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RESEARCH ARTICLE

The evolving role of evidence-based research in healthcare facility design competitions



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Abstract

The architectural design competition remains a widely accepted method to advance design innovation, creativity, theoretical discourse, and the profession. In the realm of healthcare facility design, by contrast, clients and their sponsoring organizations seldom utilize this method. The reasons for this are many, and continue to stand in stark contrast to a growing body of evidence-based research and design (EBR&D) that is potentially of value in improving performance-based dimensions—esthetic and otherwise—of healthcare facilities globally. A comparative analysis of the entrants to a recent U.S. completion was conducted. Based on the results of this analysis, a two-phased healthcare facility design competition paradigm is put forth that is premised on the assumption that the intuitive dimensions of design creativity can be further advanced by means of a well timed and thoughtful injection of quantitatively based knowledge pertaining to patient, family, staff, and organizational concerns and priorities. This proposal's limitations, and future opportunities, are discussed.

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1. Introduction

The field of evidence-based research and design (EBR&D) has developed significantly since 2000. This has been achieved through a mixture of systematic research, and a

sustained focus on its application. This knowledge base, as advanced by specialists in many parts of the world, promotes user-focused built form and therapeutic landscapes, care settings that facilitate improved patient recovery rates, building inhabitants' safety, welfare, and productivity, and the promotion of environmental sustainability (Berry, et al., 2004, 2008). This knowledge is currently being assimilated into the healthcare facility design process (Sadler et al., 2011; Grant, 2013). These developments, while still embryonic, hold vast promise to in time

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represent a landmark achievement (Verderber, 2010). Nonetheless, in many quarters, architectural design competitions, and healthcare design competitions in particular, remain suspect with regards to their value or their return on investment (ROI). Such attitudes are partly the result of the upwardly spiraling costs of participation on the part of architectural and engineering (A/E) firms. Problems associated with client and sponsor 'pay to play' scenarios also persist, especially when the A/E firm must shoulder the entire cost with no assurance that any portion of the entrant's financial investment will be recouped.

It is said that the "best" competition design entries often lose. While statistics on this are hard to quantify, graphically seductive entries often garner a disproportionate share of honors and awards, with skillful graphics and carefully constructed models taking precedence (Nasar, 1999). Competition juries often represent a mixture of architects and non-architects. As such, debate swirls around whether the non-architects on a jury are suitably qualified. Are non-architects too uninformed of the inner profundities of architecture and building-making to judiciously assess a given submittal's full merits? In the absence of juror pre-screening, some layperson participants indeed run the risk of being seduced by all the wrong things (Nasar, 1999).

The environmental design research literature supports the position that in a design competition, looks can be more important than substance: "Professional juries...are swayed by the look of the presentation rather than the substance of the design itself" (Anthony, 1991). The *Handbook of Architectural Design Competitions* (2011) stipulates that certain types, including healthcare building types, may be inappropriate when commissioned as the result of a design competition (Strong, 1996). This bias reflects a deeper negativity towards healthcare facilities, rooted in the eighteenth century lunatic asylum—a place singularly about institutional control. To a certain extent, such attitudes persist to the present (Verderber and Fine, 2000; Verderber, 2005, 2010).

European healthcare design firms tend to have more opportunities to enter competitions compared to their American peers (*Death by Architecture*, 2007), such as the 2012 *Nurture Collegiate Healthcare Design Competition*, sponsored by Steelcase (*Nurture by Steelcase*, 2012; Young, 2012a, 2012b). Another recent example was the winning entry, by 3XN of Denmark, for Copenhagen's Central Hospital expansion. The winning entry's renderings illustrated a maximization of façade surface area as a device for the transmittal of abundant natural daylight into the building envelope (Labarre, 2012). Herzog and deMeuron won another recent healthcare competition, for the Zurich Children's Hospital (Anon, 2012). A well-known initiative is the underwriting of firms' fees by a foundation set up in honor of Maggie Keswick to construct a global network of women's outpatient facilities known as the *Maggie's' Centres* (Jencks and Heathcote, 2010).

Competitions for healthcare facilities tend to be by invitation only. Do sponsors fear an open submissions process will unleash the floodgates to unqualified firms and unbuildable submittals, therefore undermining the sponsor's ROI? Pre-selection, coupled with costly entry eligibility requirements, are used as prescreening devices (Spreiregen, 1979; Strong, 1996). A third strategy, requiring

an entrant to prequalify on the basis of first having to demonstrate sufficient technical expertise, is also used with some frequency. In addition, in the U.S., anti-hospital biases appear to continue to dissuade would-be external, third party, philanthropic sponsors from sponsoring healthcare design competitions, i.e. private foundations. This may be because their sheer technical nature scares away *high profile* entrants that philanthropists are so drawn to as a source of sponsor status and prestige (Spreiregen, 1979; Nasar, 1999). Meanwhile, the American Institute of Architect's (U.S.) *Handbook of Architectural Design Competitions* continues its noncommittal stance, defaulting to an esthetic, formalist bias, eschewing complex building types such as healthcare (Nasar, 1999). Few competitions are held on the subject of healthcare, perhaps due to these reasons:

- *Professional Biases*—A longstanding bias against hospitals because they are dismissed as an overly institutional building type in the view of the mainstream profession, compounded by the perception that healthcare facilities, hospitals or otherwise, are simply too technical in nature, and therefore stymie design creativity.
- *Lack of Sponsorship*—A lack of sponsorship within the industry and society, with few would-be philanthropically focused organizations or private sponsors interested. Change in this regard will require sponsors able to garner attention and prestige by underwriting the fees of entrants, including the winning A/E firm, and also by providing funds for the documentation of a winning scheme through to construction and beyond to full occupancy.
- *The Competition Process*—Suspicion persists on the part of healthcare administrators, whose job performance is predicated on adherence to tight budgets, timetables, ROI, and accountability to stringent cost containment criteria. To a governing board, a competition and its attendant uncertainty may be viewed as a threat to healthcare corporate investors and elected leaders in government agencies.

The fact that so few design competitions in healthcare take place is to be taken itself as a challenge to the profession. This presents a challenge to articulate a protocol whereby evidence-based knowledge can be incorporated within a healthcare facility competition. These focus areas are (1) The need for research on patient quality and patient safety, (2) Research on the relationship between facilities and healthcare expenditure and reimbursement policies, (3) The aging of global societies and the growing caregiver shortage in many parts of the world, (4) The rise of health informatics and the eradication of the digital divide, (5) The increasing importance of genomics, (6) The need for facility-based research on disaster mitigation and emergency room overuse, and (7) Further research on the importance of environmental safety and sustainability.

The *Center for Health Design's* certification program, 'Evidence-based Design Accreditation and Certification,' or EDAC, launched in 2008, reports that as of the end of 2013 more than 1000 individuals had become EDAC-certified. This program:

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