

The Epidaurus Project: Holism in Department of Defense Health Facilities

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ABSTRACT The Epidaurus Project, an advanced initiative in holistic (or whole-person) medicine, has operated in the Military Health System (MHS) since 2001. Its purpose has been to engage prominent civilian authorities on evidence-based building design, family-centered approaches, interdisciplinary care integration, and wellness, to optimize outcomes in the MHS. Over the past decade, many of the Epidaurus idea sets have been incorporated into MHS facility designs and therapeutic programs. The MHS owes a debt of gratitude to the numerous civilian thought leaders who participated in this project.

The Epidaurus Project, an advanced initiative in holistic (or whole-person) medicine, has operated in the Military Health System (MHS) since 2001. Its purpose has been to engage prominent civilian authorities on evidence-based building design (EBD), family-centered approaches, interdisciplinary care integration, and wellness (four major components of holistic care), to optimize outcomes in the MHS. Over the past decade, many of the Epidaurus idea sets have been included in MHS facility designs and therapeutic programs. This represents a significant collaboration between civilian medicine and the military in time of war.

In the first years of the Epidaurus Project, civilian experts were invited to participate as unpaid volunteers in working groups meeting monthly in Washington, DC. Detailed studies and consensus statements were prepared in the areas of patient-centered care (2002)¹ and hospital design (2005),² representing some of the most advanced views of these subjects. In 2002, Epidaurus was adopted by the Uniformed Services University of the Health Sciences (USUHS), under the President at the time, James Zimble, who sponsored the first Epidaurus conference on patient-centered hospital design at USUHS in 2003.³ National authorities in bioethics, architecture, and health care administration were engaged as speakers. The symposium focused on defining hospital buildings that improved clinical outcomes, and on the feasibility of constructing them for the MHS as “patient-centered hospitals of the future.” Participants included representatives of most of the federal health agencies, including a number of MHS senior leaders. Subsequent conferences at USUHS took place in 2006 and 2009.^{4,5} In 2005, the Base Realignment and

Closure (BRAC) process, which funded the new Walter Reed National Military Medical Center, Bethesda, the Fort Belvoir Community Hospital, and the San Antonio Medical Center, provided an opportunity to realize the Epidaurus conceptions. The Epidaurus Project group was invited to serve as consultants to the BRAC design teams (COL Keith Essen, e-mail communication, December 29, 2006; CAPT Fred Foote, e-mail communication, December 19, 2006).^{6,7}

Over the next 5 years, the Epidaurus idea sets were provided to the MHS via multiple conferences at USUHS,³⁻⁵ contributions to the generation of MHS building standards (Eileen Malone and Mitretek, e-mail communication, December 3, 2006), provision of consensus statements and studies to the office of the Assistant Secretary of Defense for Health Affairs (ASD/HA) (COL Thom Kurmel, e-mail communication, December 13, 2006), formal briefs to senior leaders,⁶ and ongoing engagement with the BRAC hospital design teams.⁷ The 4 Epidaurus care principles (Table I) were endorsed by ASD/HA as core goals for the MHS.⁸ Most of the recommended architectural features, including single rooms with family sleepover, advanced air purification, noise and infection control, interdisciplinary clinic designs, gardens, art installations, healing artmaking activities, and dedicated wellness facilities and programs, were incorporated into the BRAC hospitals.⁸⁻¹⁰ The Epidaurus Project was therefore a significant effort by civilian medicine to provide advanced idea sets to the military in a time of transition. Historically, such exchanges have been common in times of war and have been significant drivers of health care innovation in the United States.¹¹

The Epidaurus conceptions are summarized in Table I (patient-centered care) and Table II (patient-centered hospital design). It is noteworthy that analysis began with defining desired care principles and proceeded from these to the architectural elements required. This “principles-based design” method was the one used for the BRAC hospital designs, an important milestone in the history of MHS facilities.^{8,9} The specific Epidaurus design elements are congruent with those of the emerging science of EBD¹²

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TABLE I. Epidaurus Core Principles of Patient-Centered Care¹

(1) Integrity of the Clinical Encounter	The encounter is a meeting with a healer in hopes of being healed. It is covenant-based, not contractual, in nature. The care setting must be designed to optimize a healing interaction.
(2) Empowerment of the Patient	Care should be safe, transparent, and subject to patient control. Hospitals should be built on a human scale and should be easily accessed, navigated, and influenced by patients and families.
(3) Focus on the Relief of Suffering	Suffering is the perceived threat to the integrity of a whole person. Its relief is a universal goal of all patients. To achieve this, care plans should be both comprehensive (addressing all aspects of a whole person) and individualized. Elements of art, beauty, and nature should be incorporated into hospital and clinic designs.
(4) Promotion of Lifelong Health and Wellness	Care should cover the whole life span in a seamless manner. Multidisciplinary care integration should be achieved through artful process design. Diet, exercise, spirituality, family engagement, and other aspects of wellness should be included in plans of care.

TABLE II. Patient-Centered Care and Architecture Principles of the Epidaurus Project Consensus Statements, 2002–2005^{1,2}

Patient-centered Care	Architecture Principles
(1) Integrity of the Clinical Encounter	Healing Focus, Expression of Core Values, EBD
(2) Empowerment of the Patient	Human Scale, Residentialism, Single-patient Rooms with Family Sleepover, Family Support Facilities, Legible Wayfinding, Ease of Use
(3) Focus on the Relief of Suffering	Care of the Whole Person, Incorporation of Nature, Art, and Spirituality, Relief of Stress with Positive Distractions
(4) Create a Lifelong Healing Relationship	Co-location of Related Clinics, Interdisciplinary Clinic Designs, Imbedded Wellness Facilities, “Green” Design, Experimental Therapeutics Unit, Design for Change

Current Epidaurus activities focus on the incorporation of nature, art, and spirituality into MHS facilities; and on the discovery of new metrics for the effects of wellness, healing buildings, and other components of holistic care. As an example of the latter, the “Epidaurus 2” working group was constituted in 2010. Its purpose is to apply novel mathematics from advanced informatics, systems biology, and complexity science to the interpretation of holistic effects. These methods can then be tested in patients receiving these therapies in MHS venues, including the new BRAC facilities.¹³ Once developed, these measures can be combined with traditional organ-system-based metrics, in a more unified conception of medical care.

A large group of civilian authorities in bioethics, clinical care, health care architecture, mathematics, informatics, and integrative medicine have contributed to the Epidaurus Project between 2001 and 2011. As shown in Table III, they include many of the most distinguished authorities in the United States. Because Epidaurus was a volunteer project, these persons donated their ideas and worked many hours without pay, often for many years. The nation and the MHS owe them a profound debt of gratitude for their contribution to the welfare of our Troops and our health care system.

TABLE III. Core Nonmilitary Members of the Epidaurus Project, 2001–2011

Bioethics, Advanced Care, and Administration
Herbert Benson, MD (Harvard University)
Ann Berger, MD (NIH)
Brian Berman, MD (University Of Maryland)
Roger Bulger, MD (Association of Academic Health Centers)
Eric Cassell, MD (Cornell University)
Barbara Cohoon, RN (National Military Families Association)
Jay Gershen, DDS, PhD (University of Colorado)
Bev Johnson, RN (Institute for Family-Centered Care)
David Lary, PhD (University of Texas–Dallas)
David Leach, MD (ACGME)
Rob Mayer, PhD (Rothschild Foundation)
Barbara Mittleman MD (NIH)
Edmund Pellegrino, MD (Georgetown University)
John Porretto (University of Texas—Houston)
Ken Shine, MD (Institute of Medicine)
Perry Skeath, PhD (NIH)
Esther Sternberg, MD (NIH)
Judith Stearns (National Military Families Association)
Julian Thayer, PhD (Ohio State University)
Health Care Architecture and Design
Paul Alt, AIA
Yosaif August (Bedscapes Inc.)
Barbara Dellinger, IIDA, AAHID (HDR, Inc.)
Susan Frampton, PhD (Planetree)
Robin Guenther, FAIA
D. Kirk Hamilton, FAIS, FACHA (Texas A&M University)
Barbara Huelat, ASID/IIDA, AAHID Regent
David Kamp, FASLA
Bruce Komiske (Northwestern University)
Debra Levin (Center for Health Design)
Pazul Nebenzahl (Nebenzahl Associates)
Brett McNish, LA (Smithsonian Institution)
Ray Pentecost, PhD, AIA, ASHA
Annette Ridenour (Aesthetics, Inc.)
Wayne Ruga, PhD, AIA, FIDA
Roger Ulrich, PhD (Texas A&M University)
Stephen Verderber, PhD (Clemson University)
Craig Zimring, PhD (Georgia Tech University)

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