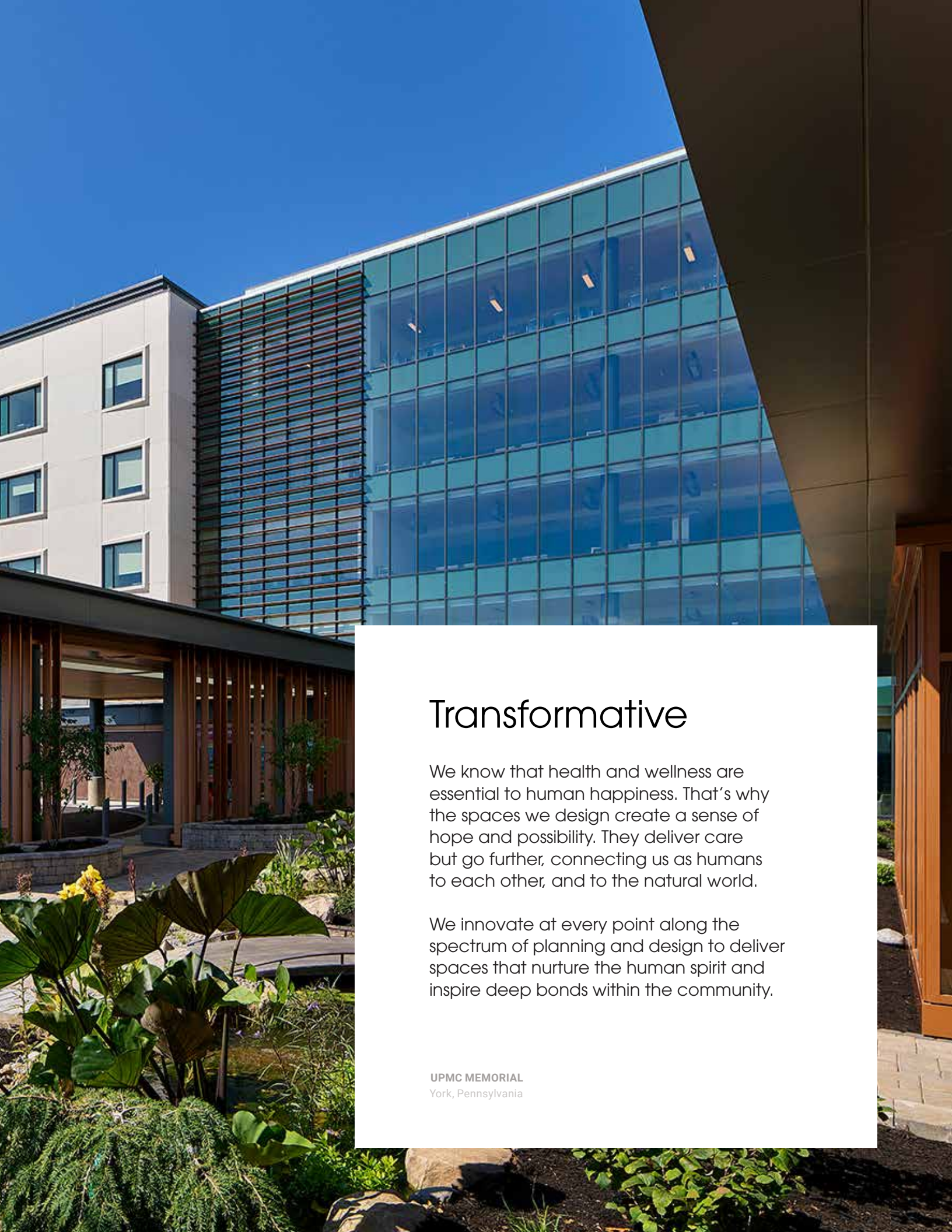
Vital spaces for healthy communities

HEALTH | NORTHEAST REGION

UPMC MEMORIAL
York, Pennsylvania

At Stantec, we design places that are vital—efficient, beautiful, and technologically robust. Spaces that optimize the experience and well-being of patients, families, and caregivers. Our passion and progressive thinking have made us a leader in healthcare planning and design for more than five decades. Through our designs, we put our clients at the forefront of best practice, technology innovation, and high-performance healthcare delivery.


A MAIN ENTRANCE



Transformative

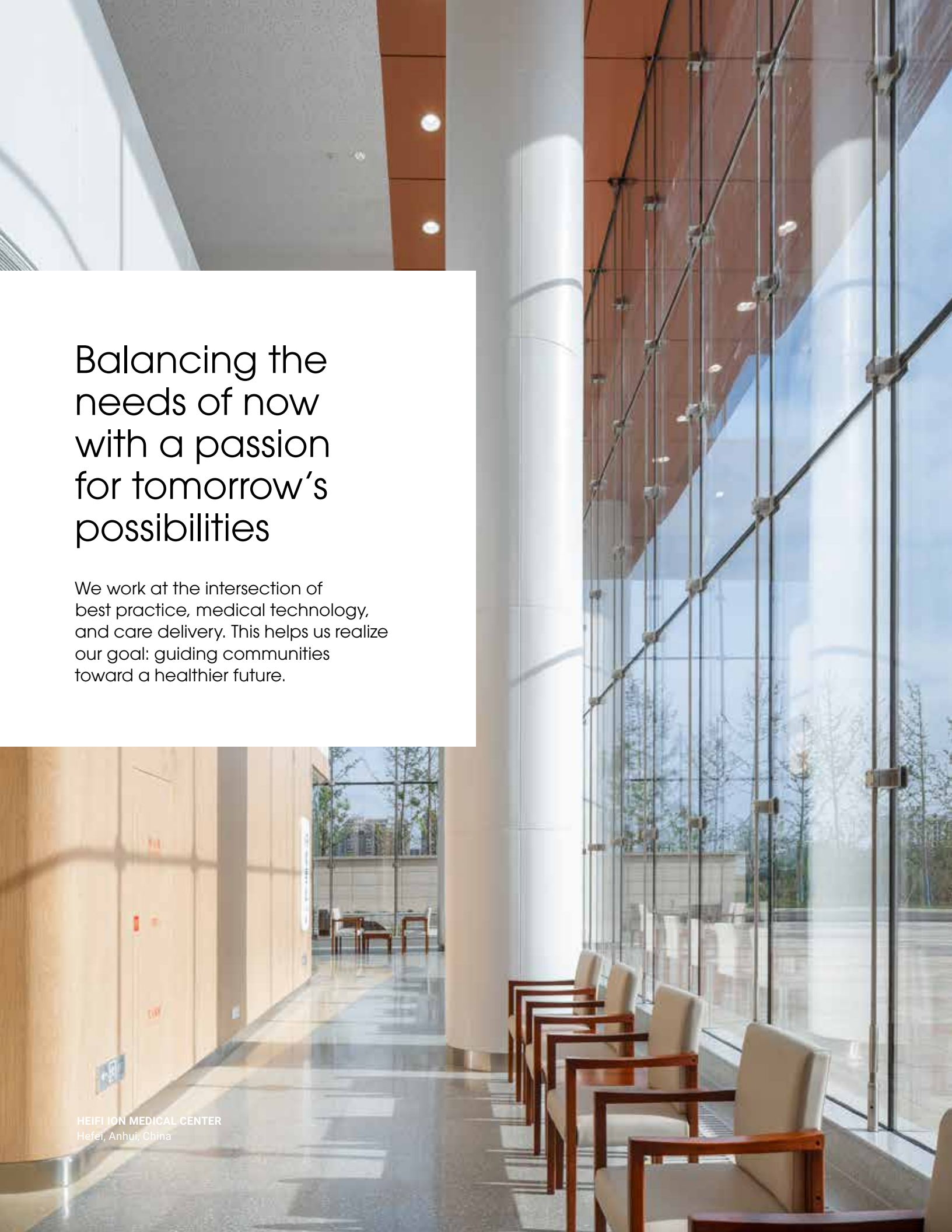
We know that health and wellness are essential to human happiness. That's why the spaces we design create a sense of hope and possibility. They deliver care but go further, connecting us as humans to each other, and to the natural world.

We innovate at every point along the spectrum of planning and design to deliver spaces that nurture the human spirit and inspire deep bonds within the community.

UPMC MEMORIAL
York, Pennsylvania

Balancing the needs of now with a passion for tomorrow's possibilities

We work at the intersection of best practice, medical technology, and care delivery. This helps us realize our goal: guiding communities toward a healthier future.



HEIFI ION MEDICAL CENTER
Hefei, Anhui, China

ARCHITECTURE AND INTERIOR DESIGN
Design matters. Patients get clues about the quality of their medical care from the feel and experience of their surroundings. We design places that create transformative experiences for patients, families, and caregivers. We incorporate evidence-based design principles in all of our projects to ensure that our designs also support improved health outcomes.

ENGINEERING AND BUILDING SYSTEMS
More than half of a new building's cost of construction is related to its building systems. HVAC, plumbing, electrical and information/communication systems must provide the infrastructure for operations on opening day and well into the future of a healthcare building. Life cycle operational costs are a significant expenditure once the building opens. Our designs address stewardship of resources on all levels: we provide effective and sustainable solutions that balance capital expenditures with operational costs over the life of a building.

SUSTAINABILITY
Health in the patient environment extends to the world outside its walls. This means minimizing energy use, conserving water resources, and considering sustainability relative to materials choices, construction processes, and operational effectiveness. Strategies we employ to achieve these goals include performance-based design with identified targets and tracking tools, as well as the implementation of multi-tasking building systems.

RESEARCH
We are innovative thinkers and invest significantly in research every year. Exploration of new ideas through design is embedded in our DNA and demonstrated by investment in ideas such as the Green Patient Lab/Patient Room, Net Zero Lab Exemplar, and Ambulatory Practice of the Future. These ideas find life in our projects, evidenced by two of North America's largest net-zero energy facilities completed in the last few years.

TECHNOLOGY
Every day, technology is transforming the way we live, work and conduct business. Records, interactions, visualizations, communications, controls, and security in the healthcare environment continue their migration to digital platforms and to connectivity throughout the enterprise. It's crucial to guide our clients through the assessment and planning of short-term strategies, as well as visioning for the future with multi-phase implementation strategies linked to financial models for achievement.

UPMC HARRISBURG
Harrisburg, Pennsylvania

1,013

articles on evidence-based design linking family and staff to health outcomes.

We design for people

PATIENTS AND FAMILIES
Family and friends are a critical support to patients and valuable members of the care team. Our healthcare environments enhance the comfort of visitors, by promoting positive interaction with the patient and consultation with the staff to support improved health outcomes.

CAREGIVERS
Healthcare environments are work settings for physicians, nurses and all staff who provide services for patient care. For staff to do their jobs well, individually and in collaborative settings, and to thrive as caregivers, their work areas must be designed for effectiveness, efficiency, and well-being. Natural light, views, and spaces for respite allow staff to be reinvigorated. Design and the experience it creates can help support peak performance and satisfaction in a high-stress workplace.

COMMUNITY
The ecosystem of health and wellness extends to the greater community. Places for prevention, wellness, and care are a part of the community fabric and must be designed to welcome engagement. Lifestyle, technology, and awareness come together to create the opportunity for health management and health care in many settings beyond the hospital, including retail settings, performance spaces, farmers' markets, running and bike paths, and community wellness centers. Personal responsibility for health and access to information and care at the most convenient and appropriate levels results in an engaged and informed community.

The Five Parameters of Design

CLEVELAND CLINIC
TAUSSIG CANCER INSTITUTE
Cleveland, OH

The Parameters provide us with a way of organizing our thinking as we initiate work on a project. They speak to how, as designers, we can approach a set of project circumstances with clarity and purpose. They define a process led by discovery and push us to ask the right questions to realize projects that perform and are crafted for legibility, longevity and thereby create a legacy for our clients and communities.

Our design philosophy and the Five Parameters are founded on a full and complete understanding of our client's requirements, culture, ambitions, and aspirations. To truly know and understand this requires a methodology that completely engages our clients as an integral part of the design team.

CLARITY

Driven By a Clear Idea

The genesis of each project is a clear idea, founded on an intimate understanding of client, site, program and community history, culture, and context. Articulated through diagrams, models and narrative, this storyline defines the project's essential meaning.

PURPOSE

A Thoughtful Approach

The focus of our work is the enrichment of human experience and well-being. Thoughtful attention to place making, spatial sequence, light, material and detail advances the public realm and community building.

DISCOVERY

Challenging Pre-conceptions Through Curiosity

Design inspires us. With a mindset to challenge preconceptions, we ask the right questions, critically evaluate ideas, and reveal appropriate solutions.

PERFORMANCE

Measurable Objectives

Responsible design combines function and significance. Measurable performance encompasses functional planning, integrated engineering, and environmental responsiveness to achieve value, meaning and clarity.

CRAFT

Material Legibility

The idea behind a project is legible through its built form. The attention, care, and consistency with which we select and assemble systems and materials bring the project to life.

ANCHOR HEALTH PROPERTIES,
BAYHEALTH MEDICAL CENTER
Milford, Delaware

Essential strategies for maximizing your resources

LEAN PROCESS IMPROVEMENT DESIGN
Doing more with less. Getting rid of waste and optimizing resources. Providing better quality care because outdated and time-consuming procedures have been eliminated. These are the promises of a lean-designed facility. Engaging in 3P events to map workflow processes and using mock-ups at various scales, we work with you and your multidisciplinary teams to design facilities that match your preferred approach to a lean operational organization.

ALTERNATIVE PROJECT DELIVERY (P3/PFI/IPD)
Healthcare is a risky business. In expanding, renovating, or building new spaces, speed and cost control are essential. We have successfully deployed a variety of strategies for project delivery: P3/PFI public-private partnerships, CM at risk, design-build, and Integrated Project Delivery (IPD). The bottom line is an approach to collaboration and shared risk that motivates the collective team to outperform.

FLEXIBILITY AND ADAPTABILITY
One thing is certain—change. To respond, we anticipate the future and employ design strategies that allow space to change easily and gracefully over time. We use standard room sizes for multiple uses; interventional platforms for diagnostic and treatment spaces; discrete paths for the public, staff, patients, and materials; structural bay sizes that accommodate multiple functions; and strategic placement of fixed elements. Along with these strategies, we recognize that change management is needed for cultures in transition.

PROGRAM AND PROJECT MANAGEMENT
Projects can be full of surprises. Escalating costs, schedule delays, claims, or worse can damage your organization, not to mention the communities you serve. We know from experience that delivering a complex project without surprises doesn't mean there won't be challenges, but our creative strategies can head off most problems and provide early warnings on the rest, meaning you can manage with confidence.

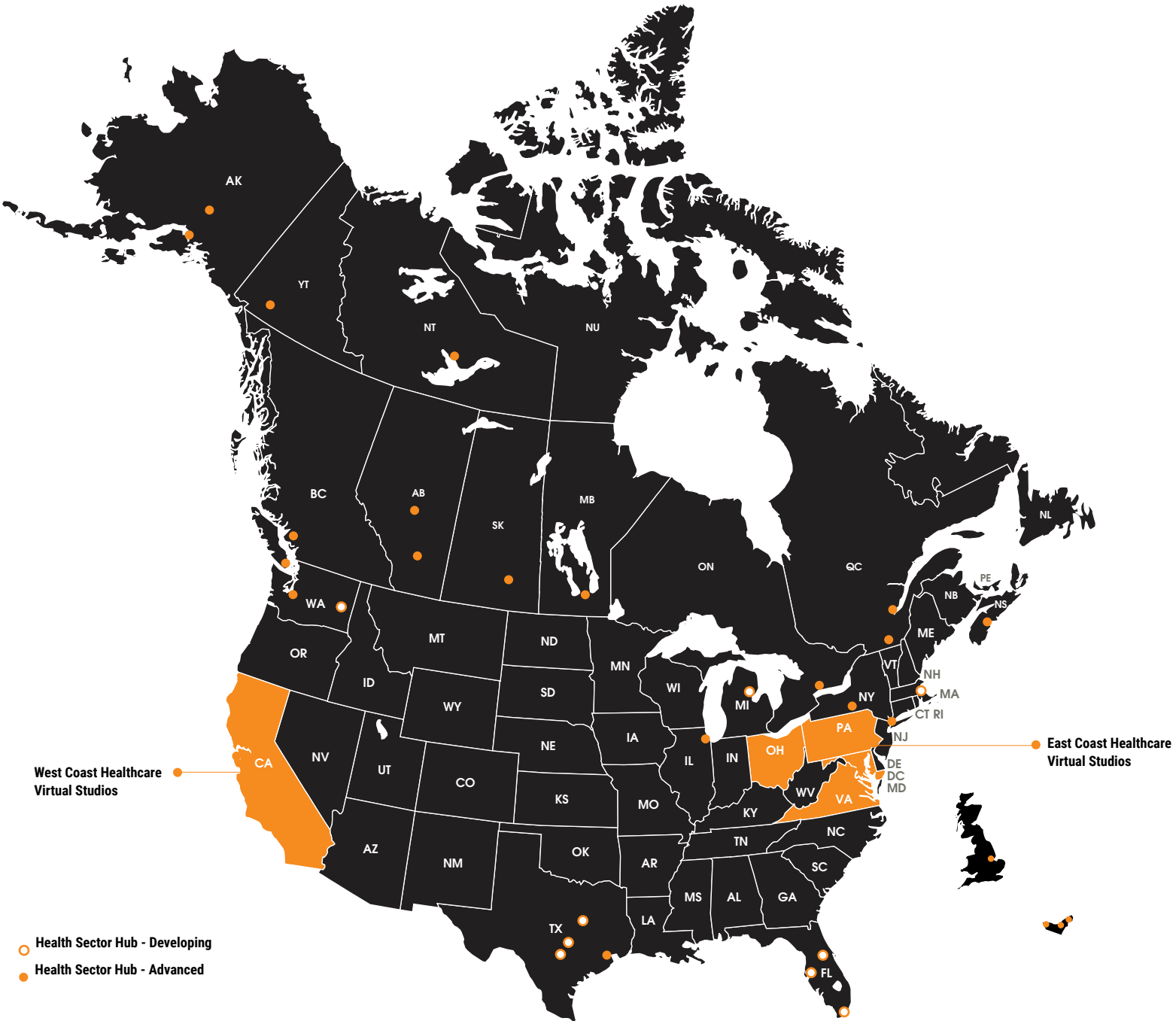
OPERATIONAL READINESS
You need to be ready when your new space is ready. Our operational readiness planning professionals help you plan and implement all the operational activities required to successfully provide programs and services in your new facility. We prepare your professionals with operational processes that allow them to conduct business seamlessly in your new environment.

Industry leaders

Our clients are in the business of hope and healing, and we design to make that happen. Stantec has been a leader in healthcare planning and design for more than five decades. Principles of place-making, sustainability, and continuous improvement are hallmarks of our design approach. We design to improve efficiency and reduce costs while facilitating connections amongst staff, patients, and families. Our work improves the discovery, caregiving, and healing process.

A network of resources

43 OFFICES PRACTICING HEALTHCARE



Health sector

Healthcare leaders in multiple offices across Stantec collaborate on a regular basis to leverage individual and regional knowledge, with the intent to raise awareness of industry trends and innovations. This includes dialog regarding projects, research, strategies, and approaches for information sharing and education.

This group also serves as a virtual group, that is able to react quickly to provide feedback on local, regional or national trends in response to a variety of questions or requests generated by local healthcare teams. In this way we are able to provide local presence and leverage global knowledge.

Recognized as an award-winning industry leader in the Healthcare sector, we strive to provide innovative solutions in a constantly evolving market.

At Stantec, we recognize our work in the Healthcare sector depends on our clients' ability to successfully achieve objectives, such as: improving quality of care; improving operational efficiencies and productivity; and increasing philanthropic, corporate, and community support.

We have developed non-traditional approaches to healthcare facilities planning, project management, design, and engineering and provide leading edge services such as: master planning, phasing studies/ planning, architecture, image/decor/functional design, land development planning/design, public participation consultation, quality assurance/quality control, design for disabilities, LEED® certification, medical gas system design, and multi-discipline buildings engineering.

Our experience and skills enable us to export specialized services across the Stantec organization to respond to specific client needs. This approach, in combination with our strong local presence, allows us to deliver domestic and international projects with a global level of excellence.

VIRTUA CENTER FOR HEALTHFITNESS IN MOORESTOWN
Moorestown, New Jersey

Leadership team

From the beginning, it was the impact on people's lives that drew us to design for health.

CORTELLUCCI VAUGHAN HOSPITAL
Vaughan, Ontario, Canada

BRENDA BUSH-MOLINE
AIA, ACHA, LEED AP, EDAC
Global Health Sector Leader

As a healthcare leader with more than 27 years of experience, Brenda is responsible for inspired and energized service for our healthcare clients. Her goal? Creating places of healing and wellness.

By focusing her efforts on integrated health design that considers related markets such as workplace, hospitality, retail, and education, Brenda has supported the national development of reimagined care models. Through active listening and engagement, she translates design and planning intentions into places that reflect the mission and vision of her clients.

MEGAN HOLMES
AIA
Vice President

In her more than 23 years of design experience, Megan has led projects ranging from a two million square foot specialty teaching hospital in the Middle East to a two thousand square foot primary care clinic in her own backyard.

Her passion is building the right team for the job and facilitating a collaborative design process. She believes that each project, regardless of size or complexity, presents its own unique set of challenges and opportunities.

As a leader in the Healthcare Sector, she is responsible for all aspects of project execution but specializes in innovative planning solutions and managing a collaborative design process.

COLLIN BEERS
AIA, ACHE, ACHA, ASHE, EDAC
Senior Principal

During his 42-year professional career, Collin has been involved exclusively in the practice of architecture for healthcare related facilities.

His broad range of experience includes master planning, functional and space programming, and conceptual design through complete construction documentation.

Collin's dedication to perfecting the physical environments to support the constantly evolving practice of healthcare has made him an expert in the eyes of national healthcare design colleagues and our clients.

HEALTH SECTOR TEAM

SCOTT HUFF
RA, NCARB
Senior Principal

Scott has over 29 years of experience leading all aspects of architectural design from master planning through construction. He has a broad base of healthcare project experience, including a variety of inpatient and outpatient projects. Scott has placed particular emphasis in recent years on alternative project delivery models to discover new ways to bring value to our clients in an increasingly time sensitive market.

KRISTY HOLLIS
AIA
Principal

Kristy is a Principal with over 22 years of comprehensive architectural experience, mostly in the healthcare industry. She directs and manages large scale projects and assists in all phases of the design. She focuses the team's efforts, creating documentation and—eventually—projects that we can all be proud of.

J. MATTHEW EASTMAN
AIA
Principal

Matt has more than 21 years of professional experience. He works with the client to establish their design goals and to give architectural form to their project based upon those principles. He provides a particular emphasis on the design visualization and development of the building envelope, including detailing and performance analysis.

JOHN PATTEN
CIPE, LEED AP
Principal

With more than 42 years of design experience and a background working in both architecture and engineering, John brings a unique perspective to each project. As a principal and one of the firm's senior executives in the healthcare sector, John has been involved with several of our largest healthcare commissions. John has a reputation for going above and beyond for his clients, fostering a rapport that often develops into legacy client relationships.

HEALTH SECTOR TEAM

JON SELL
Principal

Jon is an experienced healthcare designer with more than two decades of expertise improving the design and functionality of large-scale behavioral health spaces. He has demonstrated success at using design as a catalyst to improve the delivery of behavioral healthcare for private, public and government clients nationwide.

PAULA WILLIAMS
AIA
Principal

Paula is a leader in the design of proton therapy facilities and has more than 39 years of experience delivering successful projects. She possesses a thorough understanding of the intricacies involved in the design of proton therapy projects, having been involved in more than 30 proton projects. Her proton therapy experience spans the globe, ranging from large stand-alone facilities to one-room expansion projects, and encompasses all of the major proton equipment vendors.

FRANCK LE BOUSSE
DPLG
Principal

Franck is a hands-on architect with more than 28 years of experience in architecture and design. His multi-disciplinary skills and ease at designing at various scales allows him to implement provocative ideas in simple and elegant solutions. Most recently, Franck has focused on bringing unique solutions to healthcare and proton therapy projects.

ALLEN WHITAKER
AIA
Principal

With over 39 years of innovative practice experience, Allen assures the seamless delivery of professional services required for each project he manages. As the firm's key liaison with the client, he guarantees an on-time, on-budget final product that delivers value and optimizes systems.

HEALTH SECTOR TEAM

JENNIFER STOREY
AIA, EDAC
Principal

Jennifer believes that design excellence should permeate a project at all scales—from the macro scale of master planning and site design to the micro scale of final construction details. A seasoned healthcare project leader with more than 27 years of experience she has worked in all phases of project development, and she's well-versed in BIM initiatives in the AEC industry.

ADAM O'BRIEN
AIA, NCARB
Principal

Adam has over 18 years of experience providing creative insight and vision for the design of a range of project types with a primary focus on healthcare. He is committed to design excellence and is known for his communication and collaboration skills. Adam is often found mentoring the design team, researching the latest design trends and acting as a sounding board to communicate the importance of the design and how it affects healthcare environments.

JAMES ROUTH
RA
Principal

Jim has more than 32 years of architectural design and project management experience, and he leads the architectural design process for our healthcare clients. From large, new buildings to small, phased renovation projects, Jim is able to develop elegant design solutions to the most demanding of architectural programs. His work has won numerous design awards, including two American Institute of Architects Honor Awards.

HEALTH SECTOR TEAM

CARL SHILLING
PE
Principal

With over 31 years of professional experience, Carl is a valuable member of the mechanical engineering design team. He enjoys challenging projects and developing creative and innovative solutions. Carl's system design is complemented by his energy research. He has been responsible for the development of energy-conserving designs in projects spanning several building types and locations.

PAUL LEONARD
PE, LEED AP BD+C
Principal

Paul is a Principal level leader with over 42 years of professional mechanical engineering experience dedicated to integrated project solutions in multiple design markets. He excels in collaborating with clients, developing program scope and criteria, strategizing high performance mechanical systems, and executing project production resulting in highly sustainable projects.

THOMAS MCLAUGHLIN
PE
Principal

Tom has accumulated over 42 years of engineering experience with special emphasis on the planning, design, and construction of building mechanical and energy management systems. He has also served for 30 years as Project Manager, with complete responsibility for the technical and business performance of a multi-discipline mechanical and electrical engineering design team.

Acute care

At Stantec, we design places that are vital, efficient, beautiful, and technologically robust. With projects spanning the globe, our architects, planners and engineers are providing transformational designs that optimize the experience and well-being of patients, families and caregivers. Ultimately, our places rejuvenate the mind and body, nurture the human spirit, and inspire bonds with the community.

The hospital's physical environment speaks to everyone who works in it or visits. The spatial and other cues that the environment conveys influence emotional states and impart subliminal messages. One can be elevated and made to feel cared for and important in one environment, or cowed and intimidated in another. We believe that a hospital should strive to convey warmth and acceptance, as well as confidence and competence, to both patients and families. The same messages will be received by the staff, who will reinforce them in their daily interactions.

UPMC MEMORIAL, REPLACEMENT HOSPITAL

Building upon the successful outcomes of West Shore Hospital, UPMC Pinnacle sole-sourced Stantec for the design of its replacement hospital in York. The planning modules and standards of West Shore Hospital have informed the design of Memorial Hospital, from the general adjacencies and stacking of the program to the configuration of patient rooms and treatment spaces. Likewise, the general ethos of West Shore has carried over, with a design focused on efficiency and pragmatism of the facility while maximizing the portion of the budget allocated to patient treatment spaces and ultimately the greatest measure of success, patient outcomes.

The new UPMC Memorial Hospital provides a six-story, 260,000 SF replacement facility for the existing hospital in downtown York. The 130-bed facility houses all the necessary support functions for a freestanding hospital, including an Emergency Department, Surgical Services, Radiology, Central Sterile Processing, Lab, Pharmacy, Dietary Services, and Central Utility Plant. A comprehensive care platform combining Surgical Services and Intensive Care Unit supports an extensive Cardiac program staffed by the UPMC Pinnacle Cardiovascular Institute, while a Women's and Babies Unit provides birthing care for northern York County. Situated on over 100 acres, the new campus provides access to outdoor gardens and walking trails, as well as room for future facilities to care for York residents, including a 140,000 SF Ambulatory Care Building adjoined to the hospital.

- Location: York, Pennsylvania
- Square Footage: 260,000 sf
- Project Cost: Confidential
- Services: planning, architecture, interior design

Clockwise from top: ED main entrance, hybrid operating room, main lobby, entrance gardens


MAIN ENTRANCE

UPMC WEST SHORE

The healthcare system listened to their patients and the community who wanted UPMC Pinnacle's quality and experience, as well as a magnet hospital, for Harrisburg, Pennsylvania's West Shore area. By building the new five story, 108-bed facility, they are accommodating that request.

A primary objective for team: design and build West Shore Hospital in under two years, and do so in the most cost-effective manner possible. Our design relied heavily on moderating elements such as structural regularity, simplicity of detailing and the ability to prefabricate elements off-site, such as precast concrete panels and punched windows. In addition, by using Building Information Modeling (BIM), the project team developed an exceptionally well-coordinated three-dimensional design that guides efficient use of field labor.

Future expansion of the facility is also critical to the long term success of the project. Each floor is designed to expand horizontally with no loss of existing program space. Similarly, the Surgical Suite can add additional operating room's by expanding to the adjacent corridor and Emergency Department, Cardiac Care and Radiology Departments are designed to expand horizontally at grade.

- Harrisburg, Pennsylvania
- Square Footage: 190,000 sf
- Completion Date: May 2014
- Construction Cost: $60,000,000 USD
- Services: planning, architecture, interior design

Clockwise from top right: exterior, main lobby, patient room, pre-op


West Shore Hospital


EMERGENCY

UPMC WEST SHORE, PHASE II EXPANSION

Since opening West Shore Hospital in May of 2014, the facility has seen tremendous growth in patient volumes and has reached its inpatient bed capacity. To meet the needs of the demanding health community, several functions had to be increased to accommodate the growing volume of patients.

The project includes a five-story expansion to the existing hospital and an addition to the Central Utility Plant to provide increased building systems capacity to support the hospital expansion. Treatment and support spaces including Emergency Department expansion and entrance relocation, Cardiac Cath Lab pre-op/recovery positions relocation, new CT scanner, 12-position Post-Anesthesia Care Unit (PACU), four new operating rooms, Pharmacy expansion, and 48 new private inpatient rooms totaling 65,537 SF encompass the total expansion project. An additional 2,100 SF was added to the existing Central Utility Plant to accommodate a new boiler and chiller.

- Location: Harrisburg, Pennsylvania
- Square Feet: 67,600 sf
- Construction Cost: Confidential
- Services: planning, architecture, interior design

Clockwise from top left: exterior, ED waiting, nurses' station, patient room

CORTELLUCCI VAUGHAN HOSPITAL

As the first net new hospital to be built in Ontario in more than 30 years, the Cortellucci Vaughan Hospital creates much-needed capacity in the healthcare system, doubling access to care in the fast-growing community of Vaughan.

This new build 11-story, 1.2M SF hospital consists of inpatient medical-surgical units positioned on top of a diagnostic and treatment podium. Key clinical programs include emergency services, diagnostic imaging, surgical services, critical care unit, neonatal intensive care unit, mental health inpatient services, and more. The facility features a 353-bed capacity with the ability to expand to 500 beds total.

The project was completed under a DBFM (Design Build Finance Maintain) procurement model through Infrastructure Ontario. Stantec was part of the Plenary Health team working with PCL Constructors and Johnson Controls to provide architectural and landscape architectural design services for the hospital.

The hospital optimizes patient, family, and staff experience—delivering efficient and high quality treatment in a flexible building and technology infrastructure that is open to medical service delivery advancements. The hospital is the first "smart" hospital in Canada with integrated technology to allow medical devices to 'speak' to one another, facilitating a more streamlined and patient-focused experience.

The design promotes an environment of health and wellness through a true collaboration between architecture and landscape. Extensive glazing at grade promotes strong indoor and outdoor connections while drawing natural light deep into the hospital. To reinforce this connection, the new facility also includes three exterior courtyards, terraced gardens, green roofs, as well as access to walking and biking trails. The integration of built form and natural landscapes creates a positive human experience within a healthcare environment that delivers world-class care to patients, their families, visitors, and caregivers.

- Location: Vaughan, Ontario, Canada
- Square Footage: 1.2M sf
- Construction Cost: $1,300,000,000 CAD
- Services: architecture, interior design, landscape architecture, alternate project delivery

Clockwise from opposite page: main entrance, exterior, patient room

TRILLIUM HEALTH PARTNERS, PETER GILGAN MISSISSSAUGA HOSPITAL, PDC SERVICES

Stantec is the Planning, Design and Conformance (PDC) consultant for Trillium Health Partners' (THP) Peter Gilgan Mississauga Hospital (PGMH) project. This historical redevelopment is a full replacement of the existing hospital on the existing site and a critical part of THP's plan to build an interconnected system of care to meet the health needs of its growing and diverse community for the decades ahead. At approximately 2.8 million SF and rising 24 stories, the new 985 -bed hospital will almost triple THP's care capacity, becoming the largest hospital in Canada.

Starting with a Stage 1 Master Plan, Stantec has remained a trusted advisor to THP in the development of the illustrative schematic design (ISD) and project specific output specification (PSOS) for this new acute care hospital. Our multi-disciplinary team is currently supporting the development of the design objectives, room requirements, templates, and data sheets, which are informing all clinical and non-clinical departments, including inpatient units for NICU, critical care, medical/surgical, pediatric, and mental health; maternal newborn; surgery (23 operating rooms) and surgical services; emergency services; cardiac electrophysiology; diagnostic imaging; endoscopy; renal services; pharmacy; MDRD; and ambulatory care.

Stantec has brought their extensive healthcare design expertise to the project and worked with close to 40 stakeholder groups to refine the model of care based on THP's "non-negotiable" planning principles and decision-making framework. Working within the new progressive procurement approach, Stantec has developed the design to full exemplar standard addressing best healthcare practices, RFP compliance, intuitive wayfinding, and enhanced accessibility requirements. To help streamline the decision-making process and help the client identify the project objectives, goals and benefits, the team identified and developed strategies for implementing standardization, adaptability, and flexibility.

- Location: Mississauga, Ontario, Canada
- Square Feet: 2,800,000 sf
- Construction Cost: $2,000,000,000 CAD
- Services: planning, architecture, interior design, MEP engineering, structural engineering, landscape architecture

Clockwise from top: exterior dusk, exterior full view, exterior detail, exterior full view


TRILLIUM HEALTH PARTNERS
MISSISSAUGA HOSPITAL

RWJBARNABAS HEALTH, ROBERT WOOD JOHNSON UNIVERSITY HOSPITAL, NEUROCRITICAL CARE UNIT

In 2016, Robert Wood Johnson University Hospital added a top neurologist to their staff and hired Stantec, in conjunction with interior design firm DCC Design Group, to design a new, state-of-the-art Neuroscience Intensive Care Unit dedicated to the growth and success of that department.

An existing 16,000 SF office and lab space on the top floor of the campus' Acute Building is the new home for this unit – a significant increase from their current 3,700 SF space. Included with the architectural renovation, Stantec was also working within the adjacent Core Building and designed a bridge connection to the elevator that adjoins the adjacent Cardiac Intensive Care Unit.

Working with the existing floor plate, vertical circulation, and openings in the building façade, preliminary planning was done to realize 15 patient beds. With the perimeter of the floor defined by patient rooms for adequate daylight and flow, the core of the space was able to be carefully shaped to open sight lines across the unit, increase connectivity between nurse care stations, provide dual entrances to critical service spaces, and create transparency through the internal support spaces on the unit.

While the focus of care is prioritized on the patient, the Neuro ICU must also be considerate of the family experience. A dedicated resting place for family members was integrated into the patient room module--encouraging them to stay, while being tucked out of the way of staff. A vibrant family waiting room is available upon entrance to the unit, as well as a contemplative quiet bench centered around a new, focal skylight. The design of the unit as a whole aspires towards the future, mirroring the level of care that is being provided by the client.

- Location: New Brunswick, New Jersey
- Square Feet: 16,000 sf
- Construction Cost: $8,000,000 USD
- Services: architecture

Clockwise from opposite page: nurses' station/patient room, nurses' station, patient room, waiting

RWJBARNABAS HEALTH, ROBERT WOOD JOHNSON UNIVERSITY HOSPITAL, CARDIAC INTENSIVE CARE UNIT

RWJBarnabas Health engaged Stantec for the fit-out of their new Cardiothoracic Intensive Care Unit at their hospital campus in New Brunswick, NJ. Completed in February 2019, the new unit is approximately 21,000 SF and consists of 24 private rooms. The new unit is an overbuild to an existing two-story building and allows for floor to ceiling glass in most of the patient rooms.

In an environment that is highly dictated by code, critical adjacencies and clinical operations, the patient rooms and support spaces are often connected by long internal corridors. For this unit, the design team challenged the traditional 8-foot hallway by dissolving the hard lines of the corridor and allowing the space to be an organic arrangement of functions. As a result the floor is flooded with natural light, sight lines among staff were maximized and the number of footsteps were decreased.

In addition to sightlines, user safety and advanced infection control were main concerns from the care providers when discussing ideal conditions for their new spaces. Innovative features such as switchable privacy glass at the patient room entry sliders to eliminate cubicle curtains, creative millwork solutions for personal protective equipment (PPE) storage, and advanced medical equipment all aim to increase the safety of those occupying the space and decrease the number of infections affecting patients with a compromised immune system.

- Location: New Brunswick, New Jersey
- Square Feet: 21,200 sf
- Construction Cost: $24,500,000 USD
- Services: architecture

Clockwise from opposite page: patient room, nurses' station, single nurse station/ patient room, main care team area


Hill-Rom

Ambulatory Care

Ambulatory care is at the heart of a new way of thinking about health--one that is based on personal responsibility and that the best care is provided in the lowest cost setting. Ambulatory care facilities should accommodate chronic disease care management; integrative medicine that focuses on wellness and complementary therapies; and an "accountability and change" center that highlights the importance of data, outcomes, rapid-prototyping of systems and processes for continuous improvement.

Outpatient clinics are interdisciplinary by nature. Successful centers are designed with generic clinic modules that are shared and easily adaptable to changing programs. They support specialized care modalities by providing spaces for emerging treatments such as interoperative imaging or interventional digital imaging. Planning and design of these facilities must support care that is patient centered, staff friendly, safe, timely effective, equitable, efficient, and accessible.

JEFFERSON HEALTH, JEFFERSON SPECIALTY CARE PAVILION

Housing over a dozen specialty practices, the new Jefferson Health Specialty Care Pavilion consolidates a variety of services previously scattered across ten different buildings on their Center City Philadelphia campus into one convenient location for patients. The program for the ambulatory care facility includes over 300 exam rooms, 58 infusion chairs, 10 operating rooms, 6 endoscopy rooms, imaging, lab services, and a pharmacy. A roof terrace at the 15th floor provides a moment of respite for patients in the dense urban setting.

The $762M, 462,000 SF facility serves as a catalyst for changing the delivery of healthcare and is envisioned to be the bridge between home and healthcare. Physical space planning is augmented by virtual and technology strategies for enhancing patient engagement and convenience during the pre-arrival stage of care. Valet and concierge services ensure a seamless arrival, while Jefferson Health plans to "pursue emerging technologies for the building, such as digital wayfinding, virtual surgical theaters, voice assistants, wearable data integration, augmented and virtual reality, and robotics" to optimize the patient experience within the building.

Stantec is partnering with Ennead Architects, the core and shell architect, to help plan the facility for its intended ambulatory care use, as well as with BLTa, who are responsible for the underground parking structure.

- Location: Philadelphia, Pennsylvania
- Square Feet: 285,000 sf
- Construction Cost: $762,000,000 USD
- Services: planning, architecture, interior design, technology

Clockwise from opposite page: exterior, main lobby, exterior detail, waiting area

Renderings: Ennead Architects

UPMC MEMORIAL, AMBULATORY CARE BUILDING

In January of 2017, Stantec began collaborating with UPMC Pinnacle on the development of their new Memorial campus, which was created around the new 130-bed replacement facility for the existing Memorial Hospital in York, PA. Building upon the expanded bed capacity and anticipated growth for the region, the new York Ambulatory Care Center is co-located with the hospital to provide a more comprehensive range of health services on the new campus.

The 140,000 SF, five-story building provides a platform for numerous clinical specialties to be located on the campus, thereby providing a more convenient patient experience and bringing more visits to the campus. At the core of the program is an emphasis on oncology and ambulatory surgery, which defines a duality of purpose and image for the building.

Accessed from the west, oncology services include an Infusion Center with rooftop garden, Radiation Oncology with two linear accelerator vaults, and a Women's Center for imaging and treatment. Occupying the entire first floor, the Ambulatory Surgery Center includes eight operating rooms, dedicated Sterile Processing, and 27 Prep/Recovery positions, all accessed from a dedicated entrance on the east side of the building. In addition to the clinical exam space supporting oncology, other programs include various specialty practices, a sleep lab, cardiac rehabilitation gym, and conference center.

The lower two floors of the building house the intensive functions of patient diagnostic and treatment spaces, while the upper three floors have been designed around a regular clinical exam module that facilitates patient access to clinical pods from one side and behind-the-scenes staff interconnectivity from the other.

- Location: York, Pennsylvania
- Square Feet: 140,000 sf
- Construction Cost: Confidential
- Services: planning, architecture, interior design, engineering

Clockwise from opposite page: exterior, infusion, rooftop garden, main lobby


UPMC

SUNY UPSTATE UNIVERSITY HOSPITAL, NAPPI LONGEVITY INSTITUTE

The new Nappi Longevity Institute will provide more than 250 exam and consultation rooms for primary care and specialty care for chronic diseases, as well as lab and radiology services, geriatrics, urgent care with an infusion center, clinic embedded behavioral health services, global health services, and the Joslin Diabetes Center.

The consolidation of primary and specialty care services into a single ambulatory care facility better enables the delivery of integrated care, with a focus on wellness. Prior to Stantec's engagement, SUNY Upstate Medical University's ambulatory care services were located throughout several buildings on or near the central campus. The new program will provide patients with a single "one stop shop" location where they can receive the majority of their ambulatory care needs. Additionally, a single facility will foster greater provider collaboration and service integration, with the aim of enhancing the quality of care, improving patient and staff satisfaction, and positively impacting the cost of care.

- Location: New York, New York
- Square Feet: 195,800 sf
- Construction Cost: $165,000,000 USD
- Services: planning, architecture, interior design

Clockwise from opposite page: exterior, entry/reception, waiting area, pediatarics check-in

MAIN LINE HEALTH BROOMALL

Main Line Health's vision for the 85,000 SF of integrated care was to retain their existing and recognized entrance while also connecting to a more accessible, less congested, rear parking lot. The design team was engaged to assist Main Line Health in the re-visioning of the space from a series of collocated separate practices into a unified shared services multi-specialty practice model. The team worked together to develop a flexible exam space and to envision the design concept for the central public spaces resulting in a design that supports quality patient care and an improved patient experience.

The revitalized space features a dynamic two-story lobby symbolizing Main Line Health's presence and commitment to the community. Reinforcing the connection between the two levels was the design of the monumental stair and adjacent feature wall. For this, we drew inspiration from the strong, bright beams of light penetrating a canopy of trees, as well as the warm light cascading through the undulating surfaces of a canyon. The resulting design emphasizes angled walls, vertical elements, transparency, filtered light and texture to create a dynamic visual landscape that changes throughout the day and season.

Recalling the notion of a park, we sought to create a place that supports interaction while balancing privacy. Each entrance is paired with an information desk and welcoming care team partner to direct those arriving for appointments to check-in at central registration. After registering, the public area is filled with a variety of seating options that provide patients the ability to choose how and where they would like to wait. Like a park, we worked to develop a clear sense of intuitive wayfinding to develop a natural coexistence between waiting and circulation. Variety in furnishings create opportunity for community activation, as well as quiet enclaves for private waiting. The patient friendly facility allows patients to break out of the typical waiting room and relax while enjoying their surroundings and focusing on their wellness.

- Location: Broomall, Pennsylvania
- Square Footage: 85,000 sf
- Construction Cost: $22,000,000 USD
- Services: architecture, interior design, engineering

Clockwise from opposite page: lobby stair and feature wall, MRI, 2nd floor lobby/registration, 1st floor lobby/registration

UPMC WEST MIFFLIN, OUTPATIENT AND SURGERY CENTER

Stantec assisted UPMC in transforming a one-story, 46,000 SF windowless big-box retail space into an airy, light-filled outpatient healthcare facility. In addition to abundant windows and skylights, we incorporated a new building façade, roof and a large central waiting area. We also replaced and upgraded all MEP building systems, including installing new mechanical units, water, fire, gas, and electrical services.

UPMC's shared services healthcare model co-locates surgery, imaging, lab, primary care, women's imaging, and specialty care exam-based practices within the rejuvenated space, providing a convenient one-stop-shop for their patients. Centralized registration streamlines and unifies the patient experience throughout, regardless of service line. Floral graphics, skylights, and artwork provide positive distractions to patients, reducing their stress during visits. The configuration of the exam suites allow each physician suite to expand and contract depending on the daily patient census. With this new location, UPMC continues to deliver on their vision and promise of being a top healthcare provider. The project features a four OR Outpatient Surgery Center, including pre/post operative area and support spaces.

- Location: West Mifflin, Pennsylvania
- Square Feet: 46,000 sf
- Construction Cost: Confidential
- Services: architecture, interior design

Clockwise from opposite page: exterior, operating room, imaging, women's imaging


↑ Suites
500B
UPMC
Suites ↑
300B
300C
400

ANCHOR HEALTH PROPERTIES, BAYHEALTH MEDICAL OFFICE BUILDING

Working with Target Building Construction in a Design/Build capacity, Stantec was hired by Anchor Health Properties to develop a ground-up three story medical office building in Milford, Delaware.

Occupying a parcel on the newly created Bayhealth Sussex Campus, the new 85,000 SF medical office building takes advantage of proximity to the new Bayhealth Hospital, providing space for Bayhealth practices, as well as other independent physicians.

As a main driver for the development of the building, Nemours occupies the entire first floor of the building, providing both pediatric and senior care services. In addition to the main entrance of the building, a dedicated entrance to the Nemours Pediatric Suite has also been provided to distinguish the prominence of that program.

Negotiating multiple tenants in a facility that feels as much at home on a Bayhealth branded campus as it does representative of Nemours was a challenge that required a highly iterative process of exploration during schematic design. Building entrance points, canopy configuration, articulation of the building massing and exterior materiality were studied exhaustively until the most balanced scheme was uncovered, meeting the needs and desires of all parties involved in the development of the project. In addition to the design requirements enforced by the local municipality, this project is also the first test of the Bayhealth Sussex Campus design standards, and as such, the design bears the responsibility of building upon the goals of place-making and community outreach that was originally envisioned.

- Location: Milford, Delaware
- Square Footage: 85,000 sf
- Construction Cost: $12,500,000 USD
- Services: architecture, interior design

Clockwise from opposite page: waiting area, exterior, canopy

ABIE ABRAHAM DEPARTMENT OF VETERANS AFFAIRS, HEALTH CARE CENTER

Stantec's architectural, engineering, and interior design team was honored to join a dedicated P3 team in delivering a highly-anticipated veterans outpatient clinic—the Veteran Administration's Health Care Center in Pennsylvania. Designed to support the Patient Aligned Care Team (PACT) model, the Health Care Center responds to a broad spectrum of veteran needs. By physically and programmatically placing the patient at the center of their own care, the new facility serves not only patients and their physicians, but also families, friends, and caregivers.

The Health Care Center houses nine PACT service areas, each of which implements exams rooms with two doors—one for the patient, the other for healthcare providers. From medical exams to therapy and other treatments, services come directly to the patient to greatly reduce travel time and confusion. Each PACT service area—including one exclusively for women—features its own waiting room. Our design, in collaboration with Mascaro Construction Company and Cambridge Healthcare Solutions, contributed to the smooth delivery of the facility. Overall, the project opened seven months early and under budget.

- Location: Butler, Pennsylvania
- Square Footage: 246,000 sf
- Construction Cost: $67,806,063 USD
- Services: architecture, interior design, engineering

Clockwise from top right: exterior, exam room, PT/gym, clinical lab


VA | HEALTH CARE CENTER


EMERGENCY
AHN JEFFERSON

ALLEGHENY HEALTH NETWORK, JEFFERSON HOSPITAL EMERGENCY DEPARTMENT

Stantec was selected for the expansion and renovation of Jefferson Hospital's Emergency Department. The $21M, 34,000 SF Emergency Department expansion was completed in multiple phases. Phasing was essential to ensure a safe environment in patient care areas. Temporary waiting room and triage area minimize disruption to the existing Emergency Department during construction. Also, during construction, a temporary helipad was located in the corner of the parking lot. A new, permanent helipad is located on the roof of the addition with a dedicated elevator down to the Emergency Department allowing for more efficient patient transports to and from the hospital.

Phasing plans included considerations of noise and vibration control that result from construction activities. During construction, the renovation areas were isolated from occupied areas based on the ICRA. Existing air quality requirements and other utility requirements for occupied areas were maintained. The new Emergency Department addition required significant demolition of a portion of the existing Emergency Department. The existing structural steel frames were carefully removed at the cut line with the existing building and the connection points left in a smooth condition to accept new framing.

- Location: Jefferson Hills, Pennsylvania
- Square Feet: 34,000 sf
- Construction Cost: $21,000,000 USD
- Services: architecture, interior design, engineering

Clockwise from top left: main entrance, triage, patient room, waiting


ENTRANCE

PENN MEDICINE CHERRY HILL

To capitalize on their vision of being a "nationally ranked, conveniently located" provider, Penn Medicine wanted to expand the scale and range of services offered to the community it serves. Partnering with Stantec, Penn Medicine embarked on the renovation of a former Syms department store in a prime space along Route 70 in Cherry Hill, New Jersey. Their goal? To develop a new centralized healthcare campus.

Our designs helped Penn Medicine transform the two-story, 155,000 SF windowless big-box retail space into an airy, light-filled healthcare environment. In addition to abundant windows, we incorporated a new building façade, roof and two-story entry. We also replaced and upgraded all building systems, including installing eight new mechanical units, water, fire, gas, and electrical services.

Penn Medicine's new shared services healthcare model co-locates infusion, lab, primary care, obstetrics, and specialty care exam-based practices within the rejuvenated space. Programs for radiology, radiation oncology, physical therapy, and a retail pharmacy have been included to complement and expand upon previously offered services. Centralized registration streamlines and unifies the patient experience throughout, regardless of service line.

With this new location, Penn Medicine continues to deliver on their vision and promise of being a top healthcare provider.

- Location: Cherry Hill, New Jersey
- Square Footage: 150,000
- Construction Cost: $35,250,000 USD
- Services: planning, architecture, interior design, engineering

Clockwise from opposite page: main entrance, main entrance dusk, lobby stair detail

GEISINGER HEALTH, ATLANTICARE HEALTH PARK, MANAHAWKIN CAMPUS

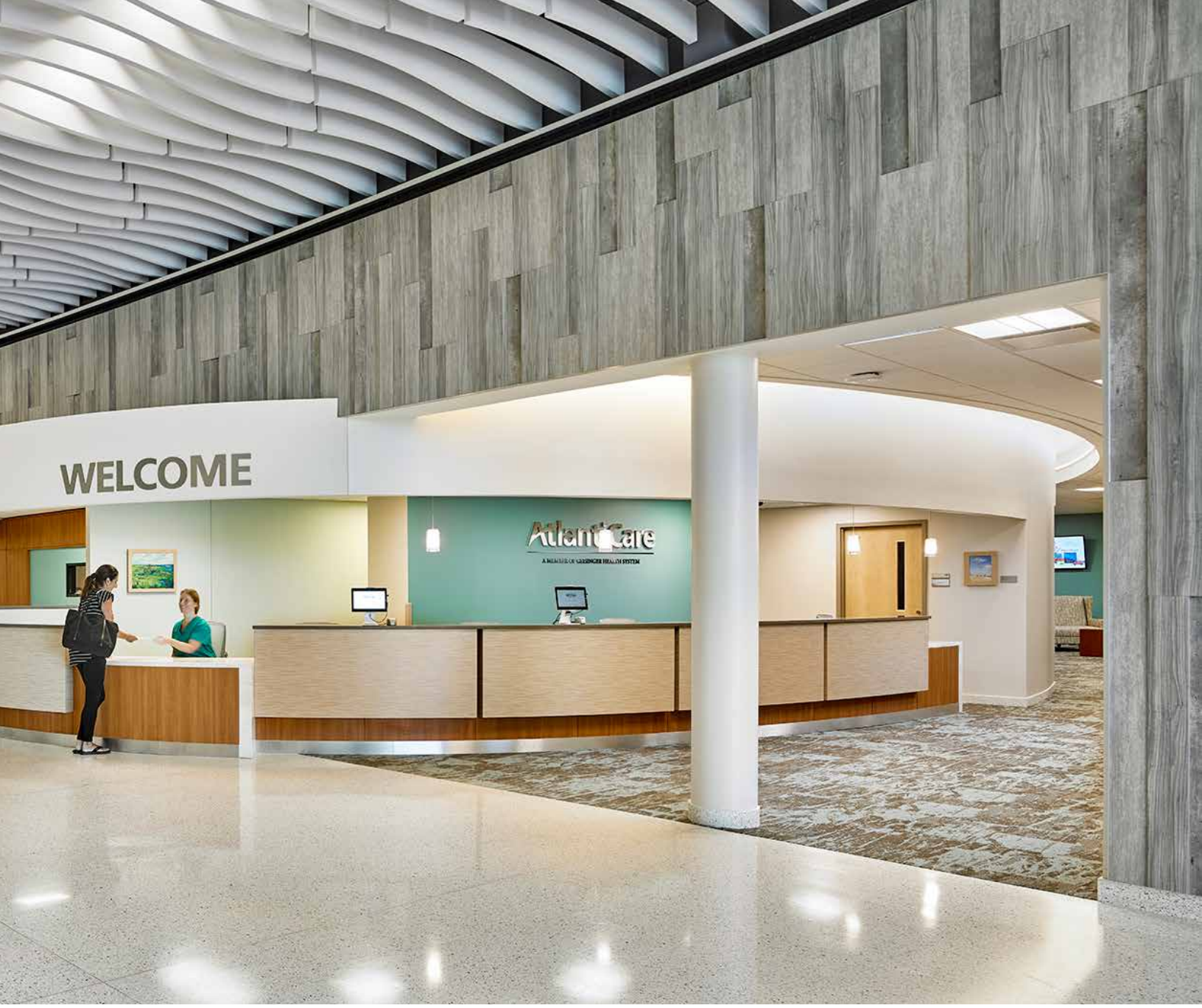
AtlantiCare knew that its clients in Manahawkin, New Jersey, were looking for better access to healthcare services and turned to us for help. Our goal? Consolidate medical practices in one location and provide space for additional opportunities.

By using existing retail structures, we saved on initial project capital costs and brought patient services to market faster. Although the masonry shell was retained, new façade materials were provided for the entire exterior to refresh the facility for a new use as well as rehabilitate to meet current energy codes. The new design utilizes several elements crucial to the project's vision, one of which is a wooden "boardwalk" inspired by the nearby oceanfront. The interior circulation is planned in a hub-and-spoke pattern, where one reception "hub" greets the patient, who is directed to a service at the end of each "spoke". Spokes include obstetrician gynecology, cardiology, urology, primary care, and subleased suites.

Through our planning, architectural, and interior design services, AtlantiCare's clients now have a one-stop healthcare experience where they can access everything from lab tests to specialized medical care.

- Manahawkin, New Jersey
- Square Footage: 55,000
- Completion Date: July 2017
- Project Cost: $10,000,000 USD
- Services: Planning, Architecture, Interior Design, MEP Engineering

Clockwise from top: registration from main entry, exterior, waiting area


WELCOME
AtlantiCare


AtlantiCare


AtlantiCare

VIRTUA CENTER FOR HEALTHFITNESS IN MOORESTOWN

At 4:30 am, exercise enthusiasts gather in the dark, waiting for the fitness center at the Virtua Health and Wellness Center to open at 5. Before heading to work, they want to get in a workout on the strengthening and endurance equipment; a run around the indoor track; a swim in one of three pools; or some relaxation in a heated whirlpool tub, sauna, or steam room.

Beyond a daily fitness routine, the center has a broader focus for serving the health and wellness needs of the community. It also houses a variety of physician offices and urgent-care services where patients can be treated for infections and minor injuries requiring immediate attention but don't warrant a visit to a hospital emergency room. The facility is divided into two main components including a three-story medical office building with diagnostic and testing facilities on the ground level and a two-story health and fitness center with aquatics, spa and public amenities.

One challenge faced by the design team was to arrange the varied programs so that they support and feed off one another. This relationship was accomplished through the use of common reception/control points and strong public circulation connections that link the varied functions. Similarly designed suite entries, registration, and natural stone feature walls help to connect the varied functions.

The building sweeps across an intersection at the southern end of the site, creating a strong presence at this prominent locale. The south and west facades are composed of a series of planes that overlap and unfold along the streetscape and two monumental walls act as frames that highlight the physical activities within the building.

- Moorestown, New Jersey
- Square Footage: 200,000 sf
- Construction Cost: $34,000,000 USD
- Services: planning, architecture, interior design

Clockwise from upper right: exterior, main check-in, gym, gym entry


Virtua


Virtua
Health & Wellness Center

VIRTUA CAMDEN FAMILY HEALTH CENTER

Since closing their Camden inpatient facility in 2001, Virtua has maintained numerous outpatient practices spread throughout the former hospital building and the Kyle W. Will Family Health Center. The new Camden Family Health Center consolidates those practices to a single new destination, allowing the former hospital buildings to be repurposed for other uses.

Conceived as a community destination to foster better utilization of health services and therefore a healthier community, the building was designed to prioritize access to staff and operational transparency. The program includes a family medicine practice, physical therapy gym, dental clinic, podiatry practice, and a clinical "hotel" that allows multiple specialty practices to employ the facility on a part-time basis. A community room on the first floor activates the entrance to the campus while providing an amenity that can be used for patient education events, furthering the mission of wellness. Situated at an intersection along a very busy thoroughfare in the Liberty Park neighborhood, the new building provides a new prominence for the campus and a statement of Virtua's long-term commitment to the Camden community.

A rigorous design process began with exploring the ideal clinical flow model and then using that prototype as a building block for the facility. The selection of the clinical model was influenced by a variety of factors, including patient experience, staff experience, and what philosophical message the model conveyed. In the end, an open model where providers are constantly on-stage was selected for its ability to achieve the accessibility that was desired. Numerous iterations of the building enclosure were studied to evaluate the most cost-effective and least disruptive means to construct the building on a constrained urban site, ultimately landing on two-story precast concrete panels that allow the façade to be rapidly erected and provide resiliency while also harmonizing with other facilities in the Virtua system.

- Location: Camden, New Jersey
- Square Feet: 36,000 sf
- Construction Cost: $10,500,000 USD
- Services: architecture, interior design, engineering

Clockwise from top left: exterior, registration, physical therapy, food pantry

KAISER PERMANANTE REGIONAL EXPERIENCE

Stantec, paired with Kaiser Permanente's extensive design standards, provided full architecture and interior design services for renovation of this office building, which houses services such as an Ambulatory Surgery Center, outpatient imaging and diagnostic services - including interventional radiology, MRI, CT, radiology and ultrasound - as well as a pharmacy, laboratory and a Sterile Processing Department serving the Surgery Center. Improvements included the addition of a new elevator suitably located for dedicated patient transfers between the Surgery Center and ambulance pick up, as well as materials management; a lobby addition at the main building entrance now connects to the existing parking structure, improving wayfinding; a lobby extension for an additional waiting area at the south terrace provides connection with nature and the outdoors; and the renovation also allows for future expansion with unassigned space available on select floors.

Additional Projects:

- Ashburn Medical Center, Primary Care Renovation, Ashburn, Virginia
- Burtonsville Vision Production Facility, A-R Lens Addition, Burtonsville, Maryland
- Camp Springs Medical Center, MOB Master Plan, Camp Springs, Maryland
- Falls Church Medical Center, Pharmacy Renovation, Falls Church, Virginia
- Kensington Medical Center, CT Replacement, Kensington, Maryland
- Marlow Heights Medical Center, MOB Master Plan
- Rockville Regional Lab, Long Term Care Project, Site Study
- Tysons Corner Medical Center, Operating Room, Tysons Corner, Virginia
- Tysons Corner Medical Center, MRI and CT Fit-out
- Woodlawn Medical Center, CT Replacement

Clockwise from top right:: exterior, holding area, waiting area, pharmacy


KAISER PERMANENTE

NEW YORK-PRESBYTERIAN, YOUTH HUB

In 2017, New York-Presbyterian, in collaboration with Columbia University Irving Medical Center, received a grant from an initiative to establish a youth opportunity hub in Washington Heights and Inwood, New York. The grant allowed New York Presbyterian/Columbia Irving Medical Center, along with other community collaborators, to serve over 250 youths aged 14 to 24 years each year who have been or are at risk for involvement with the juvenile or adult judicial systems.

The Uptown Hub is a space for 14-24 year olds in Washington Heights to act, create, and inspire growth within themselves and their communities. By promoting positive and healthy futures, the Uptown Hub empowers members to develop self-advocacy and pursue their dreams by connecting with holistic and culturally-affirming services and resources.

The Uptown Hub offers programs such as one-on-one support, general drop-in, clubs and workshops and activities, as well as behavioral health. The community space was designed to be an open area where many members could collaborative playing video games, pool and watch movies on a large screen. The kitchen was included in the design of the space as the Hub offers instructional cooking classes for the members.

- Location: New York, New York
- Services: architecture, interior design

Clockwise from top: Recreation area, instructional kitchen, gaming area, administrative area

Pediatric Care

The design of children's hospitals should recognize that children differ from adults in significant ways. Children are highly dependent upon adults for comfort, guidance, and support, and therefore they need the presence of caring and attentive caregivers and support workers, as well as their own parents and siblings.

Children are inherently more vulnerable than adults because of their lack of life experience and their small size. They are fearful of new and strange people and environments, even though they have been told they will help them. Children are highly impressionable and will incorporate every experience into their continual growth.

Being in a hospital is a learning event that can have important positive effects upon healing, as well as intellectual and emotional growth.

UPMC HARRISBURG, PEDIATRICS UNIT

The 20,000 SF renovation created a new Pediatrics Unit at UPMC Harrisburg Hospital, bringing the nationally recognized care of UPMC Children's Hospital of Pittsburgh to central Pennsylvania. The project consists of 11 new private rooms, each designed as universal rooms to accommodate ICU level of care as needed. With the goal of providing higher-quality outcomes and better patient and family experience, this universal unit eliminates multiple patient transfers and allows for flexibility in the variety and level of care.

Each universal patient room has a dedicated decentralized nurse station, with shared clinical support spaces centrally located at the core of the unit, equidistant to all patient rooms. Two main care team touchdown areas anchor the ends of central support core to provide a collaborative workspace. In addition to the clinical support, staff support amenities are provided outside of the clinical area to allow for privacy and separation, while maintaining convenience and workflow.

In addition to clinical and support spaces, this unit's dedicated play and activity area creates a positive distraction for both patients and families. The play area incorporates spaces for all age groups (toddler to young adult) including space for the parents in the adjacent family lounge. Play can restore a sense of normalcy to an otherwise disrupted way of life due to hospitalization. Play can also reduce stress and allows for both socialization and educational opportunities. Programs such as art therapy, STEM (Science, Technology, Engineering and Math) activities, digital and physical interactive elements were implemented to aid in helping patients thrive beyond the walls of the hospital.

- Harrisburg, Pennsylvania
- Square Footage: 20,000 sf
- Construction Cost: Confidential
- Services: planning, architecture, interior design

Clockwise from top right: play area, transfer hallway, toddler play area, patient room

PENN MEDICINE LANCASTER GENERAL HEALTH, SERAPH-MCSPARREN PEDIATRIC INPATIENT CENTER

The design of an inpatient unit can be much more than "just another stay at the hospital". In order to transform this norm, the new Seraph-McSparren Pediatric Inpatient Center is focused on the patient and family experience. Traditional core areas, often treated as separate rooms, have been designed as one large space. The greeter, parent lounge, pantry, play area, and teen spaces are commingled in an open interactive flexible space. Floor patterns, color and changes in ceiling heights create visual interest and division of space. Interactive elements have been introduced throughout the unit to provide intuitive wayfinding, as well as introduce age appropriate diversions for the patients and their siblings.

Special attention has been given to creating care team work areas that promote collaboration amongst the clinicians in both open and enclosed settings. Offering the choice of both seated and standing work surfaces, the care team areas take into consideration staff health. Liberal use of glass at the care team work areas allow patients and their families to maintain visual contact even when staff are in a private setting.

Every effort was made to make the patient family feel comfortable during their stay on the unit. Family-center comforts and amenities include a stocked pantry with snacks and toiletries, parent showers, and laundry facilities. Additionally, a private respite room is available for family use. The 17 private patient rooms feature generous family space with a sofa that turns into a bed for two as well as other comfortable seating and work surfaces.

- Location: Lancaster, Pennsylvania
- Square Footage: 20,000 sf
- Construction Cost: $5,700,000 USD
- Services: architecture, interior design

Clockwise from left: honeycomb wall, play area, flexible open space, interactive wall display

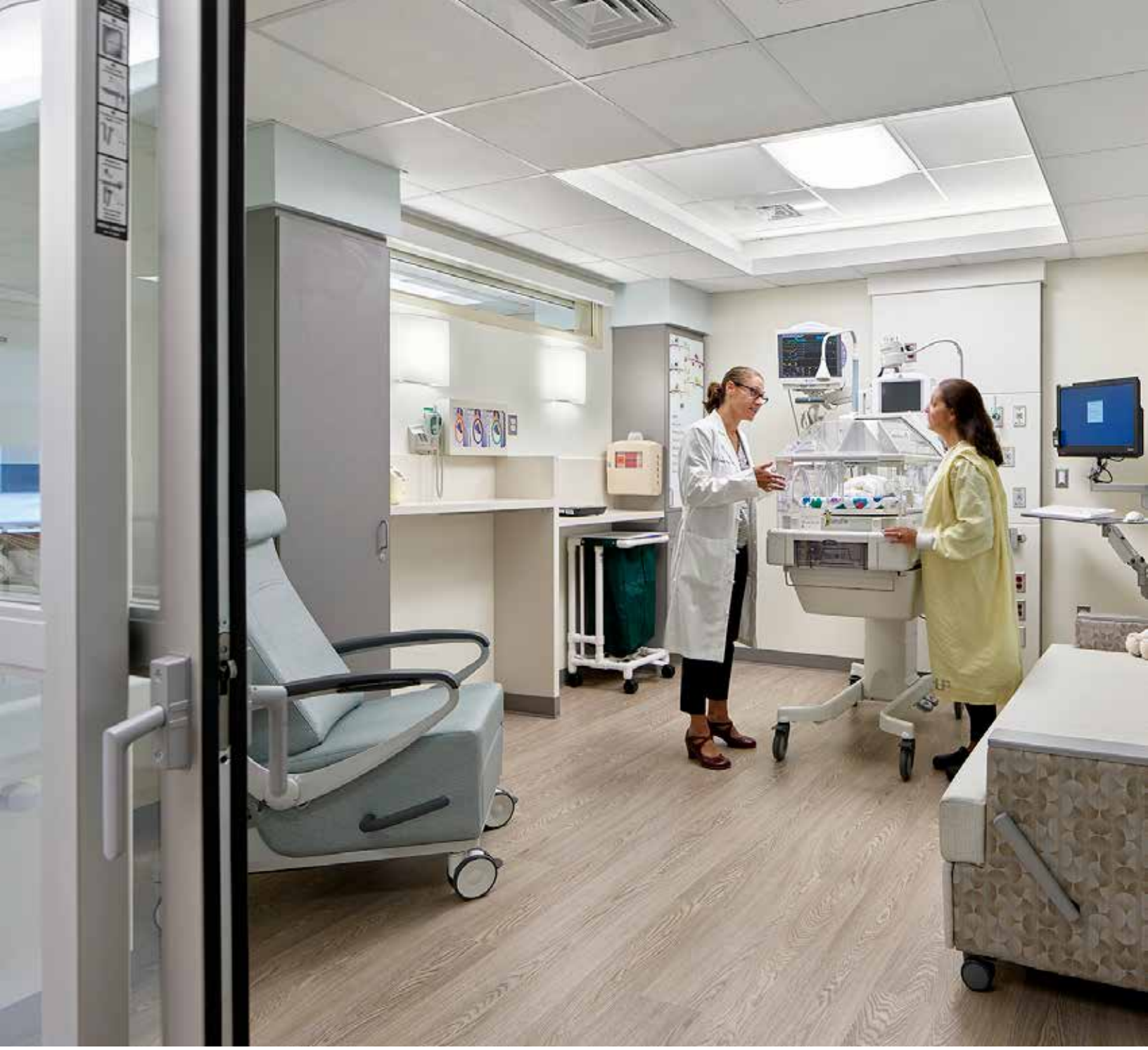
UPMC HARRISBURG, NEO-NATAL INTENSIVE CARE UNIT

The new unit more than doubled the footprint of the existing open bay nursery, for a total of 26,000 SF and 42 bassinets accommodated in private and twin rooms. To address the challenges that come with a large floor plate and to offset concerns of staff isolation and access to supplies, the unit was organized into four neighborhoods. Decentralized nurse charting stations provided between each pair of rooms were positioned diagonal to each other so that nurses could easily access a partner team member. Each neighborhood has dedicated support so that supplies are close at hand. The high acuity cluster was located convenient to physician work areas and a large procedure room. Careful attention was paid to the layout of patient care areas, inculpating bed side charting stations, acoustically backed materials that are both durable and cleanable, and circadian lighting to support infant development.

The four neighborhoods were organized around two major cross corridors that pulled public circulation away from the patient rooms. This not only reduces noise levels in the care areas, but supports intuitive wayfinding with light filled and engaging circulation centered around the heart of the unit, the main family area. Here family members can access a lounge, kitchenette, sibling play areas and private consultant space. Additionally, each neighborhood has a small family lounge that offers a quite respite for family members. From a sibling friendly handwash station at the entry to the unit to the dedicated overnight accommodations in each patient room, the design supports family members as an integral component of the care team.

- Harrisburg, Pennsylvania
- Square Footage: 26,000 sf
- Construction Cost: Confidential
- Services: planning, architecture, interior design

Clockwise from upper right: twin patient room, family area, single patient room, inspirational wall/family area



PENN MEDICINE, CHESTER COUNTY HOSPITAL, NEO-NATAL INTENSIVE CARE UNIT

The Neo-natal Intensive Care Unit at Chester County Hospital underwent an expansion, doubling the square foot size of the unit and increasing the number of NICU beds by three. This allowed for the patient areas to be properly sized to accommodate staff needs and necessary space for parents. Parents are recognized as essential members of Chester County Hospital's care team, and parent participation is encouraged throughout their infant's time in the NICU.

Each patient care station accommodates space for both parent and infant belongings with a parent recliner / couch all with the goal to support, encourage and communicate with families throughout their stay, helping them make a safe transition to home. The new, state of the art, Level III facility, located in the heart of the Mother Baby Pavilion, now accommodates 14 infant beds and one transition room that allows for the parents to take on more of the care for their child while still having NICU staff available.

In addition to the elements of the immediate patient care stations, the overall design of the NICU hosts a family-friendly atmosphere with a lounge for visitors and a comfortable and private breast-feeding area. Finishes that are clean and calming in appearance, sound absorbing flooring and ceiling finishes help eliminate unwanted noise; all helping with the overall care of the infant.

The skilled neonatal team treats babies who require advanced interventions. The unit is equipped with the most sophisticated technology to support the breathing needs of newborns.

- Location: West Chester, Pennsylvania
- Square Feet: 8,000 sf
- Construction Cost: $3,700,000 USD
- Services: planning, architecture, interior design, engineering

Clockwise from top left: single patient room, double patient room, transition room, hallway

RWJBARNABAS HEALTH, BRISTOL-MYERS SQUIBB CHILDREN'S HOSPITAL, PEDIATRIC OPERATING ROOM

The expansion to the Bristol-Myers Squibb Children's Hospital created the opportunity to redefine the building's main façade and enhance both the hospital's identity and pediatric nature of the building with lite exterior signage.

Stantec provided architecture and interior design services to RWJBarnabas Health for the fit-out of the 14,500 SF seventh floor shell space in the BMSCH, plus 4,000 SF vertical expansion of adjacent roof area. The vertical expansion of the facade of the building included signage that reinforced the Children's Hospital's identify and character on the campus. The expansion of the glass atrium was captured for a family lounge that provides uninterrupted news of the surrounding community.

The fit-out is comprised of six pediatric operating rooms, ten PACU (post only) recovery bays and five Stage 2 recovery bays, as well as all applicable support spaces. The design focused on providing a colorful and engaging environment to pediatric patients of all ages and their family members.

As the original architect for the vertical expansion of the BMSCH as well as the NICU, Level II Nursery and Pediatric Catheterization Suite, we were intimate with the building, BMSCH's philosophy, and the opportunities inherent in this project.

- New Brunswick, New Jersey
- Square Footage: 14,500 sf
- Construction Cost: $6,300,000 USD
- Services: planning, architecture, interior design

Clockwise from top right: exterior, waiting area, operating room, recovery area


THE BRISTOL-MYERS SQUIBB CHILDREN'S HOSPITAL
at Robert Wood Johnson University Hospital
PSE&G Chi

Cancer Care

Integral to the design of cancer centers is the understanding of the ever-changing advancements in treatment technologies, a focus toward a more tailored and personalized treatment process, and the inherent focus on the psychological impact a building has on the vulnerable patient.

One of the most important areas we have pioneered is designing environments which reflect the importance of the family and promote their involvement in the patient's care. From initial genetic counseling to post-operative healing, this provides an additional component to clinical design.

The nature of the illness also demands a much greater integration of landscape and architecture than in the past, in maximizing the therapeutic benefits for patients and emotional benefits for staff.

UCSF, BAKAR PRECISION CANCER MEDICINE BUILDING (PCMB)

Precision, Transparency, Integration, and Activation. Inspired by these design principles, Stantec completed the puzzle for UCSF at the Mission Bay Campus with the Precision Cancer Medicine Building (PCMB). Our relationship with the site dates back to 2007, when we began design on the recently-completed Medical Center at Mission Bay, which contains hospitals for children, women, and cancer, as well as the Ron Conway Gateway Medical Office Building (Gateway MOB).

Designed to spur collaboration and integrate research and care, our challenge was to successfully integrate PCMB with the Gateway MOB while ensuring each has a unique identity. Levels three to five of the six-story building are integrated floors for women's services and infusion/ clinic space. Our design elegantly draws from the existing building, as the strong horizontal lines of the Gateway MOB continue through to PCMB, disrupted by glass fins inspired by the children's hospital. Transparency echoes the building's program, with more privacy at street level and abundant use of glass on the upper infusion floors. The massing is pulled back dramatically at the edges to create a generous and exciting street-level experience.

The new six-story, 170,000 SF building consolidates UCSF's current solid tumor practices. In addition to clinic space for most cancers, PCMB houses chemotherapy infusion, radiology, pathology, radiation oncology, blood draw, a patient resource center, and support services. Bringing these practices together at Mission Bay, already a robust site for cancer research, integrates research and clinical care and encourages collaboration between researchers and medical teams.

The design team leveraged various technologies in order to most effectively collaborate and communicate among stakeholders.

- Location: San Francisco, California
- Square Footage: 179,650 sf
- Construction Cost: $172,700,000 USD
- Services: planning, architecture, interior design, engineering, LEED consulting, technology

Clockwise from top right: exterior from courtyard, waiting area, MRI simulator, exterior


Medical Center

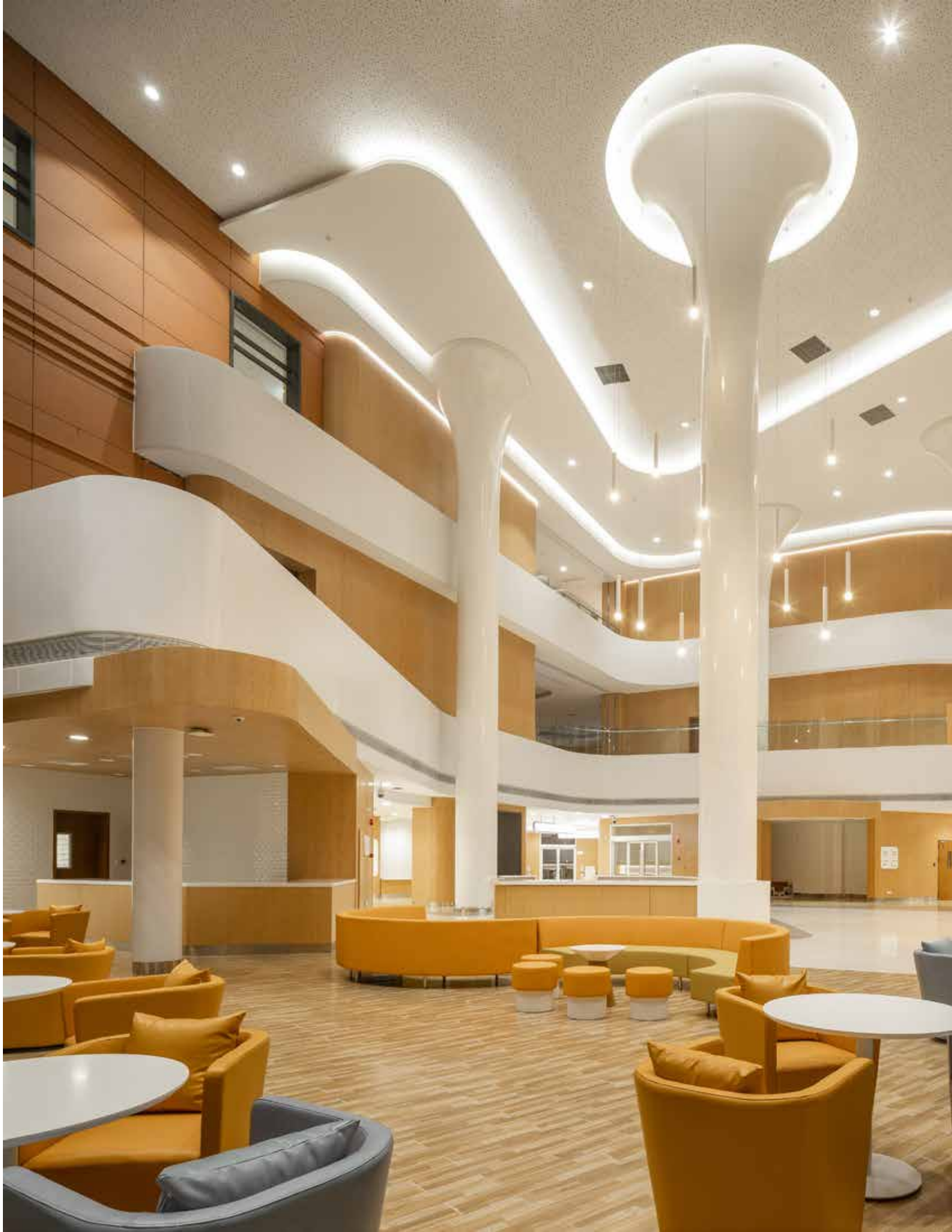
HEFEI ION MEDICAL CENTER

Located in Anhui's capital, the Hefei Ion Medical Center (HIMC) provides state-of-the-art cancer treatment at the heart of the city's high-tech zone. The 350,000 - 32000 m2 facility combines an extensive medical program within a single building. The program includes a full range of cancer treatment modalities, shared medical functions, and care team and patient-orientated functions. Our role included master planning the 11-acre park surrounding the building and serving as executive design architect for the facility to create a destination medical center focused on innovation in oncology care. HIMC currently provides proton and photon radiation treatment to adult and pediatric outpatients and inpatients. The center also offers a comprehensive clinical approach to radiation therapy for patients with a full complement of oncology and radiation clinics, imaging, clinical laboratory, pharmacy, 24-hour inpatient rooms, and patient and family support services.

A central contribution of the project is its blend of inpatient requirements with outpatient radiation oncology requirements, transforming the building into a "mini city" where patients will be required to stay for weeks at a time. This forced us to rethink typical design assumptions for a proton center and adapt to a Chinese model where patients receive constant attention from the care team. From a clinical point of view, we brought together all necessary modalities to give the care team the most flexibility to treat patients. Proton treatment rooms, pre-treatment areas, linear accelerators, imaging, recovery, infusion bays, blood lab, and a 46-bed inpatient unit were all laid out in three connected wings surrounding an atrium to optimize adjacencies and minimize travel.

- Location: Hefei, Anhui, China
- Square Feet: 350,000 sf
- Construction Cost: $75,000,000 USD
- Services: planning, architecture, interior design

Clockwise from opposite page: lobby, gantry treatment room, exterior, lobby



CLEVELAND CLINIC, TAUSSIG CANCER CENTER

Our mission was to lead with the philosophy of "Patients First" and provide Cleveland Clinic with a world-class cancer outpatient building. Cleveland Clinic selected Stantec to lead the healthcare planning of a new cancer treatment center on their main campus. Working in association with design architect William Rawn Associates, we provided programming, planning, and design services for the 377,000 SF, seven-story outpatient building. The facility consolidates cancer treatment, research, and administrative space supporting a multi-disciplinary team approach to multi-disciplinary disease programs. Rather than asking patients to travel from one specialist to another, our design supports meetings either together or sequentially to address each patient's unique needs.

Designed to meet LEED for Healthcare, Silver, the high-performance curtain wall communicates with the building management system, so occupants remain comfortable throughout the cold winters and warm, humid Ohio summers. A bridge at Level 2 connects the Cancer building to the intercampus 'skyway', and a sculptural ground level skylight drives light to below-grade patient waiting spaces.

The lower level houses building support, an investigational pharmacy, and leading edge clinical environments. Ground floor public spaces have views to adjacent gardens and the laboratory and pharmacy are situated for straightforward access. Levels 2-4 contain 98 light-filled infusion rooms arranged along the north window wall. Staff collaboration and 108 clinical exam and procedure rooms on the south side are designed with future flexibility in mind.

- Location: Cleveland, Ohio
- Square Footage: 377,000 sf
- Construction Cost: $190,000,000 USD
- Services: programming, planning, architecture, interior design

Clockwise from top: exterior, north-facing meditation room, lobby, south corridor with team work area

THE NEW YORK PROTON CENTER

The New York Proton Therapy Center is the first facility of its kind in New York State. The $300M center, eight years in the making, will offer advanced cancer care to patients in the Tri-State area. This state of the art 135,000 SF Center is a collaboration between Memorial Sloan Kettering Cancer Center, Montefiore Health System, Mount Sinai Health System, and ProHEALTH Proton Management LLC.

The center serves as the impetus of the redevelopment and urban renewal in East Harlem, featuring a mix of residential, commercial, and retail space. The transparent façade enlivens the street scape, engaging pedestrians, and connecting patients with the surrounding community.

As the largest free-standing proton center in the US, the three-story facility features five rooms: three gantries plus one fixed beam room with provisions for an eye treatment chair, and one additional room dedicated to research. Establishing efficient patient throughput was a vital consideration for the functional layout of the facility. Patients arrive to the middle of the treatment area and go directly from a greet station to changing, gowned waiting, and treatment in a few short steps. Pediatric patients have a separate zone that offers play activities, as well as a quiet respite for children and parents.

The bright and airy main lobby, flanked with fittingly designed seating and greenery, creates a striking first impression for patients. Natural materials, wood finishes, and accents of color, complement the soothing palette.

- Location: New York, New York
- Square Feet: 135,000 sf
- Construction $125,072,000 USD
- Services: planning, architecture, interior design

Clockwise from opposite page: main lobby, exterior, reception desk, main entrance


MRIDIAN


MRIDIAN Linac

JEFFERSON HEALTH, BODINE CENTER FOR CANCER TREATMENT

Time and precision are often the most valuable resources in the fight against cancer, and a new cutting-edge device helps bring real time information to the fight against cancer.

At Jefferson's NCI-designated Sidney Kimmel Cancer Center, the team leans on the latest clinical trial research and technology to care for their patients. The new hybrid MRI-Linac combines a high-resolution MRI imaging with a linear accelerator (Linac), whereas conventional radiation therapy requires multiple visits by the patient to locate their tumor with imaging equipment, and then treat with a linear accelerator (Linac). This is not only more convenient for the patient, but the increased accuracy also reduces damage to healthy tissue next to the tumor site.

The challenge, however, was that the dense urban setting precluded an addition to house the new five-ton piece of equipment and its specially designed vault. The only viable option was to locate the MRI-Linac next to the four existing linear accelerator vaults, two stories below the street level.

Originally constructed as a parking garage and subsequently converted to hospital space, the project area presented many unique challenges, including limited floor-to-floor height and significant structural foundations that had to be modified. Careful strategies, such as constructing the vault with prefabricated leaded concrete units instead of poured concrete to mitigate space limitation, and lowering the equipment and structural materials through an existing skylight above the waiting room allowed the four adjacent Linacs to remain in operation throughout construction.

- Location: Philadelphia, Pennsylvania
- Square Feet: 1,500 sf
- Construction Cost: $3,000, 000,000 USD
- Services: architecture, interior design, engineering

Clockwise from opposite page: MRI linac room, control room, MRI linac room

JOHNS HOPKINS PROTON THERAPY CENTER

The Johns Hopkins Proton Therapy Center at Sibley Memorial Hospital is an 80,000 SF facility serving Metropolitan DC and the Mid-Atlantic region. The site is centrally located on the Sibley campus and is part of a large renovation and expansion program to create a state-of-the-art comprehensive cancer treatment center.

Located directly to the west of the New Sibley Tower, the center will complete the master plan in an elegant manner. The building design connects the Proton Center with the existing campus building. The exterior design takes its cues from predominant campus architectural features, incorporating the use of brick, horizontal spans of glass, cast stone trim, and projecting sun screen devices.

The interior design extends the warm palette of campus buildings into the Proton Center and provide patients with a welcoming experience. The three-story Proton Center is comprised of three gantries and one fixed beam room.

- Location: Washington, DC
- Square Footage: 80,000 sf
- Construction Cost: $70,000,000 USD
- LEED Certified
- Services: planning, architecture, interior design

Clockwise from top right: reception lounge, gantry treatment room, exterior, pediatric lounge and waiting area

CHARLESTON AREA MEDICAL CENTER, CANCER CENTER

Charleston Area Medical Center (CAMC)'s new Cancer Center delivers on a community promise to combine all cancer diagnosis and treatment services in one location. The three-story building houses crucial services such as radiation and medical oncology, oncology surgery, clinical trials, medical office space, and the CAMC Breast Center.

A focus on comfort carries through to all elements of patient care and a host of amenities reinforce the atmosphere of care and convenience. Amenities include a patient concierge, a boutique, café, retail pharmacy, indoor rotunda, and an outdoor healing garden. The garden offers a tranquil spot to reflect and recharge for patients, caregivers, and staff alike. It offers flexible spaces that support socializing, quiet reflection, walking, and dining. A diverse palette of plants was used to provide interest and maximize contact with nature. The result is a serene, welcoming, outdoor space that promotes well-being, stress reduction and relaxation for all who visit.

- Location: Charleston, West Virginia
- Square Footage: 110,000 sf
- Construction Cost: $40,000,000 USD
- Services: architecture, interior design, engineering

Clockwise from top: exterior, healing garden, waiting/family area, infusion suite


CAMC Cancer Center

THE UNIVERSITY OF KANSAS HEALTH SYSTEM, PROTON THERAPY CENTER

Stantec has completed a new 48,000 SF proton therapy center addition to the existing Radiation Oncology building for The University of Kansas Health System. The three-story building houses a single proton treatment room using IBA's Proteus One equipment. It was designed to get another proton treatment room added on the north in the future New clinical spaces including recovery rooms for pediatric patients and building support spaces were designed to accommodate the additional patient volume.

The new proton center addition is located on the West side of the campus on a tight site surrounded by existing medical buildings. The exterior design of the building blends with the architecture of the existing campus by integrating red terracotta panels while promoting a contemporary design emphasizing the high-tech nature of the proton equipment. Stantec is the architect of record for the project, collaborating with local architect Hoefer Welker for the design concept.

- Location: Kansas City, Kansas
- Square Feet: 48,000 sf
- Construction Cost: $34,000,000 USD
- Services: planning, architecture, interior design

Clockwise from opposite page: interior gantry treatment room, interior gantry treatment room, exterior dusk, interior hallway graphic wall


THE UNIVERSITY OF KANSAS
CANCER CENTER
iba
iba

Additional Experience

PENN MEDICINE, INTERVENTIONAL SUPPORT CENTER

Seeking new solutions to improve efficiency and increase quality, Penn Medicine envisioned a new off-site Interventional Support Center (ISC) as a comprehensive facility to support multiple facilities throughout the Philadelphia region. The ISC centralizes multiple functions including sterilization of surgical instruments, sterilization of linens, and storage of surgical supplies and soft goods.

The consolidation of services at the ISC standardizes instrument processing, instrument sets, and soft goods across the health system. The ISC allows storage space for the extended inventory of supplies on hand. Case carts are transported to and from the ISC from various facilities in temperature controlled trucks on a prescribed schedule to facilitate maximum efficiency.

Stantec's team of integrated healthcare planners, architects, designers, engineers, and industrial designers worked collaboratively to design the new facility. Solutions were tested and validated using time motion studies and simulation modeling to identify gaps and bottlenecks in the flow.

The facility features N+1 redundancy in all building systems including full facility generator back-up. Air systems include HEPPA filtration for all instrument processing and storage spaces. A separate administrative suite includes office space and workstations for employees. Amenities for staff include a break room, conference room, a mother's room and male and female locker rooms.

- Location: Philadelphia, Pennsylvania
- Square Footage: 109,000 sf
- Construction Cost: $43,600,000 USD
- Services: planning, architecture, interior design, engineering

Clockwise from top: decontamination area, high density storage, air handlers, clean assembly


C

RWJBARNABAS HEALTH, ROBERT WOOD JOHNSON UNIVERSITY HOSPITAL, SOUTH EXPANSION

RWJBarnabas Health (RWJBH) engaged Stantec to envision a campus expansion project that would allow for a complete reinvention of their surgical program. The 8,000 SF lot at the rear of the campus, adjacent to the loading dock and central utility plant needed to be maintained for it's current use as non-emergent vehicular patient transfers. The project evolved as a four-story addition over the patient transfer lot, that housed a vertically stacked central sterile processing department above and below a surgical platform expansion, topped with an enclosed penthouse to accommodate the new MEP infrastructure.

The construction and operationalization of the new areas allowed for a cascading series of phased renovation through the existing departments that eventually yielded the modernization of the 30 OR surgical platform, expanded staff support spaces, a new 78 universal PACU/Prep/Recovery private room unit, adjacent observations unit and a new on-call suite. In total the project was 69,300 SF across five structures. In addition to the clinical objectives of the project, the building expansion was an opportunity to address the campuses engagement to the urban context.

Historically viewed as the rear of the campus, the building sought to provide a new face to the street scape and responded the open plaza directly across the street. The elevated facade was comprised of a large framed volume with a decorative screen wall that uniformly masked the sporadic fenestration patter required by the various interior functions. The building achieved the proper scale and magnitude to create a branded identity on this once neglected side of the campus, restore the framing of the urban plaza, while landscaping and screen walls shielded the patient transfer area. A small entrance was created in the adjacent building, with interior renovations to facilitate a lobby, reception, access to public elevators and a security suite. By working in collaboration with multiple clinical stakeholder groups, Stantec was able to help RWJBH optimize a small vacant lot by vertically stacking surgical functions that allowed for phased renovations while maintaining continuous operations. The building serves as a new face on the south side of the campus as it engages with the urban context of New Brunswick, New Jersey.

- Location: New Brunswick, New Jersey
- Square Feet: 69,300 sf
- Construction Cost: $55,000,000 USD
- Services: planning, architecture

Clockwise from top left: hybrid operating room with MRI, central sterile processing, operating room, hybrid operating room with MRI

PENN MEDICINE MOUNT LAUREL

Located in an existing office building along Route 38, Penn Medicine Mount Laurel's 19,000 SF space provides a new home to Willingboro cardiology patients along with primary and specialty care services. These services will help alleviate the heavy patient volume at Penn Medicine Cherry Hill, located 11 miles away.

Penn Medicine Mount Laurel consists of a large, shared waiting room and an adjacent phlebotomy lab plus separate check-in desks for cardiology and primary care. We designed a total of 27 exam rooms -- 15 primary care and 12 cardiology exam rooms -- a stress/ echo testing room, an echo room, and additional support spaces. Shell space can accommodate future expansion, such as the planned general Radiology Department.

- Location: Mount Laurel, New Jersey
- Square Feet: 19,000 sf

SENTARA HEALTHCARE, SYSTEM WIDE CLEAN ROOM FACILITIES

Sentara Healthcare engaged Stantec to provide planning and design services for their system-wide USP 797 / 800 upgrades.

The first step in the process was to develop design standards that describe the ideal physical configuration of sterile compounding facilities, including room layout, fixtures, furnishing and equipment to support standardized operational practices and compliance with USP 797 Sterile Compounding and USP 800 Hazardous Drugs. Additionally, the standards covers finish selection options and detailing that meet the environmental requirements of USP.

The design standards and cleanroom prototypes were then be used to develop renovation scope for compounding facilities across the system. These reports were further informed by surveys performed by the design team. The collective findings were reviewed in conjunction with the owner's goals, objectives and budget for each site to determine an appropriate renovation scope that supported USP compliance.

- Location: Virginia Beach, Virginia

UPMC HARRISBURG, ANTEPARTUM UNIT

UPMC Harrisburg has engaged Stantec for the design of a new 8,000 SF Antepartum Unit on the eighth floor of the Core Building. The unit consists of 11 patient rooms around their own central support functions, including medication work room, clean supply, equipment storage, soiled holding, nurses' office, multipurpose/nourishment room and support space.

Family amenities include a sleeping area in each private room. A new MFM ultrasound room is included to support this unit as well as the rest of the women's program on the floor. Other project elements include relocation of the existing lactation consultation and lactation office to this unit, alternations to the existing OB/GYN on-call suite, and conversion of existing women's locker room to the staff lounge.

- Location: Harrisburg, Pennsylvania
- Square Footage: 8,000 sf

NORTHWELL HEALTH, NORTH SHORE UNIVERSITY HOSPTAL, TOWER 8 INTENSIVE CARE UNIT

North Shore University Hospital (NSUH) conducted a major renovation to the 13,158 SF, vacant eighth floor of the existing nine-story Tower Building on the hospital's campus. The project includes the renovation of a vacant behavioral health unit into a 18-bed Intensive Care Unit (ICU), which provides improved care, efficiencies and an enhanced patient and family experience. Of these beds, 15 are typical ICU and 3 are ICU isolation rooms.

Each patient room has a private ADA patient toilet with a European-style shower arrangement, state-of-the-art medical equipment, and a family area. Decentralized touchdown stations, located between each patient room, have an unobstructed view into each room for constant monitoring and switchable electronic glazing for privacy. During times of extreme disaster or surge, the ICU is designed with flexibility to be converted to two-bedded medical/surgical rooms. Team stations cap either end of the new unit, each with new pneumatic tube stations and adjacent medication rooms.

- Location: Manhasset, New York
- Square Feet: 13,200 sf

JEFFERSON HEALTH, HOME INFUSION AND SPECIALTY PHARMACY

Jefferson Health's Home Infusion and Specialty Pharmacy groups were in need of a new facility to be able to keep up with the anticipated volume increases needed to serve the ever-expanding Jefferson enterprise network. The configuration of the one-story, 65,000 SF building was perfectly suited for providing administrative office space for each group in the north wing with shared services such as reception, conference rooms, kitchens and storage rooms in the "knuckle", and the licensed pharmacy area in the east wing. Each function takes up about one-third of the overall square footage; roughly half of the floor plate is office space and the other half is pharmacy space.

The licensed pharmacy is divided into two areas, with shared services located along the common corridor leading from the warehouse and receiving areas. The Home Infusion Pharmacy (18,400 SF) contains a large sterile compounding room, smaller HD and HR compounding rooms, and rooms for automated production. The Specialty Pharmacy (21,000 SF) also has plans for automated production in the future, but moved in with pick/check/ pack stations situated along a conveyor belt.

- Location: King of Prussia, Pennsylvania
- Square Footage: 65,000 sf

COOPER UNIVERSITY HEALTH CARE, MD ANDERSON CANCER CENTER FIT-OUT

MD Anderson Cancer Center at Cooper experienced a steady growth since the building originally opened in late 2014. As such, Cooper University Health Care needed to expand its clinical services to better serve their patients.

As volume increased, so has their need to consolidate services in the building. There areas of renovation planned for the fourth floor of the building equal approximately 13,859 SF. These areas include an Administrative Suite, Therapy Suite, Hematology Suite, Interventional Radiology Suite, and shared program space which allows for MD Anderson to provide a one-stop-shop for cancer treatments and recovery services throughout the building – no longer having to rely as heavily on the main Cooper University Hospital. The unique shape of the existing building and HVAC infrastructure proved to be challenging during the design phase.

- Location: Camden, New Jersey
- Square Feet: 13,900 sf

NORTHWELL HEALTH, SYOSSET SURGI CENTER

When Northwell Health needed a location for a new Ambulatory Surgery Center, they looked no further than their own inventory of real estate—and found the answer in a less than obvious place. A former car dealership structure, acquired by the health system years ago and used as an ambulance fleet maintenance shop, was the unlikely but ideal facility. The two structures include a single-story former showroom facing the street and a high-bay service garage sitting several feet lower.

Taking advantage of an otherwise challenging building configuration, the planning was arranged to allow a singular flow-through; patients enter registration and the waiting room through the upper-level entrance canopy and leave discreetly from the lower level. With five new operating rooms, twenty patient holding bays, and on-site instrument processing, the ambulatory surgery center at Syosset provides a powerful platform for outpatient surgery in a very prominent, convenient, yet unassuming location.

- Location: Syosset, New York
- Square Feet: 18,000 sf

CHRISTIANACARE, WILMINGTON HOSPITAL DENTAL SUITE

The suites for Oral and Maxillofacial Surgery practice and the hospital dentistry practice were in need of expansion and extensive renovations. Situated on the first floor of the main hospital building, they had expanded over time into adjacent available space in a very ad-hoc manner. This created space inefficiencies and issues with patient and staff flow and concerns about patient safety and the patient experience.

Each practice requested separate check-in/out desks and separate waiting areas. The OMFS private practice serves a different patient population than the hospital dentistry faculty practice, which includes approximately 17 residents. Providing a welcoming feel at the reception and check-in area while maintaining patient privacy throughout the check-in process was as important as providing safety for the staff behind the front desk. It was also important to separate clinical space from public space, and to have patients enter and exit from the same location.

- Location: Wilmington, Delaware
- Square Feet: 9,560 sf

MAIN LINE HEALTH AT EXTON SQUARE

If you go to the Exton Square Mall to do your shopping, you will find a wider choice of offerings than usual, from designer clothing and accessories to physicians and CAT scans. The idea of combining retail and medical services under one roof may seem a little unusual at first, but for people trying to make efficient use of their time it brings healthcare to an extremely convenient location.

The health center offers patients easy access to their physician or specialist, obtain lab work, undergo imaging studies, screenings and physical therapy, as well as receive cancer treatments, all in one location. And its location inside the mall also offers patients and their families the convenience of completing their shopping or getting a bite to eat before, in between or after appointments.

The design of the revitalized space includes a curving public concourse that guides patients from both exterior and interior entries toward their destination, while a centrally located registration desk functions as a hub of integration for the center's many services. In addition, a modular floor plan with standard room types of a universal size allow for greater adaptability to both current and future services.

- Location: Exton, Pennsylvania
  Square Footage: 31,600 sf

PENN MEDICINE, CHESTER COUNTY HOSPITAL, CANCER CENTER

The Cancer Center occupies two floors within a medical office building and includes a 25-exam room oncology practice and 24 patient infusion stations. There are multiple pods that are occupied by four infusion stations, single open stations and private rooms giving patients different setting opportunities.

With the expansion of the Cancer Center, the infusion pharmacy needed to grow too—it went from a one room pharmacy at 250 SF to a 1,000 SF pharmacy. It includes six rooms, including a workroom, waiting area, two buffer rooms, hazard storage and a medication room.

The project was designed and constructed under three phases which needed to leave the original infusion stations and pharmacy up and operating during the first two phases. This challenged both the design team and the clinical staff to work through a design process that provided the desired outcome and configuration, while at the same time realizing the limitations of the phased construction and adjacent occupied space. To top it off, the pharmacy is USP 797 and 800 compliant.

- Location: West Chester, Pennsylvania
- Square Feet: 23,000 sf

INDIANA REGIONAL MEDICAL CENTER, CANCER CENTER

The UPMC Hillman Cancer Center at Indiana Regional Medical Center project was a renovation and update to the existing Cancer Center to improve the patient experience and provide state-of-the-art treatment. The project was phased to allow ongoing treatment of patients to be uninterrupted throughout construction.

The medical oncology infusion area was enlarged and updated to create a patient-friendly, inviting environment. Types of treatment provided in the department are chemotherapy, biotherapy/ immunotherapy, therapeutic phlebotomies, hydration, immunoglobulins, and iron infusions.

A new linear accelerator was installed in the existing vault. A mobile linear accelerator housed in a motor coach was brought on site to maintain uninterrupted treatment to radiation oncology patients. This was the first use of a mobile linear accelerator in the world and the coach was created specifically for this project. A PET/CT with associated support spaces was added to the Radiation Oncology Department to improve patient treatment modalities. HDR brachytherapy, intensity-modulated radiation therapy, image-guided radiation therapy, and RapidArc radiation therapy are provided by the department.

- Location:Indiana, Pennsylvania
- Square Footage: 16,000 sf

PENN MEDICINE, HOSPITAL OF THE UNIVERSITY OF PENNSYLVANIA, MEDICAL INTENSIVE CARE UNIT

The project was challenged with working within an existing space with occupied space above and below along with a fixed area that needed to provide a minimum eight-bed unit along with all of the necessary support space. Together with the client's clinical staff, the team worked together to provide a unit that met the needs of current ICU design, providing a patient room that considered the clinical space needs and clearances, area for the family, and the desire to provide a full size toilet room to each patient.

Being built into an existing space created a number of challenges with limited floor to floor dimensions. The engineering systems above ceiling required careful coordination with all trades. An existing hospital corridor runs along one of the exterior walls which challenged the project's ability to provide patient room exterior windows. The solution became a clear story window that brought natural day light into these particular rooms. Stantec worked with the Department of Acute and Ambulatory Care through the design process to find this solution that was agreeable to them, met the needs of the patient and allowed the hospital to maintain this necessary corridor. Work areas and touchdown spaces are specifically placed to provide the critical visibility of patients that is required by the clinical staff.

- Location: Philadelphia, Pennsylvania
- Square Footage: 7,300 sf

UPMC EAST, EMERGENCY DEPARTMENT

Responding to the incredible growth in the number of patients treated at UPMC East, Stantec's new two-story Emergency Department addition and renovations project doubles the size of the existing Emergency Department, expands support services, and provides future shell space for surgery expansion. The design of new addition mitigates the noise and vibration from the adjacent helipad and was constructed in multiple phases to allow the existing Emergency Department, Sterile Processing, and Surgery Department to remain operational during construction.

The project includes a new six-bay ambulance canopy and parking area, 22 new ED treatment rooms, two trauma rooms, ten observation beds, new equipment and storage for the existing sterile processing area, and second floor shell space for eight new operating rooms and support space. The layout of the expanded Emergency Department provides open staff work areas, increasing physician and nurse collaboration while maintaining direct patient visibility.

- Location: Pittsburgh, Pennsylvania
  Square Footage: 39,200 sf

ALLEGHENY HEALTH NETWORK, CANCER CENTERS

Allegheny Health Network turned to Stantec to design two community-based cancer centers in Butler and Beaver, Pennsylvania, as their commitment to providing world-class cancer treatment in a convenient - close to home setting. Both centers offer world-class care, minus the stressful drive and include easy access and convenient free parking.

Designed to support a patient-centered care model, the 34,000 SF, two-story facility includes a medical oncology clinic with 16 infusion stations and a radiation oncology unit that includes a state-of-the-art linear accelerator and CT scanner. Additional services include nutritional counseling, social services, and access to clinical trials.

Due to the level and complexity of medications required to treat patients, the in-house pharmacy, adjacent to the medical oncology department, meets USP 800 requirements and has become the standard for Allegheny Health Network pharmacy design.

The use of natural light and soft colors create a calm atmosphere for patients and families. Quiet exam rooms and comfortable waiting areas are complimented with patient education and consultation rooms.

- Location: Butler and Beaver, Pennsylvania
- Square Footage: 34,000 sf

PENN MEDICINE, PENNSYLVANIA HOSITAL, PHARMACY

In response to the anticipated adoption of USP 800 requirements, Penn Medicine was looking to update their Pennsylvania Hospital Pharmacy. With these new guidelines, the existing conditions in the basement of the main hospital were not able to supply the required square footage or adjacencies.

As we began design, it became clear that the original 1926 building with newer code requirements was going to require creativity. We coordinated with the Pennsylvania Department of Health and developed an L-shaped plan with solutions to supply the main hospital quickly. The ninth floor challenged our engineers as building power requirements needed to be upgraded and new high-density storage equipment required significant structural support. It is fortunate our engineers had upgraded the entire building infrastructure a few years prior with enabling services.

As the new USP 800 guidelines would establish major health safety requirements benefitting pharmacists and technicians, getting on top of these requirements was in Penn Medicine's best interest. The renovation enabled the Pennsylvania hospital to accommodate these guidelines and keep their high-security pharmacy in compliance.

- Location: Philadelphia, Pennsylvania
- Square Footage: 7,200 sf

PENN MEDICINE, PENN HEMATOLOGY/ONCOLOGY SEWELL

The Penn Medicine Cancer Center, located within the Washington Township medical office building in Sewell, NJ, includes a full outpatient oncology practice: exam and infusion suites supported by a dedicated on-site pharmacy and blood-draw laboratory. The design team's challenge was to fit a large program into an 8,000SF site, which was a high-end spa and a retail cafeteria in its former life.

Upon entering the building, a natural stone wall marks the Cancer Center's entry to the left of the vestibule. The stone anchors the waiting area and denotes the center of the overall space as it extends through reception and down the main corridor. The design team focused on bringing natural daylight through the east-facing lobby into the interior space. Through heightening the ceilings at the edge of reception and part of the infusion suite, they were able to maximize natural daylight. The curved soffit behind the storefront gives patients a unique view of the space, while the window film provides a level of privacy.

The infusion suite is comprised of three pods that are occupied by four semi-private infusion stations each, as well as one private infusion room. The pod layout provides a sense of community and connection among the patients, but also allows for privacy when needed.

- Location: Sewell, New Jersey
- Square Footage: 8,000 sf

Better together

Comprised of over 4,000 building design professionals globally, our healthcare design staff live and work locally, but access colleagues who are working around the globe for fresh and informed input. Our teams are supported by our company-wide proprietary health research, experience in lean planning and design, and expertise in alternative delivery systems. Through inspired design, we put our clients at the forefront of best practice, new technology, and new healthcare delivery.

Communities are fundamental. Whether around the corner or across the globe, they provide a foundation, a sense of place and of belonging. That's why at Stantec, we always design with community in mind.

We care about the communities we serve—because they're our communities too. This allows us to assess what's needed and connect our expertise; to appreciate nuances and envision what's never been considered; to bring together diverse perspectives so we can collaborate toward a shared success.

We're designers, engineers, scientists, and project managers innovating together at the intersection of community, creativity, and collaboration. Balancing these priorities results in projects that advance the quality of life in communities across the globe. Stantec trades on the TSX and the NYSE under the symbol STN. Visit us at stantec.com or find us on social media.

Design with community in mind