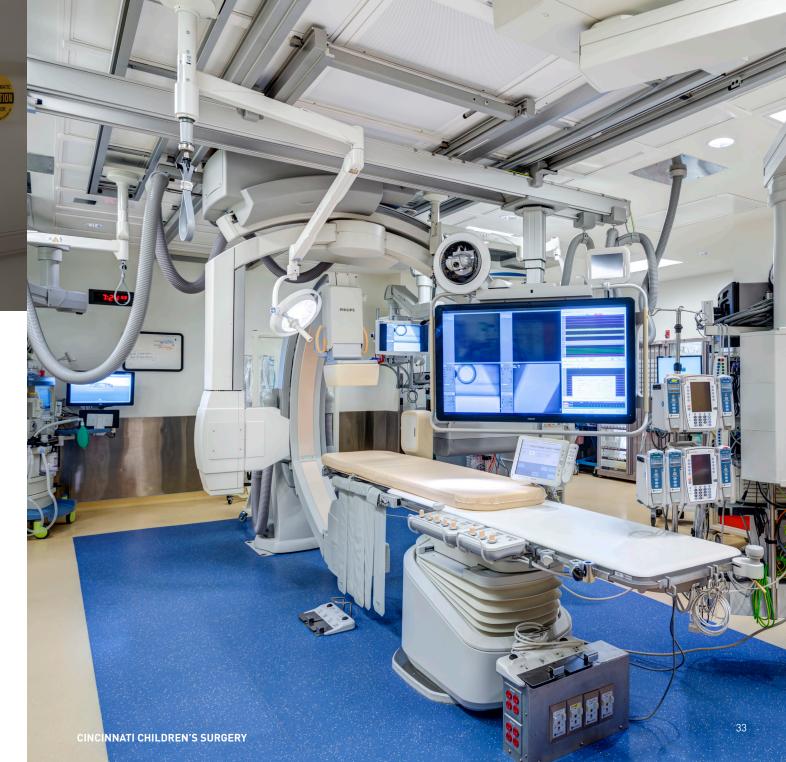
The Urology Group Surgery Center

TriHealth Over 10 Surgery Projects

Mayfield Clinic & Spine Institute Surgery Center

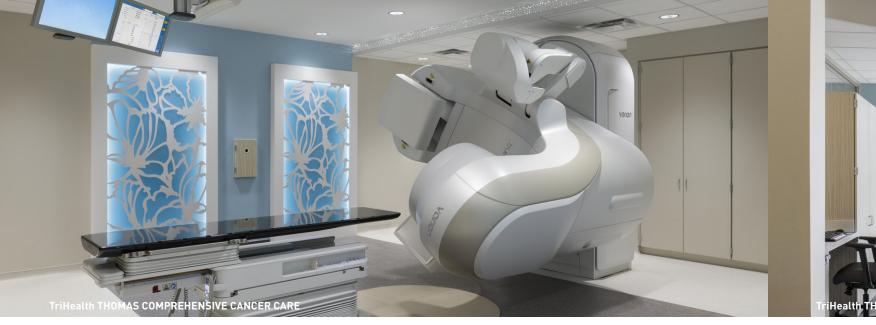
Cleveland Clinic, Hillcrest Hospital* Surgery Center

Salem Community Hospital* Surgery Center



^{*} Work performed by team member while with another firm. **Collaborated with additional firm







CANCER CARE

Cancer care is undergoing fundamental shifts.

The Centers for Disease Control (CDC) expect the number of cancer cases to grow by 20% in the coming decade. The approach to care is also changing, with treatment moving out of departmental silos towards an ever-expanding and more integrated spectrum of care that offers everything from diagnostic screenings to symptom management, palliative care, and survivorship.

Managing this evolution takes more than co-locating services. Evolving treatment protocols (including telehealth) and elements such as urgent care, imaging, lab, genetics, nutrition and behavioral health are joining the usual program of clinics, infusion and radiation oncology. Supportive components like pharmacy, social services and financial counseling take on an expanded and decentralized role to prioritize convenient access and patient empowerment.

We take 100% of our cancer care projects through an Evidence Based Design process. 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.

EXPERIENCE

The Christ Hospital Health Network

Montgomery Cancer Center

CHRISTUS St. Vincent Cancer Center

Cincinnati Children's Cancer & Blood Disease Institute

McCullough Hyde Memorial Outpatient Oncology Center

Norton Healthcare Master Plan Study

TriHealth Cancer Institute

- Thomas Center
- Butler
- Western Ridge
- Kenwood
- Good Samaritan

St. Elizabeth Healthcare Edgewood Cancer Care

UC Health Physicians Precision Radiotherapy & Linear Accelerator Expansion

UC Health Medical Center

- UC Barrett Cancer Clinic Renovation
- UC Barrett Cancer Center Masterplan

UK HealthCare

Markey Cancer Center Inpatient Floor Fitout

Norton Children's

Novak Center for Children's Health Collaborated with FYP

PUBLICATIONS/PRESENTATIONS



Oncology Evolution: Planning for the future of Cancer Care Facilities ASHE Health Facilities Management Angela Mazzi



GBBN's **Oncology Symposium** Angela Mazzi, Michael Lied







PLANNING

Growing a health system can feel like a game of chess.

Whether you're growing within constraints of tight urban environments; evolving with a growing community or functioning as its central hub, every move requires anticipating dozens of opportunities and challenges. Often, the precise way forward—for the next 5, 10, or 20 years—isn't always clear.

Clients turn to us to help them envision their futures—be it city, suburb, or rural—and use research, data, planning and design to get them there. Whether you're inserting a benchmark program into an existing hospital, shelling space for future use, or anticipating new service lines, we help surface the correct challenge to solve before developing the solution.

HIGHLIGHTED PROJECTS



Norton Healthcare Novak Center Building Planning Louisville, Ky



Cincinnati Children's Masterplanning Cincinnati, Oh



TriHealth Bethesda North Hospital Master Planning Cincinnati, Oh



TriHealth
Cancer Master Planning
Cincinnati, Oh



Mercy Health
Kings Mills Hospital
Masterplanning
Cincinnati, Oh



EXPERIENCE

Strategic Planning

TriHealth Cancer System-wide Planning

Cincinnati Children's Critical Care Building

UK HealthCare Patient Care Facility

Master Planning

Cincinnati Children's Main Campus

UPMC Mercy Master Plan

UPMC Presbyterian Hospital

Mercy Health Deerfield Healthcare Campus

TriHealth Kings Mills Hospital Campus

TriHealth Good Samaritan

Medical Planning

UK HealthCare NICU

Cincinnati Children's Critical Care Building

Bugshan Investment Saudi Arabia Clinics & Day Surgery **Ambulatory Center**

Building Planning Cincinnati Children's

Arrival Renovation

UPMC Shadyside Bed Tower Renovation

The Urology Group New Surgery Center

TriHealth Group Health Multiple MOBs

The Christ Hospital Liberty Medical Center

University of Louisville **Physicians** Novak Center

PUBLICATIONS & PRESENTATIONS



Communities Healthy by Design AIA Cincinnati Urban Design Salon » Angela Mazzi

Beyond The Pandemic: A Long-Term View Of Healthcare **Environments' 'New Normal'**

Building Design + Construction » Mickey LeRoy

From Car to Exam: Ideas for Simplifying the The Visitor Experience

Healthcare Symposium » Michael Lied, Erin Schmidt, Anne Schwab

The Future of Ambulatory Care

Cleveland Clinic Patient Experience Summit » Jason Groneck



Home Sweet Home: The Health Hub of the Future SXSW (South By South West) » Angela Mazzi

What are hospitals doing to our cities?

Healthcare Design » Michael Lied, Angela Mazzi

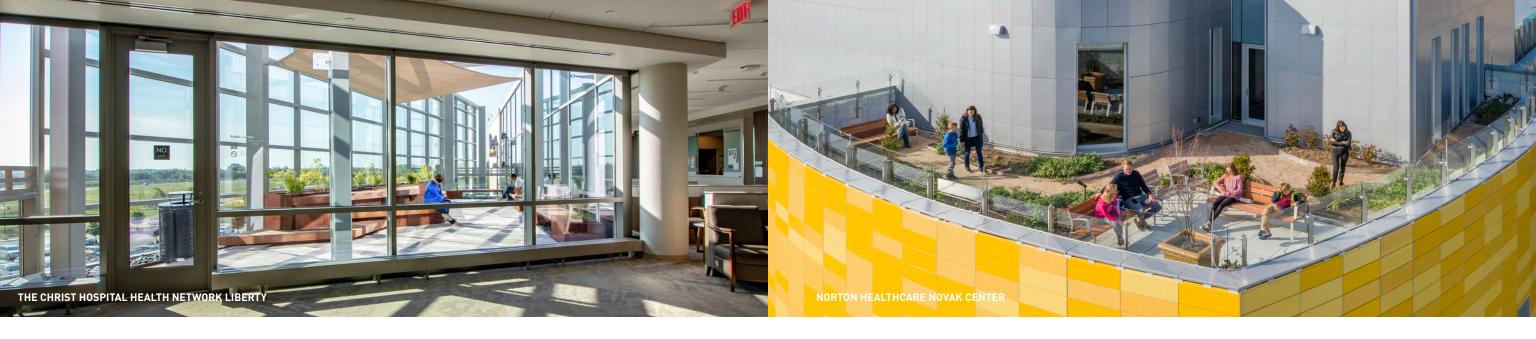
Creating a Facility Master Plan for Pediatric Long Term Care

Pediatric Complex Care Academy Journal: » Angela Mazzi

Sick Cities: Is Design the Cure?

Design REALIZED Webinar » Michael Lied, Angela Mazzi





RESPITE: HEALING GARDENS, GREEN SPACE, LIVING WALLS

Data on the well-being of healthcare staff is startling.

61% of physicians and over 50% of nurses report feelings of burnout. Burnout not only impacts quality of care, but it is causing a mass exodus from the industry. 22% of nurses say they may leave their position within the next year. According to the same study, 6.5 million lower wage healthcare workers are expected to permanently leave their jobs in the next five years, and only 1.9 million are ready to take their place.*

Opportunities to feel rejuvenated, through a connection to nature, a breath of fresh air, or a moment of calm help restore emotional and physical well-being of your professionals and staff. Such moments— strategically placed— send a powerful message to employees: You are valued.

We combine research, creative partnerships, and use of augmented reality to design and implement respite spaces, gardens, living walls, walking trails and other health generating features into healthcare environments.

*Source: Sg2 2021 Workforce Analysis

HIGHLIGHTED PROJECTS



Cincinnati Children's
Clinical Sciences Pavilion
Rooftop Terrace
Cincinnati, Oh
Full Architectural Services



The Christ Hospital
Liberty Outpatient Center
Respite Outdoor Areas
Butler County, Oh
Full Architectural Services



UK HealthCare
Patient Care Facility
Green Roof
Lexington, Ky
Full Architectural Services



Cincinnati Children's
Family Pet Center
Cincinnati, Oh
Full Architectural Services



Mercy Fairfield Hospital
Inpatient Unit Respite Spaces
Fairfield, Oh
Full Architectural Services



Norton Healthcare
Novak Center Rooftop Terrace
and Respite Spaces
Louisville, Ky
Exterior Lead Design
& Medical Planning
Collaborated with EYP



EXPERIENCE

Cincinnati Children's

- Clinical Sciences Pavilion Courtyard, Rooftop Terrace, & Research Courtyard
- Family Resource Center & Garden
- Cancer & Blood Diseases Institute Lounges
- Location A Concourse
- College Hill Behavioral Health Campus Respite Spaces
- Family Pet Center

Mercy Fairfield Hospital Inpatient Unit Respite Spaces

**Collaborated with additional firm

The Christ Hospital Health Network

Liberty Outpatient Center Respite Outdoor Areas

UK HealthCare

Patient Care Facility Green Roof

Norton Healthcare

Novak Center** Roof Gardens & Staff Break Spaces

Norton Children's Novak Center

Novak Center Bridge

TriHealth

- Thomas Comprehensive Cancer Care Mary Jo Cropper Dressing Rooms
- Finneytown Respite Spaces
- Good Sam Respite Spaces
- Montgomery Respite Spaces
- Western Ridge Respite Spaces

UPMC

Presbyterian Hospital Lawn Oasis



LEARN & ADVANCE

Professional credentials in the following:













Sample of Speaking Engagements

- Swiss Center for Design & Health: Symposium on Design and Health
- American College of Healthcare Executives Annual Conference
- South by Southwest
- ASHE PDC Summit
- TEDx
- Greenbuild

- Healthcare Design Conference
- Healthcare Symposium
- EDRA Annual Conference
- HERD: Health Environments Research & Design Journal
- Cleveland Clinic Patient Experience Summit

Sample of Publication Contributions

- Healthcare Design Magazine
- Advisory Board Design Showcase
- American College of Emergency Physicians

- The New York Times
- ASHE The Health Care Facilities Management Handbook
- MedHealth Outlook



BD+C
INTERNATIONAL HEALTHCARE ARCHITECTS

TOP 300 FIRMS LIST

OVER \$5 BILLION

HEALTHCARE CONSTRUCTION

