



SUPPORTING WELLBEING

Health + Wellness Group

GHAFARI

SPACE
TO
THRIVE



TABLE OF CONTENTS

- 1 Firm Overview**
- 2 Our Experience**
- 3 Appendix**



SECTION 1

Firm Overview





Hills and Dales General Hospital Expansion
Cass City, Michigan
USA

WHO WE ARE

Bridging the success of businesses and people.



Ghafari is a global engineering, architecture, process design, consulting, and construction services firm driven to meet the distinct needs of every client. For nearly forty years we have created spaces and processes that help businesses and people thrive.

OUR APPROACH

Our full-service, in-house team works together to meet the unique demands of each project. Working side by side, market experts and discipline leaders exchange insights to uncover new opportunities for efficiency.

INNOVATION IN ACTION

Ghafari is recognized as a pioneer in adopting and standardizing the latest industry advancements. We remain at the forefront of our field and create ever-smarter spaces that help clients navigate new demands within their market.

COMPANY FACTS

Our global offices share insights and resources so that each client receives the same caliber of service and quality, no matter where they are in the world.

12

RANKING

Ranked among the top 500 U.S. Engineering and Architectural firms by *Building Design and Construction*.

TOP 10

RANKING

We've been on *Engineering News-Record's* top 10 Industrial and Manufacturing EAC firm list for over 10 years.

OFFICE LOCATIONS

- Birmingham, Alabama USA
- Chicago, Illinois USA
- Dearborn, Michigan USA
- Detroit, Michigan USA
- Greenville, South Carolina USA
- Indianapolis, Indiana USA
- Mexico City, Mexico
- Querétaro, Mexico
- São Paulo, Brazil
- Baroda, India
- Abu Dhabi, UAE
- Doha, Qatar
- Jeddah, Saudi Arabia
- Muscat, Oman

TOP 25

RANKING

We are ranked #21 on *Engineering News-Record's* top Airports designer list.

33

COUNTRIES

We have completed projects in 33 countries around the world.

#1

RANKING

For over 10 years we have been *Engineering News-Record's* #1 firm in the automotive sector.

2 TIME

WINNER

We are proud to be a National Best and Brightest Company to Work for.

CURRENT RANKINGS

BD+C Top Engineering/Architecture Firms.....	12
BD+C Top Industrial Engineering Firms.....	8
BD+C Top Science + Technology Engineering Firms.....	13
ENR Top Auto Plant Designer.....	1
ENR Top Manufacturing Designer.....	5
ENR Top Airports Designer.....	21

SOURCE: *Engineering News-Record and Building Design and Construction*





Otsego Memorial Hospital
Gaylord, Michigan
USA

HEALTH + WELLNESS EXPERTISE

Our insightful methods and mindset empower healthcare clients to navigate changes across their industry.



We collaborate closely with health and wellness leaders, evaluating each project decision through the lens of their goals and the needs of their patients. Throughout the process, our team draws on advanced methods and healthcare planning expertise to anticipate and accommodate tomorrow's demands. We also use lean methodologies to create efficient operations that elevate quality, lower costs, and expedite delivery. By combining modern methods, empathy, and experience, we create health and wellness facilities that are compassionate, effective, and prepared for the future.

REPRESENTATIVE CLIENTS

- Beaumont Health System
- Detroit Medical Center
- Erie Family Health Center
- Hills and Dales General Hospital
- Hurley Medical Center
- Oakwood Healthcare System
- Otsego Memorial Hospital
- Sutter Health
- University of Alabama at Birmingham Health System
- Wayne State University Physician Group

OUR CAPABILITIES

We are a full-service firm with the ability to lead complex projects at every stage—from process planning and design to construction.

MARKET SERVICES

CONSULTING

Facility Master Planning

- Data Collection, Assessments, and Modeling of Forecast Volumes and Space
- Interactive Workshops with Key Leadership

High-Definition Laser Scanning

Lean and Integrated Project Delivery

- Information Management
- Material Management and Flow
- Pull Plan Scheduling
- Workflow Integration

Mechanical and Electrical Infrastructure

- Utility Master Planning
- Energy Audits and Management Planning
- Capital Equipment Assessment
- Peer Reviews
- Alternative Energy Development

Operational Solutions

- Cross-Market Lean Manufacturing Expertise
- Lean Operations Analysis
- Simulation Modeling

Sustainability

- Alternative Energy
- Cost/Benefit Analysis
- LEED O+M Consulting and Certification

Virtual Design and Construction

- Building Information Modeling
- Document and Model Management
- Direct Digital Exchange

ENGINEERING + ARCHITECTURE

Architecture

Civil Engineering

Construction Administration

Cost Modeling and Cash Flow Studies

Data, Telecom, and Security Systems Engineering

Electrical Engineering

Equipment Planning and Acquisition Management

Facility and Site Condition Assessment

Interior Design

Mechanical Engineering

Pre-Design and Feasibility Studies

Programming and Space Planning

Scheduling and Implementation Planning

Signage, Wayfinding, and Brand Development

Structural Engineering

FACILITY TYPES

Administrative Offices

Ambulatory Surgery Centers

Assisted Living and Adult Care Facilities

Cancer and Oncology Centers

Community Health Centers

Critical Access Hospitals

Data Centers

Dialysis and Cancer Centers

Durable Medical Equipment Centers

Emergency Centers

Imaging Centers

Laboratories

Long-Term Care Facilities

Medical Education Facilities

Medical Equipment Replacement

Medical Office Buildings

Nursing Homes and Other Long-Term Care Services

On-Site Employer Health Centers

Rehabilitation Facilities

Replacement Hospitals

Rural, Urban, and Teaching Hospitals

Surgery Centers

Wellness and Sports Medicine Centers

Women's Centers



Our Experience





OUR WORK

CHASS Health Center*

DETROIT, MICHIGAN



PROJECT SIZE

48,000 SF

SERVICES

Programming, Architecture, Interior Design, Civil, Structural, Mechanical, Plumbing, Electrical, Construction Administration

SUSTAINABILITY

LEED Silver Certified

The Community Health and Social Services (CHASS) Center, Inc. is a community-based, not-for-profit organization formed to develop, promote and provide comprehensive, accessible and affordable quality primary health care and support services to all residents - with emphasis on the underserved African American and Latino populations.

The organization sought to expand primary healthcare and wellness / preventative services to the uninsured and under-insured in Detroit's metropolitan area. The new building replaces the center occupied since 1975 and will allow CHASS to serve 28,000 patients a year - 17,000 more than its former facility.

The new facility will allow CHASS to enhance the many services it provides to the community, and includes two primary care clinics with 24 exams, four procedure rooms, a diagnostic area, dental office with six chairs, pharmacy and lab. The second floor accommodates Behavioral Health Services, conference rooms including a demonstration kitchen, staff support and administration office. The balcony of the two story atrium serves as a walking track while the first floor accommodates reception, multiple seating areas and the children's play area.

* Work executed by Ghafari staff while with another firm



OUR WORK

ACCESS Community Health + Research Center

DEARBORN, MICHIGAN



PROJECT SIZE

24,000 SF (2,200 SM)

SERVICES

Programming, Architecture,
Interior Design, Civil, Mechanical,
Electrical, Structural, Construction
Administration

This two-story, 24,000 sq. ft. facility houses a full-service clinic combining the resources of the Arab Community Center for Economic and Social Services (ACCESS), Wayne County and Detroit Medical Center. This clinic was designated as a Primary Care Level 4 facility per World Health Organization standards.

The ground floor of the building houses the ACCESS Clinic, including three doctor's offices, nine examination rooms, a laboratory, conventional x-ray, ultrasound, mammography, triage and pharmacy. In addition to these primary care services, in-house specialty referrals including cardiology, obstetrics and gynecology, orthopedics, endocrinology, dermatology, neurology, ophthalmology, allergy medicine, and minor outpatient surgery are provided. Three public health program administrative offices complete the ground floor: Breast & Cervical Cancer Control Program, Teen Health and Diabetes. The second floor contains 17 public health program offices, a reference library, resource room, four seminar rooms, and an HIV/AIDS counseling room. This area is utilized by mental health professionals, preventionists, therapists and the Victims of Torture Center, and also houses the academic affiliations of ACCESS.

Ghafari designed the facility to meet ACCESS' physical requirements while providing a landmark for the organization. The two-story facility was designed to meet the diverse medical needs of the surrounding community. A light colored, split-faced concrete masonry exterior was utilized to visually tie the center with ACCESS' social services building, which was also designed by Ghafari on the same site.



OUR WORK

Erie Family Health Center Humboldt Park Clinic

CHICAGO, ILLINOIS



PROJECT SIZE

33,000 SF (3,000 SM)

SERVICES

Programming, Planning, Architecture, Interior Design, Structural, Mechanical, Plumbing, Fire Protection, Electrical, Data, Telecom, Construction Administration

UNDERSTANDING THE CHALLENGE

To uphold their mission of providing high-quality, culturally sensitive care to their Chicago community, Erie Family Health sought to renovate their three-story health clinic, which needed significant remodeling, infrastructure upgrades, and the repair of the existing facade. Given their role as a key provider of healthcare services in the Humboldt Park neighborhood, it was critical to the client that the clinic remained operational throughout the project. We worked closely with Erie to design upgrades that allow all areas of the center to function properly, assure the safety of all users, and maintain a positive patient experience.

TAILORING THE SOLUTION

We provided full architecture and engineering services, from planning and programming through complete construction documents. The project required the complete remodeling of the basement and second floor, the renovation of the existing facade, and full mechanical and electrical upgrades throughout the entire building. The project criteria also included facility updates for ADA compliance and upgrades to its IT system. We also opened existing skylights and preserved the existing marble stairs and terrazzo floors. Our phased approach enabled clinical operations to continue during construction.

SUPPORTING WHAT MATTERS

Our team embraced the goals of the Erie Family Health Center by completing these important upgrades and improvements to the space without interrupting their operations. The aesthetic and functional changes support the delivery of quality medical care in the Humboldt Park community.



OUR WORK

Hills + Dales General Hospital Expansion + Modernization

CASS CITY, MICHIGAN



PROJECT SIZE

28,000 SF (2,600 SM)

SERVICES

Planning, Architecture, Interior Design,
Structural, Mechanical, Electrical

UNDERSTANDING THE CHALLENGE

Hills + Dales General Hospital has served its community as a critical care provider for nearly 60 years. Among their core values is a commitment to constant improvement as they strive to provide the highest quality experiences to their patients, physicians and staff. To that end, the hospital recognized the rapidly changing healthcare needs of the region and sought a professional consultant to evaluate their existing campus and develop an updated master plan for future facility improvements.

We worked closely with the hospital to understand their patient base, service offerings and facility needs. Together, we developed a plan for facility expansions and upgrades that will give their physicians and administrators the space to provide better care to their patients.

TAILORING THE SOLUTION

Our team evaluated the hospital's service lines and assessed their existing facilities (totaling 147,000 square feet between the three-story hospital building and 10 clinics) and space allocations. Using this information, we forecasted the space needed to meet future operational volumes.

Our proposed solution calls for a 12,000-square-foot expansion to the hospital along with approximately 16,000 square feet of renovations on the first and second floors. In addition to expanding the facility's capacity, our plan will relocate some of the hospital's administrative functions to provide a consolidated physician practice. The plan also adds a new, more welcoming canopied entrance that will house a lobby, private registration area and a gift shop.

We are now working with the hospital to execute our recommendations, providing architecture and engineering services for the expansions and renovations through the construction document phase.

SUPPORTING WHAT MATTERS

When completed, the expanded Hills + Dales General Hospital will truly be a place of healing for the modern era, enabling all who work there, from physicians and nurses to administrators, to provide premium patient care.





OUR WORK

Memorial Healthcare Cancer Center

OWOSSO, MICHIGAN



PROJECT SIZE

46,000 SF (4,300 SM)

SERVICES

Programming, Planning, Architecture,
Interior Design

The design of the cancer treatment facility for Memorial Healthcare included the relocation and expansion of the Memorial Healthcare endoscopy services from the main hospital into this new Ambulatory Care Center. Interior design elements included water features, earth tones and a healing garden all carefully chosen to create a healing environment for patients in this two-story facility. Within the facility there are four endoscopy rooms on the second floor with three physician practice units and five private chemotherapy rooms and two open infusion rooms on the main floor together with a patient library and community room.

This facility, located in a residential area, reflects the domestic typology of the neighborhood. The design, which was enthusiastically received by the community, incorporates a green roof, environmentally-sensitive landscaping and high-performance building envelope design, as well as other energy-efficient systems. Exterior elements included a water fall and reflecting pool and a landscaped area for patients and families.





OUR WORK

St. Vincent's Health System Bruno Cancer Center *

BIRMINGHAM, ALABAMA



PROJECT SIZE

56,000 SF (5,202 SM)

SERVICES

Programming, Planning, Architecture,
Interior Design

In response to the steady increase in patient population and a need for updated technology to serve patient needs, a New Bruno Cancer Center was constructed as a free-standing building on the St. Vincent's Birmingham campus. In the new center, Medical and Radiation Oncology are separated, each having its own waiting area. The environment was designed with features proven to be psychologically supportive, such as an abundance of natural light, soothing colors, considerations for noise reduction, spacious areas, and comfortable furnishings.

The architecture features an open two-story atrium, brightening the interiors with glowing sunlight and creating a sense of peace and calm. A windowed front façade overlooks a lush garden setting. In the medical treatment areas, each infusion station is located next to a glass wall, bathing the space in natural light. Storage, support functions, and staff areas are discreetly placed to be unnoticeable to patients and visitors.

* Work executed by Ghafari staff while with another firm





OUR WORK

Beaumont Rochester Hills Medical Center

ROCHESTER HILLS, MICHIGAN



PROJECT SIZE

4,500 SF (418 SM)

SERVICES

Architecture, Interior Design,
Mechanical, Plumbing, Fire Protection,
Electrical, Data, Telecom, Security,
Construction Administration

UNDERSTANDING THE CHALLENGE

One of the region's leading healthcare systems, Beaumont Health System is committed to uncovering innovations and opportunities for improvement that enable them to provide a model experience to their patients. To that end, they decided to renovate their medical center in Rochester Hills, which offers a number of valuable outpatient services to members of the surrounding community. We worked closely with Beaumont to understand their evolving service offerings, which needed to be accommodated in their existing medical center without compromising the top-level care that their patients expect.

TAILORING THE SOLUTION

Our team provided comprehensive architecture and engineering services for the medical center renovation, which totaled 4,500 square feet and focused primarily on four suites located on different floors within the facility. Our design modifies the Vascular suite to accommodate the relocation and expansion of services with the addition of a vascular lab and cardio stress testing. Our scope also included millwork replacement and other upgrades to the finishes within the Radiology, Hemodialysis, and Physical Therapy suites, along with the addition of a soiled linens holding room that services all suites.

SUPPORTING WHAT MATTERS

With these facility upgrades, the Rochester Hills Medical Center is better equipped to serve its community of patients, consistent with Beaumont's mission of offering high-quality care efficiently, effectively, and compassionately.



OUR WORK

Genesys East Flint Campus

BURTON, MICHIGAN



PROJECT SIZE

40,000 SF

SERVICES

Programming, Planning, Architecture,
Interior Design

This 40,000 sq. ft. two level medical office building was constructed at a cost of \$7.1 million to provide a home for Genesys Health System services displaced by the demolition of St. Joseph Hospital. This fast-track project was designed and constructed in 11 months. The new building provides 24 hour emergency care with supporting imaging and laboratory services, while the office and outpatient clinical functions can be closed off after business hours.

The building, located on a narrow site, provides emergency services on the main level, near the main street for visibility and easy access. The second floor provides exam spaces and support for the Family Health Center.

Patients and visitors entering the building are welcomed by an open 2-story lobby and atrium connecting the various spaces from the rear parking area and the main front entrance. The exterior of the building design utilized materials, colors and products already established at the Genesys Regional Medical Center Health Park in Grand Blanc, reinterpreted to suit the context of the site environment. Burnished and split face concrete masonry units and curtain wall fenestration were major components of the exterior design.



OUR WORK

Oakwood Healthcare System Rotunda Center

DEARBORN, MICHIGAN



PROJECT SIZE

38,700 SF (3,600 SM)

SERVICES

Programming, Planning, Architecture, Interior Design, Civil, Structural, Mechanical, Electrical, Construction Administration

UNDERSTANDING THE CHALLENGE

A longtime provider of health and wellness services in their local community, Oakwood Healthcare System sought a new home for their Center for Exceptional Families, which provides family-focused care for children with developmental disabilities, acquired disabilities, and complex chronic disorders. They decided to renovate the 38,700-square-foot Rotunda Center in Dearborn to house this important community-centered program.

Our design team worked closely with Oakwood to understand their vision of a space that allows them to provide comprehensive programming to special needs families in a home-like atmosphere.

TAILORING THE SOLUTION

This project introduced three distinct programs at the Rotunda Center, which was previously used as a child daycare facility: the Center for Exceptional Families; the University of Michigan–Dearborn’s Early Childhood Education Center; and Oakwood’s Clinical Learning Center. To comply with Joint Commission standards and State of Michigan Design Standards for Healthcare Facilities, our design separates the space into three clear zones, one for each program.

Each childcare learning space incorporates a kitchenette with a dishwasher, refrigerator, and custom build-in casework, along with child-size restroom facilities. The center also hosts sensory integration and deprivation spaces, a training kitchen, laundry facilities, a gymnasium to assist children in activities of daily living, and shared functional spaces (administrative offices, a seminar space, special events stage, and production kitchen).

SUPPORTING WHAT MATTERS

Collaborating with Oakwood, we designed a facility that supports the functional needs of the three programs it houses while providing a comfortable environment that embodies the Center for Exceptional Families mission of being a place “where it’s okay to be you”.



OUR WORK

UAB Spain-Wallace Building Interior Renovation

BIRMINGHAM, ALABAMA



PROJECT SIZE

20,000 SF (1,900 SM)

SERVICES

Architecture, Interior Design

UNDERSTANDING THE CHALLENGE

For over 70 years, the University of Alabama at Birmingham (UAB) Health System has been recognized as a leading medical center in the Southeastern United States. To maintain the proper balance between functionality, technology, and aesthetics the University embarked on a significant interior refresh throughout all existing medical facilities.

Among the facilities requiring renovations was the Spain-Wallace Building. The facility's medical-surgical kidney unit, which spans across the building's seventh and eighth floors, needed a boost to the architectural character of both the patient and staff areas. We were called upon to provide architecture and interior design services to transform these inpatient floors into safe and more appealing spaces for patients, staff, and visitors alike.

TAILORING THE SOLUTION

With safety and comfort at the helm of our design, we provided fully upgraded architectural finishes and wall coverings and replaced the flooring with high-performing vinyl to allow safer navigation throughout the space. Clinical and public areas were also fully renovated with new finishes and flooring. Other improvements include modernized furnishings across all nursing units and new corridor handrail systems. The pairing of these enhancements with a newly installed nurse call system covering both nursing units greatly enriched the unit's character and safety. We actively engaged the hospital staff in the selection of new materials and colors, instilling more than just a new look, but also a stronger sense of pride for the space in which they spend their days.

SUPPORTING WHAT MATTERS

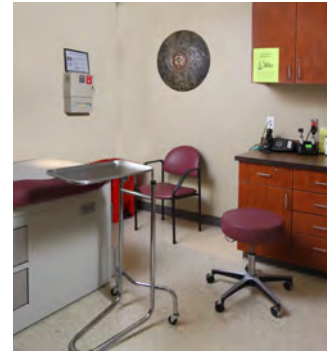
In addition to meeting critical renovation needs, our design solutions integrated inviting colors, durable finishes, and an overall sense of place within an often stressful environment. This transformation syncs the building well within the cultural evolution taking place across the campus and contributes to UAB Hospital's reputation as a destination for patients, visitors, and employees.



OUR WORK

Coushatta Casino Resort Corporate Wellness Center*

KINDER, LOUISIANA



PROJECT SIZE

6,700 SF

SERVICES

Programming, Planning, Architecture,
Interior Design, Project Management

The medical center provides primary medical care, occupational medicine, chiropractic care, massage therapy, full service pharmacy and lab services, diabetic counseling, weight management and wellness programs for employees of the casino. Natural daylight is infused throughout the interior of the center, and warm color palettes delight the senses while bright, open spaces embrace and energize patients in their pursuit of healthy minds, bodies and spirits. Providing top quality healthcare, with emphasis on preventive healthcare, plus lower co-pays on office visits and prescription costs encourages a focus on personal health.

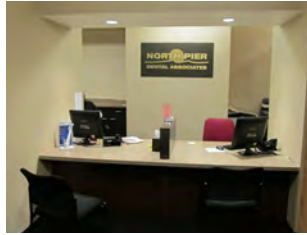
* Work executed by Ghafari staff while with another firm



OUR WORK

North Pier Dental Office at the Lofts at River East

CHICAGO, ILLINOIS



PROJECT SIZE

4,000 SF (370 SM)

SERVICES

Structural, Mechanical, Plumbing,
Fire Protection, Electrical, Data,
Telecom, Security, Laser Scanning,
BIM Integration Management, Cost
Estimating, Scheduling, Design-Build

To support North Pier Dental Associate's office renovation at the Lofts at River East, Ghafari provided design-build services that included 4,000 square feet of tenant and infrastructure improvements.

The Ghafari team provided base building structural, mechanical, electrical, plumbing and fire protection services for the new tenant area. Changes included upgrades to rooftop equipment, fire alarms, electric service panels and water service, and offered new distribution for all tenant spaces.

The dental facility was developed on an accelerated schedule as their existing space was in the center of a new residential development.



OUR WORK

Hurley Medical Center Clinics

VARIOUS LOCATIONS, MICHIGAN



PROJECT SIZE

Various

SERVICES

Planning, Architecture, Interior Design

Ghafari provided a master plan report for ADA and interior enhancements recommended for eight Hurley off-site operations, as well as renovation and improvement in areas of "signature" appearance and functionality. Interior work included the selection of furniture, finishes, art, plants and accessories. The appearance of the facilities varied widely, and it was determined that a master plan approach would be helpful to coordinate future improvements to each of the facilities as needed in the areas of signature appearance and functionality.

Each facility was evaluated. Areas in which function and appearance could be improved were presented in the following manner:

- Written evaluations and prioritized lists of recommendations to improve the serviceability of the facilities, i.e. ADA compliance, life safety, traffic flow, furnishings, etc
- Line drawn floor plans of existing facilities
- Photographs useful for illustration
- Schematic plans with suggested functional changes
- Budgetary estimates for the implementation costs of enhancements

Based on the recommendations, four of the facilities were renovated and seven additional facilities were renovated or involved in new construction.



OUR WORK

Oakwood Healthcare Corporate Office Atrium

DEARBORN, MICHIGAN



PROJECT SIZE

8,000 SF (700 SM)

SERVICES

Planning, Architecture, Interior Design, Civil, Structural, Mechanical, Plumbing, Fire Protection, Electrical, Construction Administration

UNDERSTANDING THE CHALLENGE

Oakwood Healthcare System has been based in Dearborn for more than 50 years. When the healthcare provider decided to expand their Corporate Services Group, their priority was to remain in their longtime home. Working with Ford Land, they renovated two adjacent, one-story office buildings with the intent of creating more collaborative work environments for their team members. They then sought to develop a link between the two existing buildings through the construction of an atrium that would unify and enhance their new workplace while providing additional amenities for their employees.

Our design team worked closely with Oakwood to understand their vision of a space that creates a prominent front point of entry into their newly integrated corporate offices, providing a place of welcoming and connection for employees and visitors alike.

TAILORING THE SOLUTION

We designed the 8,000-square-foot atrium as a series of thresholds connecting space both physically and visually, resulting in an engaging user experience from the point of arrival to the point of exit. The physical connection between buildings enhances employee interaction while providing a welcoming centralized space for visitors. The use of two large glass facades emphasizes the transparency of the main volume while strengthening the visual connection between the inside and outside.

The space hosts a variety of amenities and operations, including employment application kiosks, security and vendor badging areas, a café, indoor and outdoor dining / lounge areas, a water feature, and entrances to both adjacent office buildings. An assortment of seating options is provided throughout the atrium to encourage its users to gather in both formal and informal arrangements.

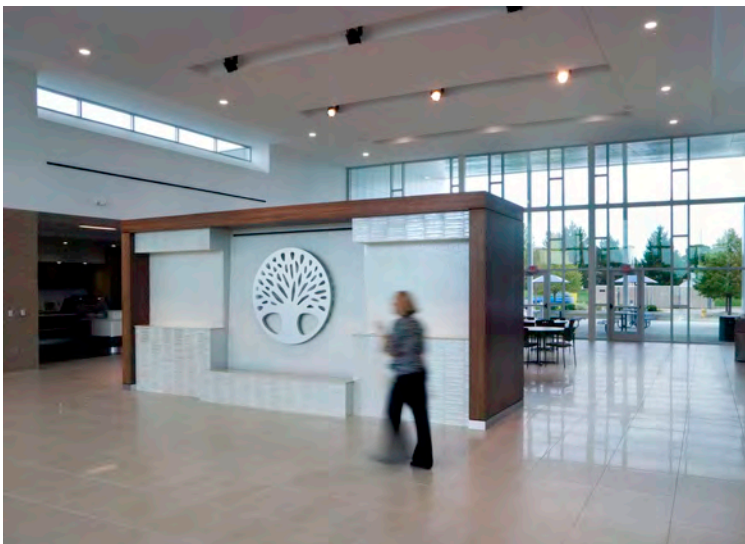
SUPPORTING WHAT MATTERS

Collaborating with Oakwood, we designed a bright, open atrium that successfully unifies two distinct workspaces, promoting solidarity among their team members by encouraging interaction and connection.



OUR WORK

Oakwood Healthcare Corporate Office Atrium





OUR WORK

Kenya Relief Medical Center Surgery Building

MIGORI, KENYA



PROJECT SIZE

1,670 SM (18,000 SF)

SERVICES

Mechanical, Plumbing, Fire Protection, Electrical, Data, Telecom, Security

This new 18,000 square feet surgical facility for Kenya Relief Medical Center (KRMC) will provide comprehensive care and replace the existing 6,000 square foot medical facility currently utilized by KRMC. The surgical facilities include provisions for up to five operating rooms, pre-op exams, pre-op holding, along with Phase I and Phase II recovery for patients. Support space includes a central sterile processing area, anesthesia workroom, and lounge / lockers for surgeons and staff.

The new KRMC facility will expand medical services to include cataract surgery, head and neck surgery, orthopedic surgery, pediatric surgery, labor and delivery, primary care, community outreach programs, and more.

Ghafari provided schematic design engineering services to solidify facility requirements for the owner’s fundraising efforts.



OUR WORK

Jesse White Community Center + Field House

CHICAGO, ILLINOIS



PROJECT SIZE

30,000 SF (2,800 SM)

SERVICES

Programming, Planning, Architecture, Interior Design, Civil, Structural, Mechanical, Plumbing, Fire Protection, Electrical, Data, Telecom, Security

SUSTAINABILITY

LEED Silver Certified

UNDERSTANDING THE CHALLENGE

Illinois Secretary of State Jesse White envisioned a recreational and educational facility in Chicago's near north side neighborhood that would be a center for community engagement and provide a home for the Jesse White Tumblers, a program that he created in 1959 to serve disadvantaged inner-city youth.

We collaborated closely with Secretary White and the Chicago Park District to understand their vision of a facility that accommodates a variety of fitness and assembly spaces yet embraces transparency and openness, serving as a built expression of welcoming to its neighbors. Together, we developed a solution for a building that is inviting, energy-efficient and, most importantly, a place where community members can thrive.

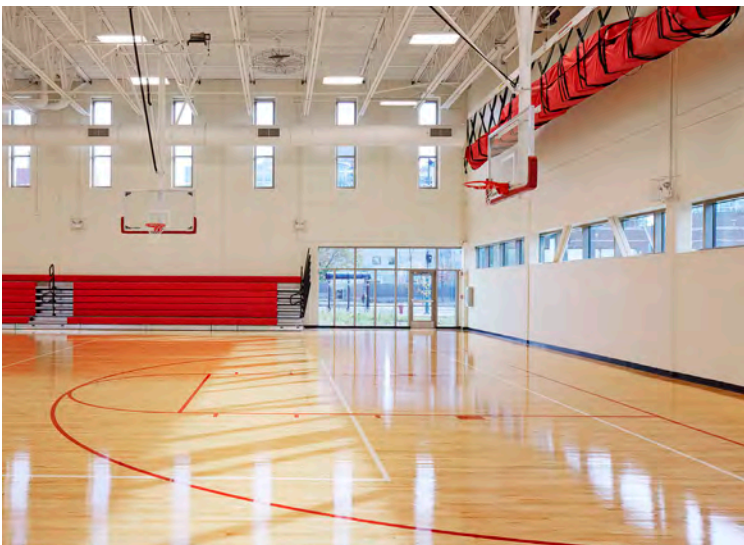
TAILORING THE SOLUTION

Our design of the 30,000-square-foot facility seeks to create a composition of shifting boxes with a high degree of transparency to enhance the connection to the community. The LEED Silver-certified center exhibits a fully integrated design approach resulting in the use of performance-driven, energy-efficient building materials and the optimization of centrally located utility equipment.

The major architectural volumes, expressed in a warm copper tone and acrobatic shape, house a gymnasium and gymnastics facility with tumbling equipment and in-ground foam practice pits. The minor volumes, featured in a portal-type gesture with playfully colored glazing, host a fitness space, community meeting rooms and public computer labs. Administrative offices and a generous reception lobby welcome the public through their transparent façade and southern-exposed entry plaza. The upper floor is home to administrative offices and conference rooms, as well as a balcony overlooking the gymnastics facility.

SUPPORTING WHAT MATTERS

We designed a vibrant community-centered space that promotes connectivity and enriches the character of its evolving neighborhood, serving as a beacon of hope and healthy living.





OUR WORK

Toyota Industrial Equipment Manufacturing T+Rex Recreational Complex

COLUMBUS, INDIANA



PROJECT SIZE

35,000 SF (3,200 SM)

SERVICES

Architecture, Civil, Structural, Data, Telecom, Security

UNDERSTANDING THE CHALLENGE

Toyota Industrial Equipment Manufacturing (TIEM) has a proud legacy of manufacturing material handling equipment with a longstanding commitment to quality, reliability, and customer satisfaction, the hallmarks of the Toyota Production System. Critical to honoring this commitment is their continuous investment in the development and wellness of their team members. To that end, they decided to build a new health and fitness center at their North American headquarters that would provide free access and a number of amenities to TIEM employees and their families.

As the design arm of a design-build team, we worked closely with the client and contractor to develop a facility that houses a variety of wellness-oriented spaces that promote employee health, activity, and team camaraderie.

TAILORING THE SOLUTION

We provided architectural, civil, structural, security and communications system design and MEP peer review for the two-story, 35,000-square-foot stand-alone building positioned at the southeastern end of the TIEM campus. Our initial concept required approval by TIEM's leadership team in Japan before we could commence design development.

The center features an exercise room, indoor track, yoga studio, recreation room, and two indoor courts for basketball, volleyball, and other sports. Also included is a medical center where employees and their family members can receive primary healthcare, wellness coaching, physical therapy, and access to a full-line pharmacy.

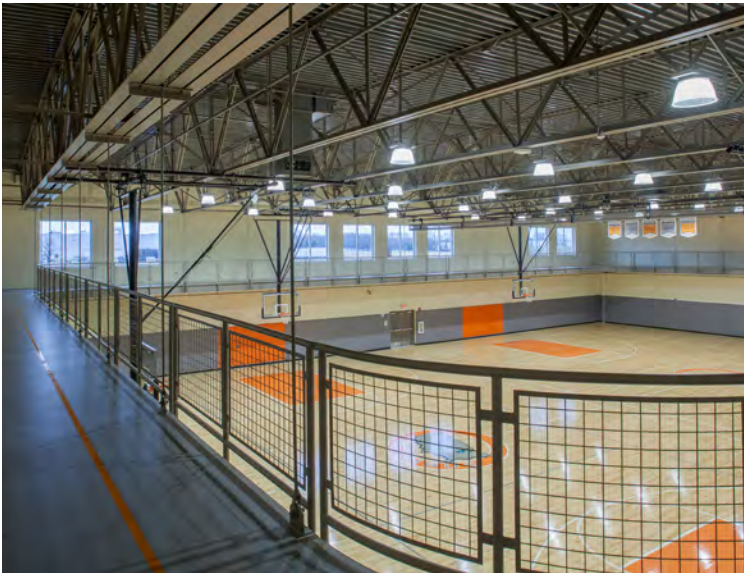
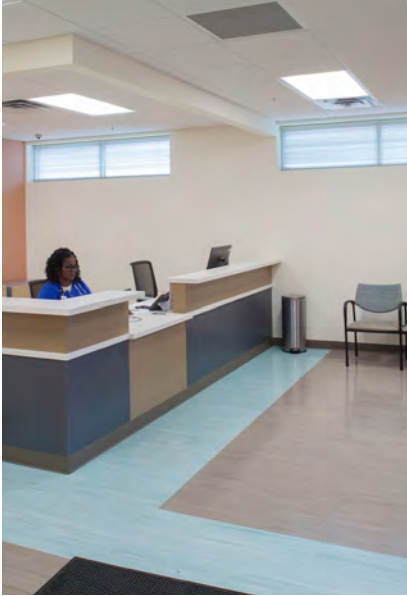
SUPPORTING WHAT MATTERS

The completed T+Rex Recreational Complex stands as a testament to TIEM's dedication to enhancing the quality of life of their team members, strengthening a corporate culture grounded in teamwork, a solid work ethic, and employee wellness.



OUR WORK

Toyota Industrial Equipment Manufacturing T+Rex Recreational Complex





OUR WORK

Otsego Memorial Hospital Facility Master Plan

GAYLORD, MICHIGAN



PROJECT SIZE

40,000 SF (3,700 SM)

SERVICES

Healthcare Planning, Architecture

UNDERSTANDING THE CHALLENGE

Otsego Memorial Hospital sought the services of a healthcare consultant to evaluate and update their most recent master plan. Given increased surgical, emergency, obstetric, and acute care volumes, it had become apparent that they needed a well-informed plan for accommodating current and future growth.

Our healthcare planning team worked with the hospital's staff to gather pertinent information about their services and facilities and develop an updated master plan. We understood that it was critical that our solution allow the hospital to continue operating without interruption during any subsequent construction phases.

TAILORING THE SOLUTION

We conducted a comprehensive assessment of the hospital's facilities and space allocations, as well as multiple aspects of the services they provide. This provided the basis for forecasting the space needed to meet current and future operational volumes and to develop plans to both expand and renovate the hospital.

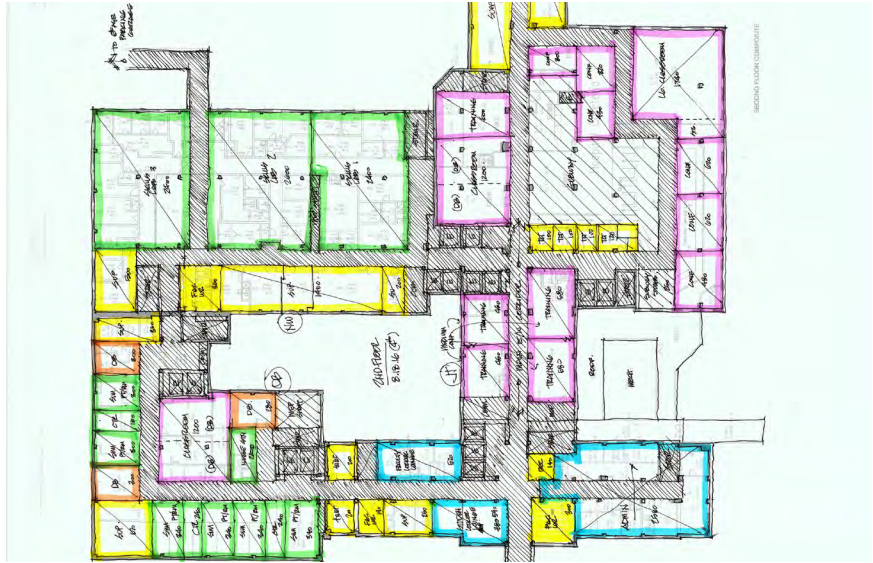
The main floor of the hospital is constrained to the east by a city street and property boundaries and to the south by visitor parking and the main entrance. Consequently, our solution calls for expanding surgery, ambulatory surgery, emergency, and central processing to the north on all three levels of the facility. The plan also expands the second floor to the west to provide space for a new birthing center. In total, the proposed plan involves approximately 23,000 square feet of renovation and 17,000 square feet of new construction.

SUPPORTING WHAT MATTERS

In developing the master plan, we worked within the constraints of the site while providing the hospital with a solid path forward to keep pace with anticipated growth. The master plan is based on a phased approach that supports the client's goal of keeping the hospital fully operational through construction.

UAB Blazer Hospital Simulation Facility

BIRMINGHAM, ALABAMA



PROJECT SIZE

Est. 95,000 SF (8,825 SM)

SERVICES

Planning, Architecture, Mechanical, Electrical, Cost Estimating

UNDERSTANDING THE CHALLENGE

The University of Alabama at Birmingham (UAB) Hospital serves as an important training ground for medical professionals and students. To enhance their educational resources, UAB decided to significantly expand their simulation facilities, providing a wide range of simulated rooms where medical staff – including young doctors, nurses, and others – can sharpen and advance their patient care skills. They are considering a large-scale renovation of existing spaces in three separate hospital buildings or a new stand-alone facility where these simulation rooms could be housed.

We worked closely with UAB stakeholders to understand their vision of multidisciplinary training and research spaces that will enrich their learner-centered approach to medical education, providing an atmosphere that embraces experiential learning, fosters innovation, and supports optimal patient care.

TAILORING THE SOLUTION

The renovation program calls for approximately 95,000 square feet across three facilities that encompass a variety of spaces, including: classrooms; skills labs; simulated operating rooms, patient rooms, labor and delivery rooms, a nursery, and an interventional radiology and cardiology suite with support, control, and debriefing rooms directly accessible; a simulated pharmacy; phlebotomy; lab services; dental operatories; ambulance hazmat functions; outpatient ambulatory exam rooms with faculty observation rooms; administrative spaces; staff and faculty change, locker, and lounge areas; and conferencing.

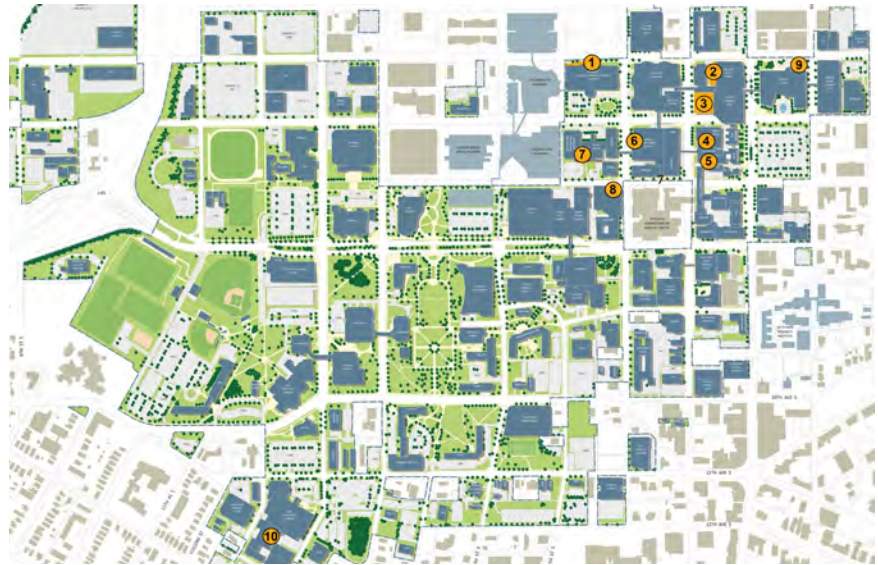
Based on this substantial program, our team was tasked with developing a functional plan to address the physical needs of the simulation center, establishing the feasibility, logical phasing, and estimated cost of the building renovation given the existing facility layouts and infrastructure. We also developed a cost model for the stand-alone building option.

SUPPORTING WHAT MATTERS

With the plan and cost estimates that we developed, UAB is positioned to make well-informed decisions on whether to renovate their existing facilities or construct an all-new building to house these important learning spaces.

UAB Medicine Medical Campus Space Programming

BIRMINGHAM, ALABAMA



PROJECT SIZE
Est. 5.5 million SF (511,000 SM)

SERVICES
Programming

UNDERSTANDING THE CHALLENGE

The University of Alabama at Birmingham (UAB) operates one of the region's largest hospitals and is dedicated to providing innovative, family-centered healthcare services to the surrounding community. As part of their commitment to continuous improvement in patient care, UAB Medicine plans to enhance their two on-campus hospitals, University Hospital and Highlands Hospital, to increase their capacity and better serve the changing healthcare needs of Birmingham citizens.

UAB Medicine decided to undertake a significant master planning project that would establish their future facility needs – including new buildings, renovations, expansions, and demolitions – to accommodate greater patient volumes in the year 2021. We worked closely with UAB Medicine stakeholders, helping them to understand the probable programmatic growth in demand for each of their service offerings and the associated space that will be required to uphold their high standard of patient care.

TAILORING THE SOLUTION

We kicked off the project by obtaining and analyzing the five-year patient volume forecasts through 2021 for inpatient beds, emergency services, surgery rooms, obstetrics, oncology, ambulatory care, imaging, and all clinical support. Using special volume analytics and space metrics algorithms, we then determined the key rooms and space needed to realize this forecasted growth in the most logical manner, considering UAB Medicine's existing 30-building medical campus that currently encompasses over 5.3 million square feet.

Based on our analysis, we determined that UAB Medicine will need to expand their facilities by over 180,000 gross square feet (exclusive of parking) in order to effectively serve growing patient volumes in 2021.

SUPPORTING WHAT MATTERS

Through this analysis, we have given UAB Medicine very effective tools to help them navigate the waters of change and to adapt and modify their services accordingly. With the vital space programming phase completed, we will work together to develop an updated master plan that defines the optimal future facilities required to meet 2021 needs.



SECTION 0.0

Appendix



MCD

MEDICAL CONSTRUCTION & DESIGN®

THE SOURCE FOR CURRENT NEWS, TECHNOLOGY & METHODS

INSIDE

FOCUS:
GREEN & CLEAN

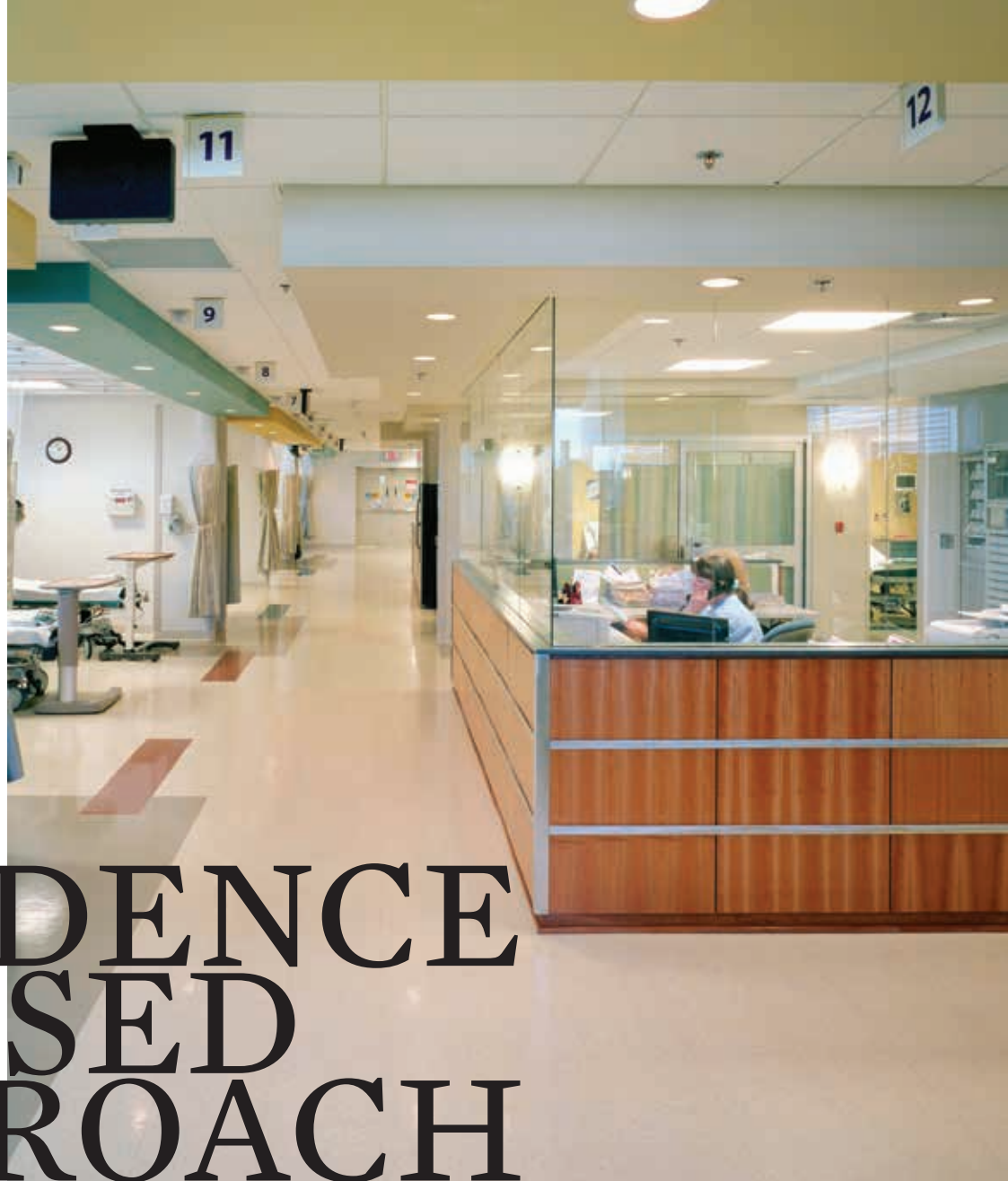
SPOTLIGHT:
RESTROOMS

+
BARIATRIC
DESIGN

PLANNING MAKES PERFECT

Lean process
yields
exceptional
outcome for
Kootenai Health





Effective facility pre-planning for the critical access hospital

EVIDENCE-BASED APPROACH

BY THOMAS GUNN

In 1997, Congress created critical access hospitals in response to several rural hospital closures. Despite their importance to their communities, many CAH are closing and others struggle to compete in a changing economic and service environment.

Every healthcare organization is well advised to heed the axiom, “Planning without action is futile but action without planning can be fatal.” It is important to gather and assess key data to drive cost-effective strategic planning, facility planning and design.

An Evidence-Based approach to pre-planning is critical for

CAH, which typically lack resources for basic clinical metrics and analytics; they are often trying to adapt to change without clear direction and achievable, cost-effective objectives.

Hospital leaders and planning teams need both strategic and facility planning as each provides a valuable perspective. Strategic planning focuses on regional programs and services and how a hospital responds to the community. Facility planning focuses on responses to regional care, with programs and services delineated by strategic planning through sustainable design of facility modifications. Survival means



Medical oncology (chemotherapy) unit at Memorial Healthcare, Owosso, Michigan.



adapting to change and avoiding obstacles.

Determining viability

Healthcare leaders often ask: "How do we know that we're viable and can continue to meet market demands?"

First, look at clinical volumes data of regional hospitals, which are available for most hospitals. Healthcare planners can work with leaders to interpret and identify U.S., regional and state metrics and potential trends to measure current and future operations and assess opportunities.

Next, consider the five primary drivers of healthcare volumes:

1. ED visits for emergency and

- urgent care — medical, accidents or other related care
2. Outpatient visits for clinical evaluation and diagnostic studies or therapeutic rehabilitation
3. Birthing, prenatal and neonatal care
4. Surgery — both inpatient and outpatient procedures
5. Patients admitted for medical issues, disease management, surgery or accidents

The five drivers precipitate evaluation of other metrics and analytics of existing and forecast volumes during pre-planning and programming — well before facility planning and design.

After reviewing trends on these drivers, gather operations data. Site visits enable observation of current facilities, services, accommodations, access, etc. Planners collect site-specific data on clinical volumes and compare clinical profiles of proximate hospitals, as well as administrative, operational and financial issues.

The raw data is compared with U.S., regional and state data using rates per thousand for specific clinical services. For example, 42.3 percent of the U.S. population used the ED in 2015 versus 49.3 percent of the Michigan population. On the outpatient side, it's 172.2 percent of the U.S. population and 279.8 percent of Michigan, averaging to 1.7 outpatient visits per person per year nationwide and 2.8 in Michigan in 2014.

For U.S. and state, use rates/1,000 for the five drivers, and determine the population using the base hospital. Divide each use rate into admissions, births, ED visits, surgical procedures and outpatient visits and multiply by 1,000, to determine the covered lives per primary driver and to generally determine the covered lives of hospital. Average these together to determine the population using the hospital for

UMS UNISTRUT® MODULAR SUPPORT



A versatile solution for today's healthcare needs

UMS benefits include:

- Max load before yield failure at 24,000 ft-lbs!
- Independently tested
- Patent Pending
- Reduced on-site fabrication
- Decreased job-site labor and hours
- Easily adjustable on-site
- Smaller foot print - no external bracing required
- Enhanced portability and ease of shipping



Substantial labor savings over typical boom support systems

Contact your Unistrut Construction representative for complete details.

U.S.: 800-468-9510
CAN: 800-267-4959

UNISTRUT®
Construction

A PART OF **atkore**
INTERNATIONAL

unistrutconstruction.com

each service. To project market share, compare the covered lives per primary driver to total average covered lives. These numbers enable growth forecasting and clinical volume prediction alongside regional trends, which can project space requirements for the hospital — population-based modeling.

Considering trends

Birth rates and teen pregnancy declined in the U.S. during the recession. Current data predicts a gradual increase in births. Planners study admissions and births and divide by regional use rates per thousand to determine covered lives. Modeling and analytical tracking help measure the other drivers via “demand elements,” which support clinical volume based on admissions per 1,000 covered lives. Demand elements are used to measure trends against basic historical data for forecasting.

It’s not always easy to discern trends unless planners present data in a usable format. Concise data provides greater clarity for study and decision making. Thus, linear regressions or other analytic modeling on overall hospital admissions, births and outpatient visit data reveal trends over time. These enable leaders to identify weaknesses and opportunities — a SWOT analysis.

As leaders and planners consider how to improve the percentages in different markets, they must identify the hospital’s primary service area by evaluating covered lives against population density. With this information, planners can obtain discharge information for clinical services by patient zip codes and identify the secondary vs. primary service areas, determining the hospital’s overall reach.



An ambulatory surgery room at Ostego Memorial Hospital, Gaylord, Michigan.

Pre-planning considerations

A key pre-planning consideration is the impact of transitioning from outdated care models to new models, such as family or patient-centered care. They must leverage financial and competitive data to respond to rapidly evolving changes in technology and care models. Incorporating new care models not only improves operations but also provides a far more effective plan and care-delivery outcome. Additional pre-planning factors to consider include:

From sickness to wellness and ‘population health:’ Since the healthcare law took effect, primary care physicians are transitioning from volume-based to value-based reimbursement. The doctor monitors patients with extended hours of care management to cut costs. A doctor who effectively manages patients’ health receives payments based on population health. This

significantly impacts the type and distribution of services.

IT technology: In 2014, implementation of the electronic health record and other IT and communication systems cost roughly \$88 billion. The EHR has enabled population health management. However, the infrastructure upgrades and changes to records affects planning.

Cost-competitiveness: Cost-setting for diagnostic-related groups in the early 80s was the beginning of government and payers’ efforts to control costs. Hospitals have undertaken a major paradigm change — from charitable organization to business — to compete, and revenue generation efforts will continue to affect operations and planning.

Existing and emerging competitors: Health providers should research retail competitors’ recent construction and finances. New retail competitors — in particular,

urgent care clinics — offer some services more effectively, with easier access than hospitals can provide. A hospital can partner with such clinics to avoid being undercut.

Form 990: Finally, an analysis of Form 990 for tax exempt hospitals enables planners to evaluate more cost-effective prioritization.

The metrics, analysis and synthesis of data are the cornerstones of programming, concluding with space assessments, “gap” studies comparing existing and forecast volumes and space, enable Evidence-Based judgments about the best use of resources. This is the foundation of design that will support the CAH in fulfilling and sustaining its vital role in rural health.

Thomas Gunn, AIA, is a senior health-care planner at Ghafari Associates. He has nearly 40 years of architecture, planning and project management experience.

CONTACT

Michael Durand, PE, LEED AP
Director
T +1.313.436.8614 | M +1.313.580.8649
mdurand@ghafari.com