ABSTRACT FOR “INNOVATION & ENTREPRENEURSHIP: LEADING ETHICAL IMPROVEMENT IN HEALTHCARE. A SYMPOSIUM HOSTED BY THE HEALTHCARE@MCCOMBS, A MCCOMBS SCHOOL OF BUSINESS HEALTHCARE INITIATIVE”

A TEXAS HOSPITAL: PLANNING FOR MODERN PSYCHIATRIC CARE
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The most current global trends in mental health care and treatment focus on a patient-centered model that supports empowerment and recovery. Such recovery-oriented models replace paternalistic, illness-oriented perspectives with collaborative, autonomy enhancing approaches. These approaches have proven successful at treating people suffering from mental illness and helping them to cope with everyday life. They are characterized as self-directed, individualized, empowering, holistic, non-linear, strength based, peer supported, and respectful (CAMH 2008). However, these programs are only effective if the physical environment of the behavioral health facilities is mutually supportive. Much research has illustrated that conventional hospitals and psychiatric asylum facilities can only intensify mental illnesses.

Recognizing that current mental health care best practices are in conflict with its system of aging state hospital facilities, the Texas Legislature approved a long-term plan addressing fundamental changes for state and local hospitals in 2015 (DSHS, 2015). A supplementary study to the State Hospital System Long-Term Plan concluded that a number of the state’s behavioral health facilities did not meet current criteria for clinical best practices (Canon et. al., 2014). Rusk State Hospital (“RSH”), which has been providing comprehensive psychiatric treatment and care in east Texas since 1919, was identified as one of five facilities assessed to be most in need of major repairs and system improvements. As one the largest inpatient behavioral health hospital, RSH has been providing comprehensive psychiatric treatment and care for the citizens of Texas since 1919. It currently has funding for 325 patients but currently only serves 245 patients due to the deplorable state of its facilities.

To address a number of these concerns the Texas Department of State Health Services (“DSHS”) retained The University of Texas at Austin’s Center for Sustainable Development to undertake a study to investigate how behavioral health facilities should be designed to support modern psychiatric care models so that physicians, nurses, administrators, and staff can provide the best possible treatment and care for the people of Texas. The purpose of the study was to understand at how architecture can— and should—support the programs and care models for mental health treatment. The study engaged in design-based research to explore and demonstrate a planning process and spatial model that could be specifically applied and then tested as a preliminary development plan for Rusk State Hospital, but could be applicable to all DSHS facilities.

The UT Austin team was composed of a multi-disciplinary group of professionals with expertise in urban design, architecture, landscape architecture, clinical psychology, and historic preservation. The disciplinary diversity of the team created a constructive environment in which an integrated approach could be derived. The team included principle investigator Dean Almy (Associate Professor and Director of the Urban Design Program) and Collaborating Investigators Elizabeth Danze (FAIA), Frances Gale (Conservation Scientist), Carmen Garufo (Architect), Allyssa Hrynyk (Research Fellow for the Center of Sustainable Development), Allan W. Shearer (Ph.D., Associate Professor and Co-Director of the Center for Sustainable Development), Stephen Sonnenberg, (M.D., Clinical Psychologist, and Adjunct Professor), and Sarah Wu (Program Manager of the Center for Sustainable Development). The project team also included a number of graduate research assistants.

Foremost, the team identified the following strategic issues to inform the research directives and design solutions:
- How can we create the most therapeutic environment focused on recovery and rehabilitation?
- What are the most advanced models for psychiatric care and how do these models inform the design of a world-class, state-of-the-art hospital?
- How can the hospital create an efficient, comfortable, and desirable place for staff to work in?
- How can quality of care be assured and supported through optimal operational efficiencies?
- What is the most appropriate location for a new hospital complex within the physical and cultural landscape of Rusk?
- How can the facility establish an appropriate new identity while preserving the cultural importance of the historic campus and buildings?
- Can the hospital continue to be an exemplary social and economic benefit to the greater community of Rusk?

The work was then essentially conducted in two parts. The first part focused on qualitatively research on best practices, identifying programming goals, and the creation of an “Idealized Model” to more precisely define key spatial relationships. Part 2 then worked to apply the findings from Part 1 to a preliminary development plan for the Rusk State Hospital campus in order to “test” the Idealized Model. Part 2 concluded with the design of an “Applied Model.”

**PART 1: IDEALIZED MODEL**

Part 1 involved a lengthy review of literature on best practices, successful precedents, and current design trends for modern behavioral health facilities across the U.S., Canada, and Europe, in the interest of determining the state of knowledge on the relationship between behavioral health and the physical environment. This research confirmed a fundamental concept that therapeutic design principles must extend beyond traditional interior spaces to accommodate a more normalized physical environment with clear and meaningful access to the outdoors and to natural landscapes. Design approaches that focus on the therapeutic properties of landscape are paramount to a patient’s well-being and recovery.

Research also pointed to design approaches that are more modular and are determined by a manageable (defined) number of patients and support staff per unit. Spaces should be appropriately zoned for optimizing treatment opportunities; focusing on patient privacy, social activities, and physical health; and they should be arranged around a central, organizing outdoor space. The elements of best practices were organized into a series of programmatic modules or diagrams at varying scales to illustrate fundamental design properties, differing levels of freedom and the scalability of various programming components.

Through in-depth consultation with DSHS and staff at RSH, this qualitative research help to identify best practices in the Texas context and defined Texas-specific programming goals; establishing a platform from which a new spatial and functional model could be defined for modern behavioral health care facilities in Texas. This work has provided DSHS with some very specific programming goals that will help to lay the ground work for all future facilities, set within the financing and staffing regimes mandated by the Texas Legislature.

This research resolved into the design of an “idealized” model, which more-precisely, spatially composed the goals and objectives for treatment and operations for state hospital systems as a whole. The Idealized Model was an exercise in optimal spatial relationships with no contextual influence. Fundamental to the Idealized Model was the organizing of “home-like” therapeutic units composed of a small number of private bedrooms around a welcoming and directly accessible outdoor courtyard. This is in contrast to traditional units, which tend to be centered on the nurse’s stations, an unintentional focus which adversely hinders patient-centered care models. Architecture that focuses on the therapeutic properties of nature and the powers of choice for patients has been proven to help reduce stress and incidents of aggression, and to promote healing. The Idealized Model also incorporates elements that may seem simple but are really revolutionary in the design of mental health facilities—such as a window in every room to allow for natural light and the opportunity to look upon nature.
Furthermore, in attempting to reflect the ranges of environments in which people typically conduct their daily lives, the Idealized Model organizes four units into a quad that provides shared space for therapeutic treatment, dining, recreation, and staff operations: a neighborhood of sorts. Central support programs are organized into what best practices call a “therapy mall” or “treatment mall,” offering patients amenities or functions they are likely to utilize in their communities, such as clothing stores, libraries, cafes, movie theaters, fitness rooms, and salons. The Idealized Model centrally organizes these uses around an outdoor type mall, reestablishing patient opportunities to occupy a hierarchy of outdoor spaces and providing patients with a sense of existing within a broader community. The program as a whole encourages patients to take an active role in their treatment. The purpose is to ensure the architectural programs support the therapeutic programs such that the buildings and outdoor spaces become a recovery-focused tool themselves.

Finally, the Idealized Model was designed and organized to provide for a general planning process that could be applied to other DSHS facilities. It is meant to be utilized as a “kit of parts” that can be reorganized in the context of a specific hospital site, scale, and program.

PART 2: APPLIED MODEL

In order to test the Idealized Model, part 2 of the study focused on its application to the contextual characteristics of the Rusk State Hospital (RSH). In order to appropriately apply the model to RSH, a compendium of the history of RSH and a chronology of its construction was studied; existing site conditions were assessed, which included a survey of the exterior and interior conditions of the existing buildings, and then evaluated based on their physical capability for re-use, their adaptability to “best practice,” and how best to integrate them into a new development plan. One of the most notable features of the existing campus is the 1886 Administrative Building (Building 501). Originally constructed as a prison, it was renovated from a two-story structure to a three-story structure in 1919 to accommodate the growing psychiatric population of the state. At about 600 feet long, it is an iconic piece of architecture for the entire campus.

The components and principles of the Idealized Model were then applied to the spatial, physical, and cultural landscape of the Rusk State Hospital, resulting in a series of spatial and functional “tests” that quantified space and operational relationships among departments. In consultation with RSH staff and DSHS, test-fit scenarios were considered in the contexts of “best practice,” legislated staffing and funding, the historic identity of the RSH, and topographic and spatial constraints.

Through ongoing refinement, review, and discussion with the project team and steering committee, an “Applied Model” was finalized into a preliminary development plan for RSH. The Applied Model provided significant focus and meaningful attention to critical landscape spaces between the buildings, working with the noteworthy topography to provide opportunities for interesting outdoor therapeutic spaces.

CONCLUSIONS

It is estimated that nearly 1 million, or about 5%, of Texans over the age of eighteen are afflicted with a serious mental issue: a diagnosable, mental, behavioral, or emotional disorder that causes serious functional impairment that substantially interferes with or limits one or more major life activities (Texas Statewide Behavioral Health Strategic Plan, HHSC May 2016). With an ever-growing population, the mental health needs for the people of Texas is an urgent and mounting issue.

According to a report by Texas House Select Committee on Mental Health released in January 2017, mental health “is absolutely one of the most critical areas of concern” facing the state right now. “If we fail to adequately invest and earnestly address the issues now, we do so at our own peril because the societal, medical and criminal justice costs alone will be extremely high,” the report reads. “In short, the problems will not simply go away on their own. In fact, they will only increase as Texas continues to grow and so will the costs—loss in human potential; detrimental social impact on families, communities and businesses; and financially.”
Research confirms that mental health issues are best addressed through a continuum of care from inpatient hospitals to local mental health facilities, schools, and law enforcement. The role of Texas state hospitals to provide inpatient psychiatric care to forensic and civil commitment patients will only continue to be a critical component of the state’s mental health services. Investment in new and progressive behavioral health facilities that support health care models that promote recovery and resilience, and help patients return to independent life as functioning members of a community must be provided.

This project has provided tremendous insight into the opportunities and constraints within designing a new, state-of-the-art Texas model for RSH and other DSHS facilities that best support progressive care models. Designing spaces that support the care and treatment programs for people with mental illness is a complex and multifaceted issue. There are three innovative themes expressed through the idealized model and its application to RSH that are transformative to the way mental health care facilities are arranged:

**Central role of nature and access to outdoors:**
The fundamental organization of “home-like” therapeutic units around a directly accessible outdoor courtyard provides the much-needed access to the therapeutic properties and relief of stressors provided by nature. This arrangement, coupled with a hierarchy of other outdoor spaces and therapeutic programs, helps to support best practices in mental health care and treatment that are patient centered to support empowerment and recovery.

**Passive versus active surveillance:**
The design-based research has been innovative in promoting a therapeutic model that moves from one based on active surveillance to one that promotes a patient-focused model using passive surveillance. Models based on active surveillance and security goals use direct sightlines as the primary determinate of architectural form. The result is an architectural form that always places the nurse’s station at a central and prominent location within the residential unit. Contrary to these previous designs, the courtyard model is an architectural form that allows for degrees of freedom, choice, and privacy, while still providing necessary surveillance to patient-occupied spaces such as the day space or courtyard. Rather than having the nurse’s station as the central focus, the outdoor courtyard and access to nature are the foci and the nurse’s station is provided in a more discreet location, which results in improved mentality for patients and better relationships between patient and staff.

**A campus of healing and living:**
A final fundamental approach that makes this research and design innovative is strategically moving away from a singular “mega-building” and moving towards a series of buildings in a compact, pedestrian-focused, campus-like setting. This not only allows for greater adaptability to a wide variety of sites and flexibility to support a range of demographic profiles, but also provides for a better simulation of the social and community dimensions of public life. One of the corner pins of the patient-centered care model is caring for patients in environments that simulate everyday life in order to provide them with tools to be functioning members of society. The campus-like arrangement of buildings better replicates the home environment through the design of discrete units up to the community environment through the treatment mall. It becomes not only a place for healing but a place for living.

This research intends to highlight the active role architecture has in the care program, just as the programming has an active role in the architecture. There is a reciprocal relationship between the form and the therapy. The results have and will continue to provide great insight into all future investment in the behavioral health facilities particularly for the state of Texas but also beyond. By researching, sharing, and applying information, the goal was to raise the level of design for therapeutic environments and lay the groundwork for the creation of better mental health care facilities.
PROGRAMMATIC MODULES

UNIT SCALE

QUAD SCALE

INSTITUTIONAL SCALE
NEW MODELS FOR TEXAS PSYCHIATRIC HOSPITALS
NATURE AS A CENTRAL DETERMINATE OF FORM

LANDSCAPE FORM AND FUNCTION

RENDERING OF A COURTYARD WITHIN A UNIT