

Radiology Design Project Primer

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Abstract

The design of hospital environments is receiving increased attention as an important contributor to patient satisfaction and experience, which have a direct impact on reimbursement. Well-designed health care environments can decrease stress, improve concentration, and contribute to improved patient outcomes and enhanced staff morale. Most radiologists and business directors lack formal training in design and may feel they have little to contribute to design planning, yet creating an optimal environment for patients requires a strong understanding of local demographics and both patient and staff needs, which is a core responsibility of radiology leadership. This article presents practical guidelines for selecting a design partner for an imaging construction project, developing a design theme and design sensibilities, and engaging a multidisciplinary radiology team in working with a designer; the goal is to enable radiology leadership to collaborate with designers to cocreate health care environments that aspire to be integral components of patient-centered care and experience.

Key Words: Design, architecture, patient experience, health care environments

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INTRODUCTION

Hospital environment aesthetics have advanced significantly since sterile white walls were intentionally used to signify cleanliness [1]. Patients expect welcoming clinical spaces. Hospital leaders are increasingly motivated to improve patient experience and satisfaction, because they have direct impact on reimbursement [2]. Radiology, historically focused on technology and image quality and less on environment and experience, has come relatively late to this trend [3]. Imaging equipment is large and intimidating; associated injectors and monitoring equipment further contribute to anxiety. Staff members often apply stickers to scanners and walls, attempting to make imaging environments more appealing; a more sophisticated and expensive approach is custom appliques designed and applied by third parties [4].

Good design in health care environments remains in its infancy. There are tremendous opportunities to create

spaces that decrease patient stress, enhance staff performance, and contribute to improved patient outcomes [5,6]. Many radiology leaders lack training in design and feel unqualified to participate in design discussions. This represents a significant missed opportunity. The built environment is an integral component of the patient experience; improving this experience is dependent on deep understanding of demographics and culture, and radiology leaders are highly knowledgeable about the unique characteristics and needs of their patients. Leadership anxiety or limited interest in design decreases designer engagement; discussions narrow to saving costs, rather than cocreating functional programs that aspire to achieve greater experiences for patients and staff. The purpose of this article is to provide radiology leaders embarking on a new imaging construction project with the knowledge to fully engage with project designers and cocreate imaging environments that optimize patient, family, and staff experience.

WHAT IS DESIGN IN AN IMAGING CONSTRUCTION PROJECT?

Design encompasses the deliberate aesthetic and experiential choices beyond ensuring that a hospital construction project meets functional, code, and safety requirements [7]. The most successful built environments result when medical space planning is tied closely to

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workflow design. Aesthetic choices, such as material and color palettes, should not be separately conceived from functional planning (ie, as an afterthought to “dress up” the space). Imaging environments are often dominated by imposing equipment, making it particularly difficult to focus on other essentials. A successfully designed environment encompasses more than colors or patterns; it should appeal to multiple senses, sometimes in subtle and sometimes in bold ways. Instead of overstimulating the visual senses, increasingly common in everyday surroundings, thoughtfully designed spaces consider acoustic and haptic sensations. A change in walking surface or wall material can profoundly alter perceptions. Meaningful design themes can stimulate different levels of cognition and offer varied experiences for patients of different ages and backgrounds.

WHAT IS THE VALUE OF GOOD DESIGN?

On one level, good design implies something is beautiful; good design in a health care environment should aim higher and aspire to contribute to the healing experience. A space may be aesthetically appealing, yet seem harsh and disquieting to a patient. Good design may imply a “machine for living in” [8], which may seem appropriate for hospitals aspiring to run highly efficient operations. However, the desire for machinelike efficiency may result in hospitals conceived as glorified manufacturing facilities, with environments lacking in humanity.

Although literature studying design impact in health care environments is relatively new, studies report that good design contributes to improved patient outcomes, such as shorter hospital days, fewer incidents of post-surgical complications, and less frequent and potent analgesics for pain control [9]. Other literature has shown that design decisions, such as incorporating scenes of nature, can facilitate healing and concentration [5]. Furthermore, hospital environments tend to see considerable wear and tear and can rapidly become shabby. Good design, especially when it incorporates staff input, promotes “ownership” and pride by the staff, who are then motivated to take care of their environment.

HOW TO CHOOSE A DESIGNER

What Are the Qualifications of a Health Care Designer?

Health care designers have strong passion for patient care. A lead designer has a professional architectural or interior design degree and understands hospital operations to fuse functionality with aesthetics. A successful environment

depends on the health care designer to distill your particular vision into a specific design. Looking beyond credentials and titles is key to finding a designer who does not apply arbitrary design ideas but truly listens to your needs and desires to create an authentic environment. Large projects can have hundreds of people working on them, spanning multiple disciplines. Many of these professionals are members of credentialing organizations, including state licensure. Radiology leaders can review credentials during the interview process but should realize that although these organizations indicate that a designer has attained a level of achievement, it is common in the construction industry for noncredentialed members to play large roles. Determining if your designer is a member of such organizations is a first step but only guarantees basic competency (Table 1).

Make Sure You Will Be Working With the Designer You Have Selected

An important assurance to receive before awarding the project to a firm is the *availability* of the proposed team members and their *commitment* to your project. Basing a major decision for a potentially long-term partnership on a single proposal and interview can lead to disappointment. It may be beneficial to meet in less formal settings before posting Request for Proposal (RFP). Getting to know each other’s philosophy and vision recognizes the impact of “chemistry” on trust and comfort, which is paramount for a rewarding partnership and outcome. A friendly relationship with a design partner will ensure personal accountability and a desire to meet your goals.

What Questions Should You Ask Their References?

A good designer will be eager to provide references; they will be proud of past relationships and projects. Specific questions to ask the references include: What was the size and schedule of the project? Was the designer a good listener and cocreator or did he or she push a fixed idea? Were you guided through a good experience and why? When completed, did the spaces perform the way you envisioned? Besides functionality, do patients and staff experience the new environment in the way you had anticipated? How did the design team handle themselves when things went wrong?

HOW TO WORK WITH A DESIGNER

Developing a Basic Design Vocabulary and Sensibility

An excellent starting point for acquiring fundamental design knowledge is *Universal Principles of Design* by

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