



AT

EVIDENCE-BASED DESIGN INFORMS THE COMPREHENSIVE  
ART PROGRAM AT FORT BELVOIR COMMUNITY HOSPITAL



BY HANK HANCOCK + SARAJANE L. EISEN, PhD, EDAC, IIDA

Much of the artwork is visible from outside. Above: An exterior view of contemporary styles in the Sunrise Pavilion. Photo credit: © 2011 Skyline Art Services.





A set of large-scale oak leaf mobiles and a triptych of mosaic glass depicting a woodland setting in the Oaks Pavilion. Photo credit: © 2011 Skyline Art Services.

In 2007, the Military Health System (MHS) published its report “Evidence-Based Design: Application at the MHS,” signaling a new focus on patient-centered design that improves patient outcomes and staff satisfaction. Until then, military healthcare architecture hadn’t exactly earned a reputation for innovative design. By its own estimation, many of the MHS’s hospitals were “austere but adequate.”

But a new hospital project at Fort Belvoir in Virginia would be a proving ground for its new vision. Fort Belvoir Community Hospital is the first integrated healthcare facility serving all branches of the U.S. military’s active-duty service members, retired veterans, and their families using evidence-based design (EBD), sustainable design principles, and structured cultural change criteria. At 1.2 million square feet, and comprising five interconnecting pavilions, the hospital marks a successful debut for a new generation of world-class military medical facilities.

Incorporating the visual arts in the healthcare environment is a fundamental component of EBD, with proven benefits for patients, family, and staff, translating into measurable outcomes in health, well-being, and cost of care. Barbara Dellinger, HDR’s principal interior designer for the project, explains, “The military recognizes that art completes the environment, makes a building more personal, and provides positive distraction.”

The campus of Fort Belvoir is located on 8,000 acres in the Northern Neck of Virginia that includes wetlands, forests, small creeks,



Delicate handmade paper in the Meadows Pavilion is secured behind an acrylic panel for protection and cleanability. Photo courtesy of HDR Architecture, Inc.; © 2011 Ari Burling.



parks, a golf course, and hiking trails. Lying along the Potomac River just west of Mount Vernon, the area is rich in historical significance, first as William Fairfax's Belvoir Plantation, then as a battleground in the War of 1812. The U.S. Army acquired the peninsula in 1912 as a training site for its engineering school. Military construction on the site has continued ever since, making it home for numerous agencies as well as Fort Belvoir Community Hospital.

### Planning

HDR and Fort Belvoir came up with several guiding principles for the hospital's design, including its art program. The hospital would uniformly communicate the value of "caring for our own." It would make use of the "healing energy of nature." And, notwithstanding its rather large size, the hospital would be a friendly and welcoming place. The project moved forward by designating the five pavilions with iconic references to the natural environment, the landscape and geography of Northern Virginia, and the Potomac Waterway: "Meadows," "Eagle," "Sunrise," and "River," with the largest, central pavilion identified as "Oaks."

The interior design, wayfinding, and art concepts for the hospital fell into place once these building designations had been made. Distinctive graphical logos were designed to identify each of the five buildings. Unique color palettes were developed to enhance the interior design and wayfinding concepts. A series of large photographs and photographic murals was installed in outpatient clinic reception areas and public spaces, each depicting that pavilion's nature-based iconic subject.

A fully integrated, original art program that accomplished several aims at once—including wayfinding and positive distraction, while ensuring visual support for the design concept for each building—was planned and implemented.



Two examples of the "river" theme, one a painting depicting a watery reflection and the other a three-dimensional metal sculpture evoking a waterfall. Photo credit: © 2011 Skyline Art Services.





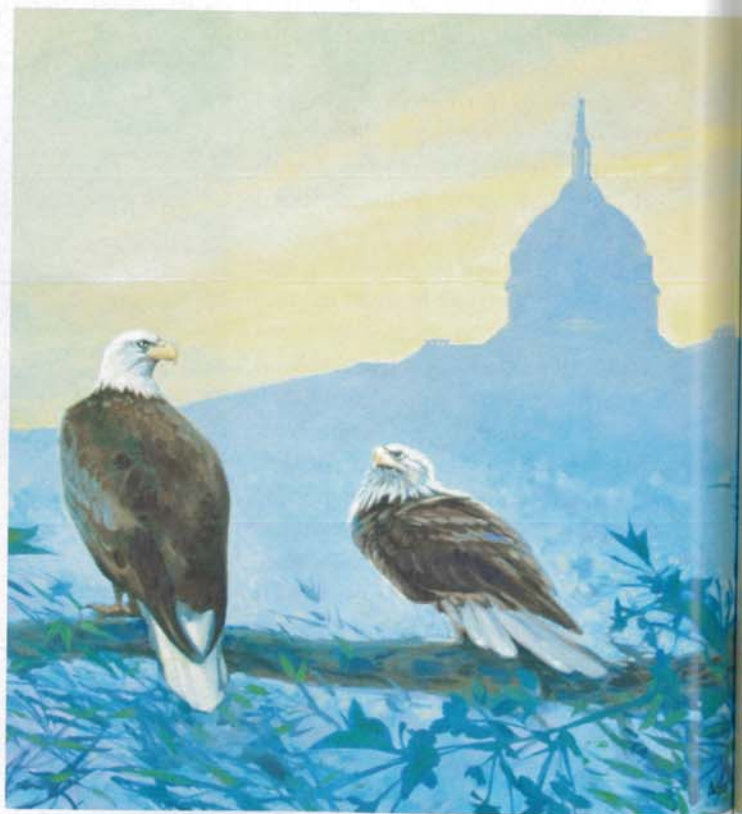
### Art and wayfinding

The artwork at Fort Belvoir Community Hospital contributes to the wayfinding system to reassure patients and families, reducing stress as they navigate their way. Original art was selected and commissioned to reflect the motif established for each pavilion. Along with maps and signs, clues provided by the artwork ensure that visitors are made aware of their location with a consistent thematic presentation.

The art program took advantage of several key features in the hospital's design to reinforce wayfinding, such as the prominent sightlines between the interior and exterior of the buildings and across long pavilions that connect the five buildings. In the most visible common areas of each pavilion, large-scale works of art were installed to act as a signal to orient visitors across great distances. Artist Laddie John Dill, for example, was commissioned to create monumental oak leaves to be hung in a central atrium in the Oaks Pavilion. These large works of art, in addition to reinforcing the identification of their pavilions, also serve as landmarks to direct visitors. They make a strong visual impression so that patients and families can subsequently recall these locations and return to them.

At the bridge points between each of the hospital pavilions, the artwork includes a combination of the themes (e.g., oak and eagle imagery) to reinforce the transitional nature of the area. The natural integration of themes between the pavilions suggests how well they all work together to form a unified design environment.

HDR established a design imperative to bring the outdoors in, and so provided the common areas with access to daylight as well as views to the forests and river beyond the site and to the campus grounds and gardens. Both the abundance of external views and the nature-based motifs of each



An example of works of art aligned with the theme of each pavilion. Left to right: A painting of beloved local legends George and Martha Eagle overlooking the capitol in the Eagle Pavilion, ceramic tiles in the Oaks Pavilion, and detail of a metal sculpture in the River Pavilion. Photo credit: © 2011 Skyline Art Services.





Mixed media artwork acts as a wayfinding device in the transition point between the Oaks Pavilion and the Eagle Pavilion.  
Photo credit: © 2011 Skyline Art Services.

pavilion are key components of biophilic design, the deliberate attempt to translate an understanding of the inherent human affinity with nature in the built environment.

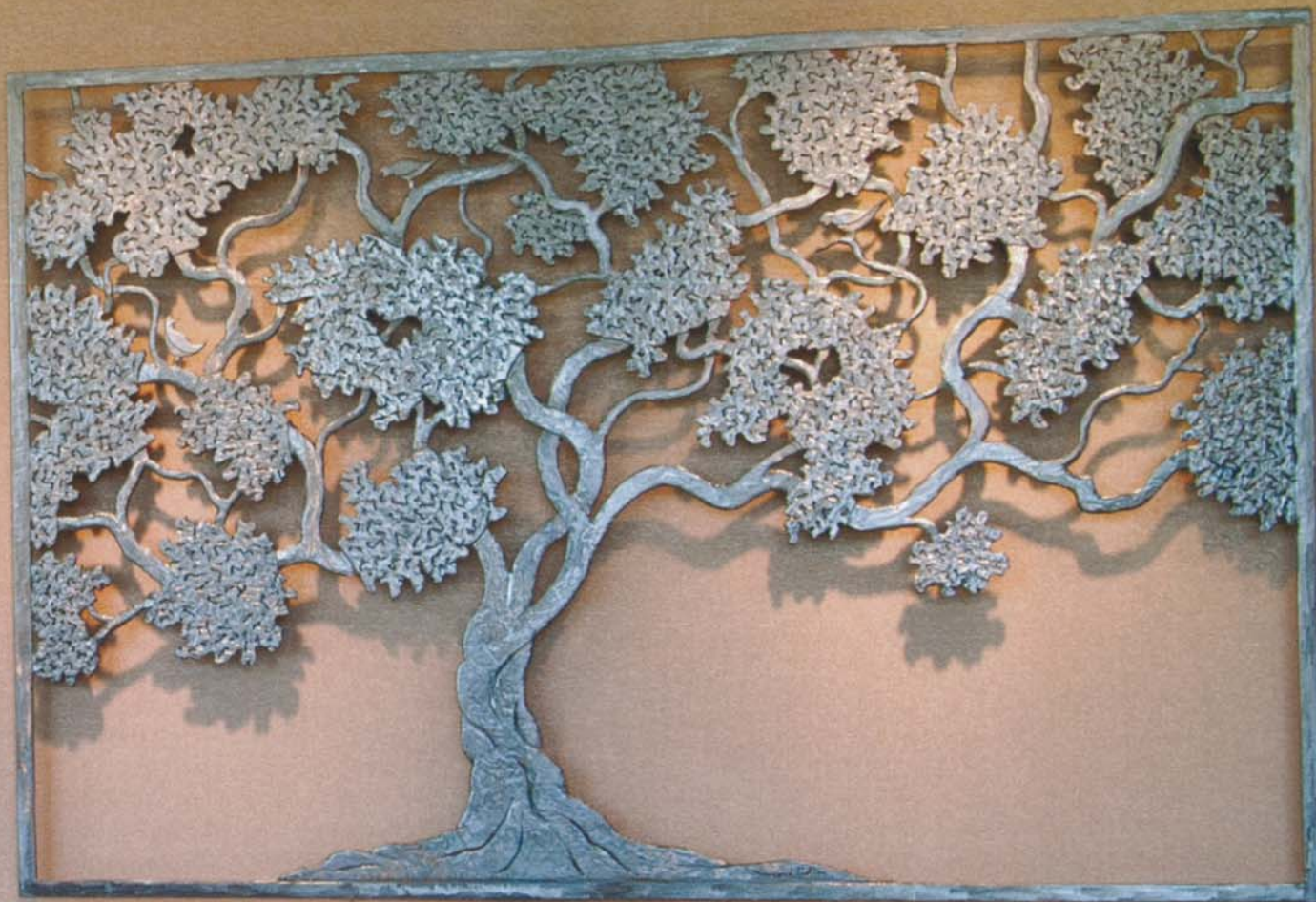
### Engagement and positive distraction

A central goal of the art program at Fort Belvoir Community Hospital was to provide opportunities for engagement and positive distraction. Artworks that would allow the viewer's mind to wander, or to evoke positive thoughts of favorite remembered places, were carefully selected. Given the enormous scale of the project, it was imperative to be sensitive to the dynamics between individual art images and between the artwork and its physical environment. Engagement in a given work of art depends in part upon its relationship to the overall art program in terms of its subject, style, and visual impact. Equally important are the placement of the artwork and its integration with the details of its setting, such as lighting, the color and texture of finishes, and the shape and scale of the interior environment.

The original directive for the art program, according to the dictates of biophilic design and current evidence-based standards, called for realistic and representative imagery with subjects that were clearly recognizable. At the same time, it was imperative not to allow the art imagery to be repetitive or redundant. Several strategies were adopted to accommodate variety in medium, size, scope, and style. Such variety further aids the wayfinding system by uniquely marking locations and by keeping visitors engaged and interested in their surroundings. Without such variety, if a pattern is too rigidly







Metallic wall-hanging sculptures in the Oaks Pavilion. Photo credit: © 2011 Skyline Art Services.

established, the process of investigation and recognition ceases, and the viewer will cease to notice further iterations of a motif.

A meaningful range of mediums provides opportunity for tactile as well as visual sensory experience. At Fort Belvoir, this includes works of art made of metal, ceramic, handmade paper, and collage. In addition, a dynamic range in scale between large works and smaller ones gives opportunities for viewers to adjust and change their sense of perspective. The treatment of subjects varied, as well, between close-up detail images (termed “macro”) to depictions with a wider scope, in which the iconic subject is found in the far distance or off-center. In the Eagle Pavilion, the inclusion of other birds native to the region—hummingbirds, cardinals, chickadees, and sparrows—allowed for a lighthearted contrast that reinforces the majesty of the central eagle motif.

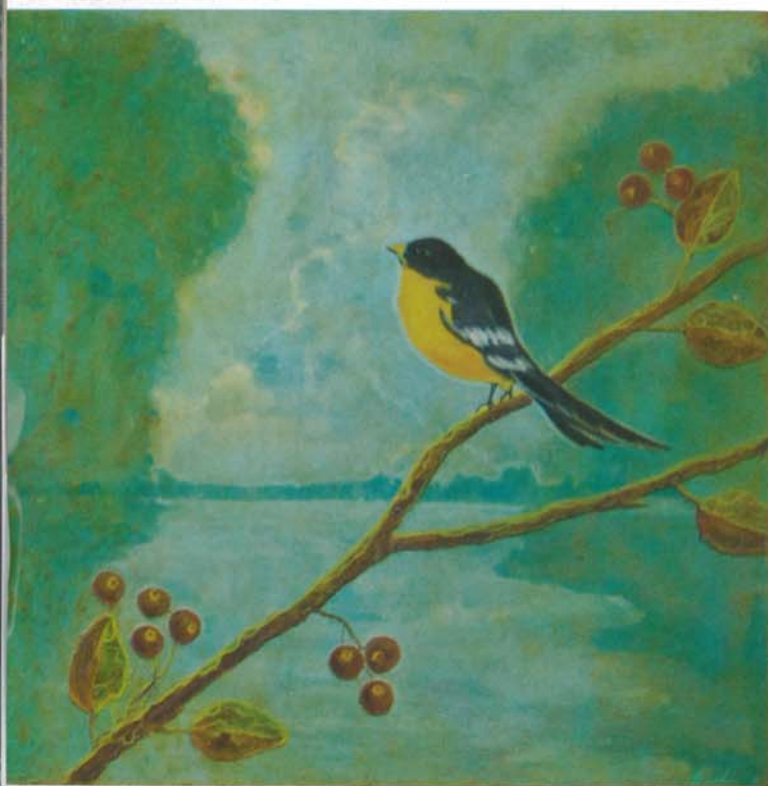
During the design process, the art committee decided to strike a balance between strictly representational artwork and more contemporary interpretations of the themes. As part of an integrated art program, the more contemporary works give play to curiosity, allowing the viewer to seek out patterns and details that aren’t obvious and to find relevant meanings and relationships with their

surroundings, calling up pleasing associations like favorite remembered places, for example.

In the River Pavilion, a large wall-hanging sculpture made of woven slats of deep-blue brushed aluminum takes a viewer’s engagement to integrate fully into the surrounding theme. Its resemblance to a river is striking, though it doesn’t precisely depict a river at all. A similar piece in glowing gold and auburn hangs in the Sunrise Pavilion, even further opening the central motif to engaging reinterpretation.

From a purely practical perspective, the art at Fort Belvoir was made to be durable enough to withstand usage in areas with high foot traffic and to stand up under the cleaning practices necessary for infection control. Works made of textile or handmade paper were placed behind clear acrylic. Sculptural works were made of materials that could be cleaned, with surface textures that would not capture dust and grime. The wall-hanging works were security mounted so they could not be dislodged or stolen. In addition, the entire art program was made ADA compliant, which determined the scale and placement of artwork in common areas.





Small-scale paintings featuring different birds in the Eagles Pavilion. Photo credit: © 2011 Skyline Art Services.

### The future for research and art in healthcare

The art program at Fort Belvoir Community Hospital reflects a commitment to EBD, and research supporting EBD initiatives must meet rigorous standards: randomized controlled trials in multiple locations, conducted in healthcare environments with subjects who are patients or staff, evaluating the practices of professional art consultants, and published through a peer-review process. The goal is to make informed decisions that are creditable and measurable, relying less upon a perceived status of expertise or upon intuition not supported by data.

But the future for research on the visual arts in healthcare faces significant challenges. One is the difficulty of conducting research within the restrictive conditions of an active healthcare facility. Another derives from the limitless descriptors of art, especially in efforts to control for variables in studies that aim to evaluate and compare different types of art and to determine what's most appropriate for different healthcare environments. It's no easy task to determine which features are most salient and worthy of study among an artwork's medium, size, shape, arrangement, color, harmony, repetition, symmetry, tone, gesture, and so on. Furthermore, some categories commonly used to describe various artistic styles—abstract, contemporary, transitional, representational, and figurative—are vaguely defined and can be interpreted in different ways.

At Fort Belvoir Community Hospital, the art program rests on a solid foundation of nature-based imagery, a central tenant in EBD, based primarily upon the findings from Roger Ulrich's groundbreaking 1984 study of patients with and without access to views of the outside.

There is a great deal more to learn, however, about the implications of Ulrich's study on the role of the visual arts in healthcare settings. A view of nature through a window is categorically different from a view of any work of art, whether or not it features a nature scene. Also, natural imagery, as such, may include much more besides a scene or landscape. And in several published studies, the benefits of "positive distraction" are confused with benefits of "nature views," making it difficult to translate their conclusions into practice.

To responsibly implement an evidence-based art program, it's necessary to explore workable ideas derived from a patient-centered perspective.

Fort Belvoir is the first U.S. military hospital with an art program prominently featuring original works of art, a collection of discernible quality that still stayed within the limits of the modest budget of a publicly funded project. The art program and interior design both support the hospital's stated goal to showcase a "culture of excellence." A focus on quality and attention to detail indicates an emphasis on the patient's experience, which inspires confidence and reflects positively on the reputation of the hospital. Patients are more likely to rate their quality of care highly if they see that their environment has been thoughtfully designed to engage their interest and improve their sense of well-being.

As a unified composition, the buildings and their surroundings provide an uplifting, restful, and restorative environment for patients, families, and staff. Through Fort Belvoir's commitment to evidence-based design guidelines, this project stands to inspire future healthcare developments. **HCD**

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