EDAC Champion and Advocate Firm Projects

EVIDENCE-BASED DESIGN IN PRACTICE

2019

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Evidence-based design (EBD) is the process of basing decisions about the built environment on credible research to achieve the best possible outcomes. EDAC Champion and Advocate Firms take an additional step, ensuring their healthcare teams become EDAC certified and actively incorporate EBD in their healthcare projects. Each of the projects highlighted in the EDAC Advocate Brochure describe how the evidence-based design process was applied to address challenges in their projects.

Join our growing list of EDAC Advocate Firms.

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CannonDesign
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American Art Resources
Salvatore Associates

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ACI Boland Architects
Arch Design, Artwork & Framing Inc.
ArchiMed
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Baskervill
B+H Architects
Bouygues Building Canada
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Corgan Associates, Inc.
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Wellness Environments, Inc.
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To become an Advocate Firm, contact edac@healthdesign.org

Steelcase Health is EDAC's Educational Partner, offering study sessions and other resources to help prepare for the EDAC exam.

Become EDAC certified.

Evidence-based Design Accreditation and Certification (EDAC) assesses your knowledge of the evidence-based design (EBD) process and its application in the design and development of healthcare environments. This educational program teaches you how to find, use and create relevant research to improve healthcare outcomes and add to the knowledge base of EBD.

Since its launch in 2009, more than 2,500 individuals worldwide have obtained the EDAC credential. Currently, 56 industry organizations endorse the program. Champion Firms participated in the beta testing phase and were the first to commit staff to take the exam. Advocate Firms dedicate a minimum of 25% of their healthcare teams to become EDAC certified.

The evidence-based design process includes eight steps:

1. Define EBD Goals & Objectives
2. Find Sources for Relevant Evidence
3. Critically Interpret Relevant Evidence
4. Create & Innovate EBD Concepts
5. Develop a Hypothesis
6. Collect Baseline Performance Measures
7. Monitor Design & Construction
8. Measure Post Occupancy Results

HKS

The Health Facilitator, Texas Health Resources Frisco, TX

Goal

The aim of THR and UT Southwestern Frisco Campus' Health Facilitator was to show how a facility embedded within a community can encourage wellness, preventative care, and proactive behavior for the surrounding population instead of the typical reactive model of seeking care after illness or injury occurs. Thoughtful design strategies and incorporation of mixed-use spaces intend to change the view of the facility from a hospital or institution to one that is more integrated into the community.

Main: Texas Health Frisco Campus Exterior
Small: Texas Health Frisco Campus Breezeway Canopy
HKS, Inc., 2018

EBD STEPS APPLIED:

1 2 3 4 5 6 7

Overview: Texas Health Resources (THR) and UT Southwestern have committed to extending their presence in North Texas by developing a greenfield site in the booming suburb of Frisco. The project scope includes 300,000 square feet of hospital space, 120,000 square feet of medical office space, and structured parking. The hospital will focus on community health and provide 72 patient beds with the ability to add an additional 60 beds. Twelve of these beds are dedicated to Labor and Delivery along with eight neonatal critical beds so that the health system can connect with the young families and emphasize wellness early in life.

Challenge: The challenge was to integrate a major healthcare institution into a newly emerging community on the outskirts of a major city. A driving force of the design was a relabeling of the traditional "hospital" to a "health facilitator." Through this relabeling, the design team was challenged to reimagine the function and role of a healthcare provider. Additionally, the physical environment had to respond to this new focus by incorporating meaningful outdoor spaces, pedestrian-oriented programs, and mixed-use community spaces. While patient care is still the paramount priority of the hospital, these community-oriented functions had to be carefully integrated into the daily operations.

Solution: To efficiently evaluate the best strategies for integrating into a suburban community, the design team began by evaluating a similar THR facility, using a mini design diagnostic tool. This involved intensive shadowing of staff to evaluate how the operations and design affect the standard of care. This approach allowed the design team to take away valuable lessons about effectively integrating into a suburban context. As a result, the site was organized to open up to the community, provide walkability and fitness-related activity by strategically locating walking paths and extending preserved greenspace towards the surrounding neighborhoods.

The breezeway space, between the hospital and medical office building, invites visitors and staff to take advantage of its shade and direct connection to the health food café inside. The heavy timber columns and local vegetation under the canopy also help to support the health benefits related to biophilia through a meaningful connection to nature. Level 1 of the facility was intentionally planned with dual-use spaces to support the hospital's and community's needs. For example, the same space that might be purposed for inpatient and outpatient rehabilitative therapies during the daytime transitions to a location for fitness classes and intramural sports during the evening hours.

Results: This big idea proposes more targeted, community-based hospitals distributed within and among neighborhoods. These health facilitators would be smaller in scale than the traditional model but appropriately sized for the community served. The opportunity then exists to tailor the wellness and preventative care strategies for each community so that each facilitator becomes an integral component of the health and longevity of its people. Measurable intent has been rigorously documented throughout the design process, based on existing evidence, so that at designated points after occupancy the impact of specific design strategies can be evaluated through a post-occupancy evaluation.

Comparing the intended data based on design intent with the actual data collected through design implementation allowed the healthcare organizations to understand the progress made towards healthier individuals and the movement towards population health through higher-level public health and clinical metrics. This begs the question: What if a population of people experienced less heart disease, fewer cases of diabetes, reduced need for prescription drugs, or even an overall reduction of obesity simply because a hospital/health facilitator was present in the community?

EBD STEPS APPLIED:

1 2 3

Overview: Originally built in the 1980s and expanded over many years, this national children's hospital needed updating. The entry portal, in particular, had deteriorated in the past year when the "people mover" broke and was no longer repairable. Leadership sought a new entry portal for people arriving in cars—one that embraced their vision of "providing world-class care to the children around them."

Goal

To discover the challenges of a new entry portal and determine design decisions to enable clarity for patients, families, and staff. To create an entry that matched the vision of this world-class hospital.

Challenge: A first site visit revealed multiple issues. The main dropoff area/entry point by car was underground and poorly signed from the main street. This entry is shared by patients/family members and all staff (shuttle buses drop off from nearby Metro stations). Motorcycles and pedestrian bikes also shared this entrance. Many non-English speakers enter at this portal. Cars were triaged if staff were available and not busy with another task. As a first impression, this entry point was uninviting. There was no one to help people and no check-in desk, making it difficult to find the first floor check-in desk.

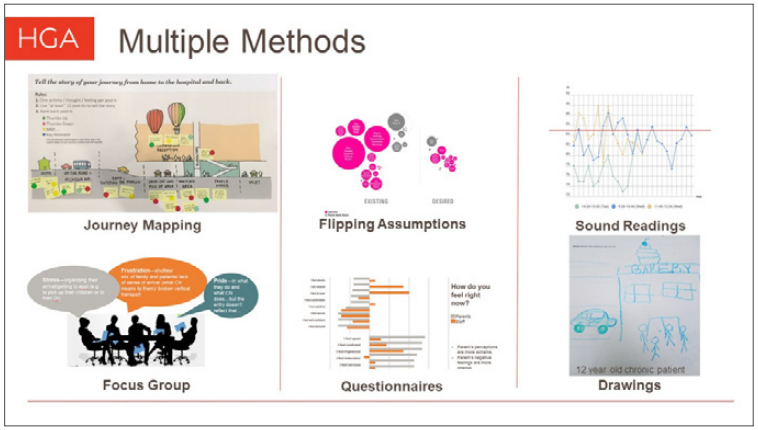
Solution: Because of the project's complex nature, the HGA research team created a multiple method practice-based research study that involved three researchers, more than 100 on-site hours, and several unique research tools to define the right solutions. These tools examined questions from multiple perspectives—touching on people, processes, and programming.

The first task was a deep dive into the leadership's perspective of the problem using a DT tool called Flipping Assumptions: a strategic series of questions used during a focus group. For example, leadership used words to describe the existing space as "clutter," "busy," and "dark."

Then, a focus group and questionnaire were used with staff to understand that the entry portal created extra stress for the staff as they arrived to and from work on the shuttles. Staff often felt torn between wanting to help families find their way to their next destination and having to catch the shuttle to get home to their own families. Staff also agreed that the entry point did not represent the prominence of the hospital in their community.

Finally, the team held an open work session for patients and their families to share their insights about the entry sequence. To accomplish this, adults

Insights from Mixed-Methods Implemented During Pre-design
Renderings courtesy of HGA



over 18 were offered the opportunity to answer a questionnaire about their experience. Anyone under 12 could participate with signed consent from their parents. Children could also participate through drawings, and families could contribute to the process through Patient Journey Mapping.

Results: Using these tools, the team learned important insights, such as how a family's stress is directly tied to their child's stress. And children who utilized the hospital's services on a continuing basis revealed that they just wanted their lives to be normalized. The findings were themed and described as:

Safety
- Spatial issues (low ceiling, poor ventilation, visibility, signage)
- Car congestion and unpredictability
- Lack of organization for car, motorcycle, bicycle, and pedestrian traffic.

Bottlenecks
- Number of staff being dropped off or picked up at the same time
- People loading or unloading strollers or wheelchairs
- Taxis or car services waiting for pickups
- Staff and patient cross-flow in the P1 lobby
- Broken escalator and overcrowded elevators

Positives
- Valet
- Dedication of staff and CNHS to their patients and families
- Sense of arrival at the atrium
- Children's response to positive distractions, e.g., the people mover and atrium furniture

Research findings were shared with the design team to help inform the next step of design decisions. This phase of the project is currently in progress.

ERDMAN

Rush River North
Chicago, IL

Goal

RUMC sought to create a new patient experience tailored to the unique preferences of the residents living in the River North neighborhood while expanding access. They also sought to create a forward-thinking operational model with an emphasis on leveraging technology.

Rush Lobby Check-In
ERDMAN/Andrew Harris, 2016

EBD STEPS APPLIED:

1 2 3 4 5 6 7 8

Overview: Rush University Medical Center (RUMC) in Chicago occupies a large campus and wanted to expand and attract more patients living in the downtown River North neighborhood with a new clinic. Many of the neighborhood inhabitants are young, mobile, affluent professionals not currently patients.

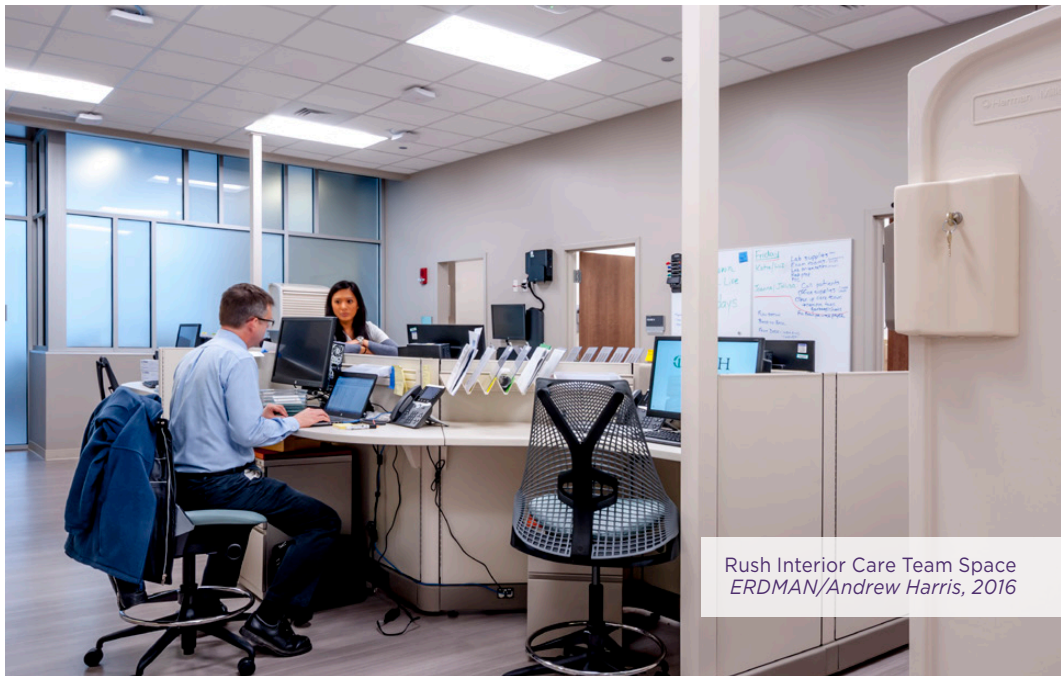
Challenge: Selecting the best available site in the downtown corridor at a reasonable price was important to the client. Additionally, developing an operational model that was efficient while striking the right balance between innovation and service, with technologies and options that would satisfy patients, was a high priority. If patients didn't feel the care was high touch or had trouble navigating services, they would likely go elsewhere. If the providers couldn't communicate well or if operations were hindered because technologies weren't facilitating efficient and high-value care, the clinic wouldn't be successful. Reflecting the innovative and high-quality nature of RUMC's care meant the entire design team had to make effective decisions about what to implement and what to exclude.

Solution: A site was selected using market data analysis, input from ERDMAN, RUMC, and outside consulting team members. The site selected, based on the client's criteria and analysis, was originally designed and built as a restaurant and would be repurposed. The team convened several visioning events to discuss goals and current operations along with potential EBD concepts to create a final design.

To support operational planning, a pilot project used a real-time location system (RTLS) to track patients to design remote check-in, check-in kiosks locations, and a self-rooming process. Beyond making sure patients were getting where they needed to be in the onstage operating model, the RTLS study also allowed providers to improve their operational performance when delays occurred. Care team workspaces were redesigned to improve staff communication and use offstage space more efficiently. All steps were done to improve the value and efficiency of care and to keep patients satisfied.

Results: RUMC has been monitoring patient satisfaction results to compare River North with other nearby locations and locations that used the previous operational model. They have reported that patient satisfaction levels have improved at River North when using these comparisons.

Rush River North won the 2016 Healthcare Facilities Symposium and Expo Adaptive Reuse Award. ERDMAN was presented a Symposium Distinction Award in the Adaptive Reuse category for demonstrating exceptional creativity in successfully renovating and repurposing an existing space.



Rush Interior Care Team Space
ERDMAN/Andrew Harris, 2016

EBD STEPS APPLIED:

1 2 3 4 5

Overview: The expansion of St. Louis Children's Hospital (SLCH) increases the number of private patient beds and space for outpatient services. As part of the hospital's long-term Campus Renewal Project, this building features expansive views of the adjacent Forest Park, hospitality-inspired architecture, and interior design with light-filled, private inpatient rooms overlooking the park and the bustling neighborhood of the Central West End. Following an evidence-based design (EBD) process and with nature as living artwork, ARCH Design, Artwork and Framing expanded upon the concepts of nature-based, local art to create an uplifting, enriching, and engaging environment.

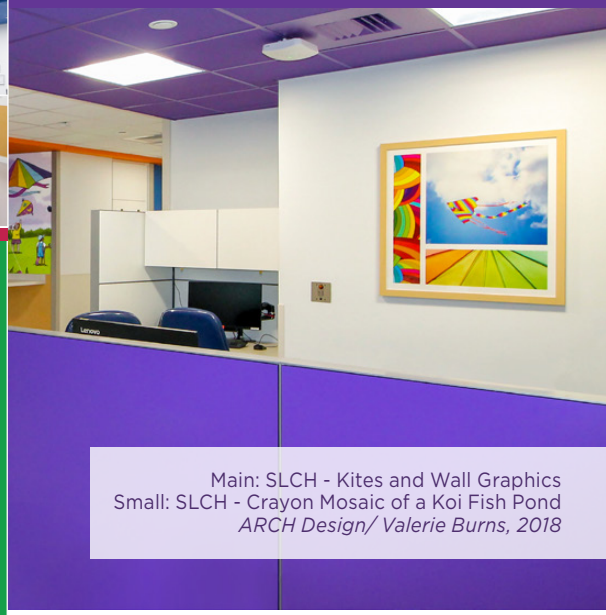
Challenge: ARCH Design's challenge was to incorporate artwork that reflected the rich cultural offerings of Forest Park and would not compete or contrast with the existing bold interior design scheme. This design features saturated color, lively patterns, and a custom series of super graphics that depicts children playing in Forest Park. The illustrated graphics set the themes for each floor, which revolve around popular park destinations like the boathouse, the playhouse, and the zoo. A further challenge: the SLCH design team requested artwork that related to the tactile, craft-based pieces in the existing building. And the research reviewed made a strong case for nature-based photography in children's hospitals. Finally, the safety standards for the hospital did not allow for conventional prints on paper in wood frames, so new materials had to be researched, sourced, and tested.

Solution: The ARCH Design team's research about art in children's hospitals strongly suggested that children prefer calming nature photography. However, to address the theme of local culture, ARCH alternated nature-based photography with delightful feature pieces that are inventive both in terms of materials as well as process. This artistic innovation parallels the scientific innovation taking place at this major research hospital.

For the boathouse-themed floor, ARCH commissioned a custom crayon mosaic of a koi fish pond. Using crayons to make a picture may be a familiar experience to many children, and when artist Herb Williams recreated this nature scene out of actual crayons he imbued it with the magic of childhood. Within the framework of EBD, the emphasis on local nature often includes the work of local artists, an idea that ARCH interpreted for the zoo-themed floor. ARCH commissioned custom paintings of zoo animals, which are shown next to a video of the local artists at work. Warm, wood-look metal frames and white, fire-retardant backing helped create a consistent, contemporary look throughout while adhering to the fire code. Finally, a series of custom collages unified the distinct visual elements: graphics, illustration, and photography.

ARCH Design, Artwork & Framing

St. Louis Children's Hospital Expansion, St. Louis, MO



Main: SLCH - Kites and Wall Graphics
Small: SLCH - Crayon Mosaic of a Koi Fish Pond
ARCH Design/ Valerie Burns, 2018

Goal

ARCH Design's goal was to complement the views of Forest Park and the bold super graphics already included in the design of the space with art that related to the hospital's surrounding community and its rich cultural offerings. However, adhering to the stringent fire code was the highest priority, so the ARCH team researched materials and designed custom pieces that both exceeded safety standards and upheld this conceptual framework.

Since the client requested educational and interactive art, the ARCH Design team also conducted broader research about how to help engage children with art and the socio-emotional benefits of doing so. Sources on research-backed methods in the field of museum education, such as Philip Yenawine's Visual Thinking Strategies (2013), and the National Endowment for the Arts' literature review, "The Arts in Early Childhood: Social and Emotional Benefits of Arts Participation" (Menzer 2015), were consulted. To underscore the artists' connections to St. Louis and make their work accessible, the ARCH team created museum gallery-style signage to accompany the art. Following practices in museum education, the text was not merely descriptive, but also included open-ended questions to prompt conversations between patients and their caregivers. This kind of interactive engagement with art has been shown to further language development and enhance socio-emotional skills.

Results: While St. Louis Children's Hospital is currently conducting research on the efficacy of ARCH Design's approach to the art in the new expansion, the design team reports that patients and staff have remarked on the artwork more than any other design element, with the feedback overwhelmingly positive. ARCH Design will utilize these research findings to create a suite of custom artwork for an adjacent building once renovation is complete.

ESa (Earl Swensson Associates)

Florida Hospital Apopka
Apopka, FL

Goal

The transitional design is intended to set the tone for Wellness Point, a new mixed-use district focused on healthcare, retail, and residential uses that will eventually become the city's southern gateway. By incorporating an urgent care model into the traditional ER setting and including Florida Hospital's Lean Track model, the facility's goal was the improvement of wait times, allowing patients to be seen at the appropriate level of care based on acuity.

Florida Hospital Apopka Exterior
ESA/Attic Fire Photography, 2017

EBD STEPS APPLIED:

1 2 3 4 5 6 8

Overview: The 120 inpatient-bed replacement, full-service hospital built by Florida Hospital envisions the future of healthcare. Located in the Indoor Foliage Capital of the World, the area's greenhouses inspired the facility's design. The former hospital had 50 semi-private beds within 48,689 square feet and an attached 43,420-square-foot medical office building. In contrast, the new facility has 120 private beds within 367,655 square feet and an integrated medical office building of 70,132 square feet.

Challenge: The challenge of the project was the creation of a healthcare delivery model with an outpatient focus that can support an inpatient chassis providing state-of-the-art care with a hospitality experience.

Solution: Through design, both inpatient and outpatient needs were given equal presence and access. The site provided the opportunity for one central main entrance on the ground floor for both outpatient and inpatient care. Designers took advantage of the sloping site to place entrances on the ground and first levels to reduce travel distances for transporting patients. The old facility had multiple entrances, a layout that was confusing. For expediency, all outpatient services are located just off the main lobby. The emergency department is a straight path down a corridor. For efficiency, the ED dedicates space to lower-acuity patients toward the department's front. Higher-acuity patients are treated in spaces deeper into the department. This arrangement reduces patient wait times. The ED trauma rooms are only 50 feet from surgery, which also has a connectivity to suites for heavier surgical functions. The facility also offers an expanded women's center and outpatient rehabilitation. Service lines for outpatients and inpatients are kept separate for back-of-the-house functions.

Inpatient floors incorporate Lean thinking. Forty-bed floors are divided into two 20-bed wings with a central core of support spaces and another at the end of the second wing to reduce nursing steps.

Evidence-based design concepts were used throughout. At least 90% of the inpatient units (patient, staff, and public areas) are within 20 feet of a window to maximize natural light. Notably, the chapel has an adjoining courtyard for connectivity to nature.

Results: Whole-building energy simulation was accomplished with selection of high-performing materials and building systems, projecting a 25% better building performance than the ASHRAE baseline.

Patient and staff satisfaction surveys comparing the old versus new are not yet compiled, as the new hospital just opened December 2017. A post-occupancy evaluation will be performed.

Florida Hospital Apopka Surgery Waiting Area
ESA/Attic Fire Photography, 2017

EBD STEPS APPLIED:

1 2 3 4

Overview: The increase in demand for quality medical care services allowed Baylor Scott & White - The Heart Hospital to add a new tower. The new facility includes 28 private outpatient beds (along with shell space for bed expansion), more robotic surgery technology, a dedicated suite for medical research, an education suite including a bio-skills lab, several education rooms, and a 200-seat auditorium. The new north tower encompasses 164,765 square feet.

Goal

To create a world-class facility using evidence-based design. "The new space will allow us to meet growing needs and continue to offer the medical quality and five-star service for which The Heart Hospital – Baylor Plano has become known." – Mark Valentine, CEO

Challenge: The new tower had two different audiences: The patients and family members who will be receiving care and the world-renowned doctors, researchers, and community leaders who will use the facility for conferences and continuing education. Also, the hospital was going through a rebranding, from The Heart Hospital – Baylor Plano to Baylor Scott & White - The Heart Hospital.

Solution: Healthcare Art Consulting wanted to select and place artwork that would take advantage of the abundance of natural light found throughout the facility. Submissions in response to the "call to artists" were reviewed to narrow the selection of artwork that had a premier look but at the same time factored in nature-based elements. Media of glass and metals were incorporated that promoted a natural source of energy. When natural light is transmitted through glass, it enhances the effects of color and brings a feeling of nature inside. Light also helps control the body's circadian system, affecting both mood and perception, (Boyce, Hunter, & Howlett, 2003; Edwards & Torcellini, 2002), making it a popular choice for use in healthcare environments.

The richness of the art placed in the new tower appeals to both audiences, giving the hospital a five-star look. To address the change in the facility name, Healthcare Art Consulting incorporated the prior logo of the red heart as part of the signage and artwork, paying homage to the continued legacy of Baylor Scott & White, The Heart Hospital – Plano. Interviews with hospital staff and Plano community leaders were conducted to help create a history wall that begins in the year 1841 and will be constantly updated with accolades and videos.

Healthcare Art Consulting

Baylor Scott & White, The Heart Hospital – Plano
Plano, TX

Top: North Tower Auditorium Entrance
Bottom-left: First Floor Main Corridor
Bottom-right: Cardiac Rehab
Wilson Photography, Environments for Health Architecture

Results: The hospital opened the new tower in June 2018. The administration staff will be monitoring patient satisfaction scores on a regular basis.

CAMA, Inc.

The CAMAflage Collection
New Haven (CAMA) and Chicago (Skyline Design)

Goal

The goal of this project was to develop a line of glass that promotes dignity in care environments by providing the necessary levels of visual privacy.

EBD STEPS APPLIED:

1 2 3 4 5 6

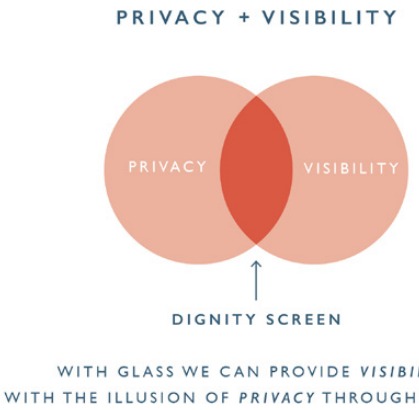
Overview: Inspired by patients and families to design more dignified healthcare experiences, CAMA recognized the need to look beyond the cubicle curtain for alternative privacy screening solutions. Conversations with Skyline Design about this need in the marketplace as well as the potential use of glass due to its inherent properties and the ability to disinfect it easily, ultimately led to a partnership and the creation of a line of glass screens for use in a variety of healthcare spaces.

Challenge: The greatest challenge of this project was addressing the competing needs of staff visibility and patient privacy. The resulting solution utilizes a layered approach to create the desired level of transparency that best suits the requirements of the space.

Solution: In the first phase of the project or "Deep Thinking", many strains of research were integrated to inspire new ideas. CAMA conducted a literature review focused on patient dignity. Studies emphasized the need for patient autonomy and privacy with respect to the body, the environment, and information. Armed with this information, the research was narrowed to focus on studies addressing patient privacy and staff visibility.

CAMA also conducted an image search of architectural screening typologies and the exercise revealed a number of strategies such as slat walls, louvers and shutters, shoji screens and more. CAMA also looked to nature for inspiration collecting images of animals camouflaged within their natural environments. Both explorations greatly informed the second phase of the project, "Pattern Language". During this phase, a catalog of organic patterning approaches was developed that would allow for controlled calibration of visibility. During the third phase, or "Synthesis", relationships and themes from the research, patterning, and insight from Skyline Design were identified to inform glass design. A graphic tool was developed to aid in the selection process and to recommend degrees of transparency depending on the unique requirements of different healthcare spaces. In the final phase, "Prototyping", CAMA partnered with Skyline Design to translate this vision into a glass product.

Results: CAMA captured the research findings in a graphic matrix which identifies a number of healthcare spaces, from patient and exam rooms to public spaces such as lobbies and lounges, offering common program requirements and information about each space as well as suggested applications for the use of glass privacy screens and the recommended levels of transparency. The next step will be to test the glass products in full scale mockups.



EBD STEPS APPLIED:

1 2 3 4 5

Overview: Choctaw Nation of Oklahoma launched a project for its Health Services Division, a state-of-the-art 143,000-square-foot medical center and renovation of a network of outlying clinics and wellness centers across eastern Oklahoma. They sought to create "A Place of Healing," or in Choctaw: "Ahlakofi." The project imparted a strong and consistent identity to provide high-quality healthcare to the Choctaw community and recognized and honored the tribe's unique culture and history. The art program was a departure from using typical evidence-based design guidelines for artwork considered to be appropriate for healthcare facilities to meet the goals for this unique environment of care.

Goal

Choctaw Nation Health Services (CNHS) stated its purpose was "to provide high-quality health-care in a culturally respectful and compassionate manner." The goal of a healing art program at CNHS was not only to provide positive distraction but to reflect the unique Choctaw history, culture, and language, as well as to honor their ancestry.

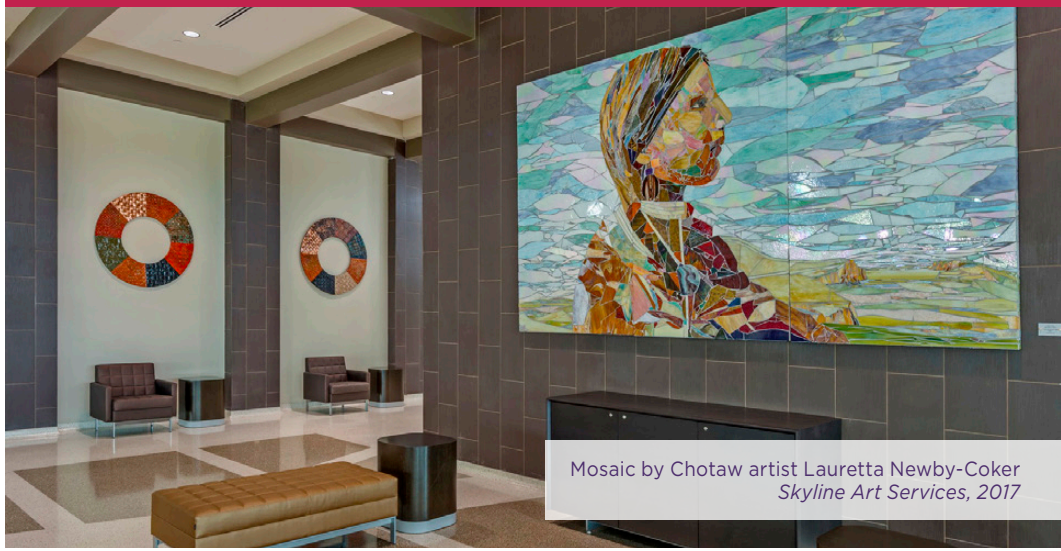
Challenge: To create an environment uniquely suited to the Choctaw community with design concepts that honored and reflected Choctaw visual culture, Skyline Art Services studied the culture, drawing first from the nation's own historical and cultural resources. Additional review of the literature provided evidence that could be extrapolated or interpreted into design concepts and artwork commissions.

Artwork and design incorporated established evidenced-based design principals – positive distraction and recognizable, nature-based imagery. Designers also drew from Choctaw concepts not found in typical guidelines for art in healthcare. Research efforts to understand and develop concepts for artwork and design may draw from sources outside those directly addressing design interventions in the built environment. In this regard, the project could incorporate traditional and modern artistic practices, local knowledge, history, story-telling, and folklore, broadening the research agenda. Choctaw culture is unique among Native American tribes, and it was important to recognize and reflect that distinction wherever there were depictions of self-identity, costume, sport, craft, language, and especially of medicine.

Solution: A selective review of literature included scholarly journals and books in subjects as diverse as arts, literature, anthropology, folklore, and history, as well as books published by the Choctaw Nation itself. A knowledge base

Skyline Art Services

Choctaw Nation Regional Medical Center
Durant, OK



Mosaic by Chotaw artist Lauretta Newby-Coker
Skyline Art Services, 2017

provided key concepts to inform art direction and design and served as a resource for commissioned artists and graphic designers.

"Ahlakofi"
Skyline Art Services, 2017

Research practice also included identifying and locating Choctaw artists. CNHS leaders drew upon the tribe's own talents, skills, and knowledge, commissioning artwork from Choctaw artists to benefit not only the patient population but also the health and well-being of the community. Choctaw artists were commissioned to create new works featuring imagery and subjects drawn from Choctaw visual culture in styles and media that were both traditional and contemporary. Many of the artists were registered in the Choctaw Nation's Artist Registry, and others were found through a nationwide search in other artist networks. Utilizing talent from within the community helped to ensure that depictions of Choctaw culture were true.

Results: It was hypothesized that a highly effective environment of care specifically for a population like the Choctaw people should reflect their unique visual culture and history. Choctaw artwork contributes to the attributes of positive distraction, a wayfinding strategy, educational enrichment, language instruction, tribal self-determination, and cultural preservation, and the art program tells a story about the advances of the tribe today.

HDR and Corgan

New Parkland Hospital
Dallas, TX

Main: New Parkland Hospital Exterior, Assassi Productions, 2014
Small: Nurse Station, Assassi Productions, 2014

Goal

The design vision statement expressed that the new Parkland Hospital be a safe, welcoming, patient-centered healing environment that serves as a sustainable community resource for Dallas County. It would promote excellence in clinical care, teaching, and research in a technologically advanced, easily accessible environment.

EBD STEPS APPLIED:

1 2 3 4 5 6 7 8

Overview: The design vision was that the new Parkland Hospital be a safe, welcoming, patient-centered healing environment promoting excellence in clinical care, teaching, and research. With the incorporation of the latest evidence-based design principles and its strong reputation for patient care, the new Parkland Hospital project presented an important opportunity for design research.

Challenge: The integrated project approach implemented at Parkland Hospital included bringing all design and construction partners together early in the process. Among the elements that made the Parkland project so exceptional was not only the nature of the multi-firm highly collaborative, co-located project team itself, but also the relationships fostered with key constituents—both within the hospital and the community—and the covenant made to guide the entire project.

As multiple firms had worked on aspects of the facility, it became necessary to create an inclusive and collaborative team, along with Parkland leaders, to evaluate impacts of the new facility in a credible way.

Cultivation of firm-level engagement, hospital leadership engagement, and individual commitment were essential to the success of the effort.

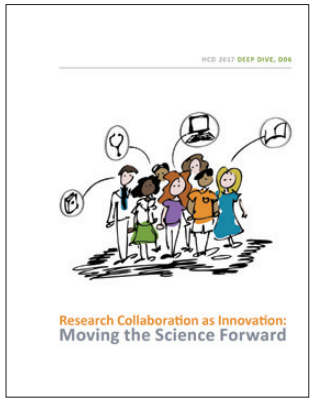
Solution: In the spirit of Parkland Hospital's role as a "living laboratory," a multi-firm New Parkland Hospital Research Coalition was created and has successfully collaborated with Parkland leaders to evaluate impacts of the new facility on important patient and staff outcomes, with the purpose of informing future decision-making. The Parkland Hospital Research Coalition brought together healthcare, research, and practice entities as a highly collaborative team who identified common goals, delineated resource commitments, and coordinated structure and processes to conduct the facility evaluation research.

The Research Coalition had to develop a clear team structure and roles and a Research Coalition Charter to document the purpose and procedures for the evaluation. Then, the team developed a full plan and protocol, navigated needed reviews and approvals, followed by execution of research collaboration and data use agreements. The team met regularly in person and by conference call. Both patience and perseverance were key to ongoing progress.

The study undertaken by the Research Coalition explored staff perceptions and experiences related to the performance of the facility, the effectiveness of supply logistics, the changes to decentralized and private-room acute patient unit and neo-natal intensive care unit designs, and the operational adjustments and support that coincided with the physical environment change. Qualitative information from nursing staff was gathered using focus groups, and an online survey supplied quantitative data from a broader sample of those who work in the new hospital facility. Secondary patient data was used to compare acute inpatient outcomes, such as length of stay, medication events, hospital-acquired conditions, and falls, in populations in the old and new facilities.

Results: Results from this study are providing data about the effectiveness of the new design as it applies to patients and staff in the new Parkland Hospital. Initial results will be shared broadly at the 2019 Healthcare Design Expo & Conference.

The Coalition also developed a workbook to help guide others to convene a multi-disciplinary evaluation team, develop research questions and plans and define rules for collaboration. To get a copy, contact the HDR research team.



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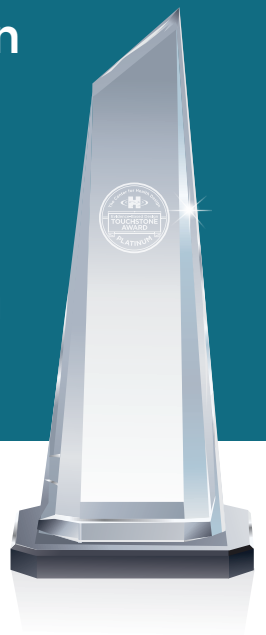

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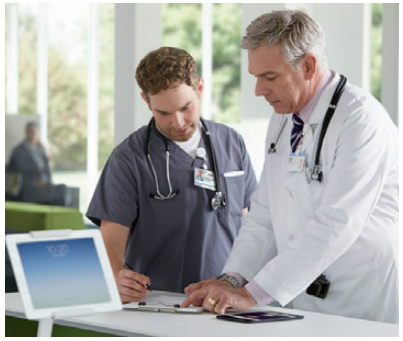

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