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Exploring Inpatients' Experiences of Healing and Healing Spaces: A Mixed Methods Study

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Abstract

In order to understand a patient's healing experience it is essential to understand the elements that they, the patient, believes contributed to their healing. Previous research has focused on symptom reducers or contributors through environment such as stress. A person's experience of healing happens over time not instantaneous. Therefore, in this study, the interviews with patients happened after forty-eight hours of hospitalization. This mixed methods study describes the experiences of seventeen inpatients from two healthcare systems using a phenomenological approach combined with evidence based design evaluation methods to document the setting. The qualitative data was analyzed first for reoccurring themes then further explored and defined through quantitative environmental observations. The seventeen patients defined healing as "getting better/well." Seventy three statements were recorded about contributors and detractors to healing in the physical environment. Three primary themes emerged from the data as positive influencers of a healing experience: being cared for, being comfortable and experiencing something familiar or like home. These results demonstrate that patients perceive their inpatient healing experience through a supported environment.

Keywords

patient experience, healing space, care, inpatient, mixed methods, phenomenology, cardiac

Introduction

Patients in the hospital have hopes and expectations for health recovery and healing. Hospitals have recognized the relationship between the physical environment and patient outcomes and have focused on creating safe and aesthetically pleasing physical spaces. However, much of the work describing the relationship between the physical environment and patient outcomes has come from architects and designers. Consequently, it is focused on outcomes of interest to health-care organizations rather than those of the patients. Studies that provide an understanding of healing experiences from the patient's perspective are limited and most have focused on healing at the end of life. An identified gap in the literature is how the physical environment influences the patient's ability to experience healing. We postulate that creating a healing space, one that evokes feelings of serenity, calm, and relaxation, can contribute to an environment that facilitates the innate healing process—a process of repair, recovery, and return to wholeness in mind, body, and spirit (1,2).

The hospital's physical environment is 1 of the 4 interrelated areas that can maximize the patient's innate healing process: the internal environment, individual healing intention and personal wholeness interventions; the interpersonal environment, the relationships that facilitate healing; the behavioral environment, the actions that we take to enhance health and facilitate healing; and the external environment, the physical environment where we work, live, and receive care (Figure 1).

Background

As early as 50 years ago, social scientists who examined the influence of the environment on human behavior identified

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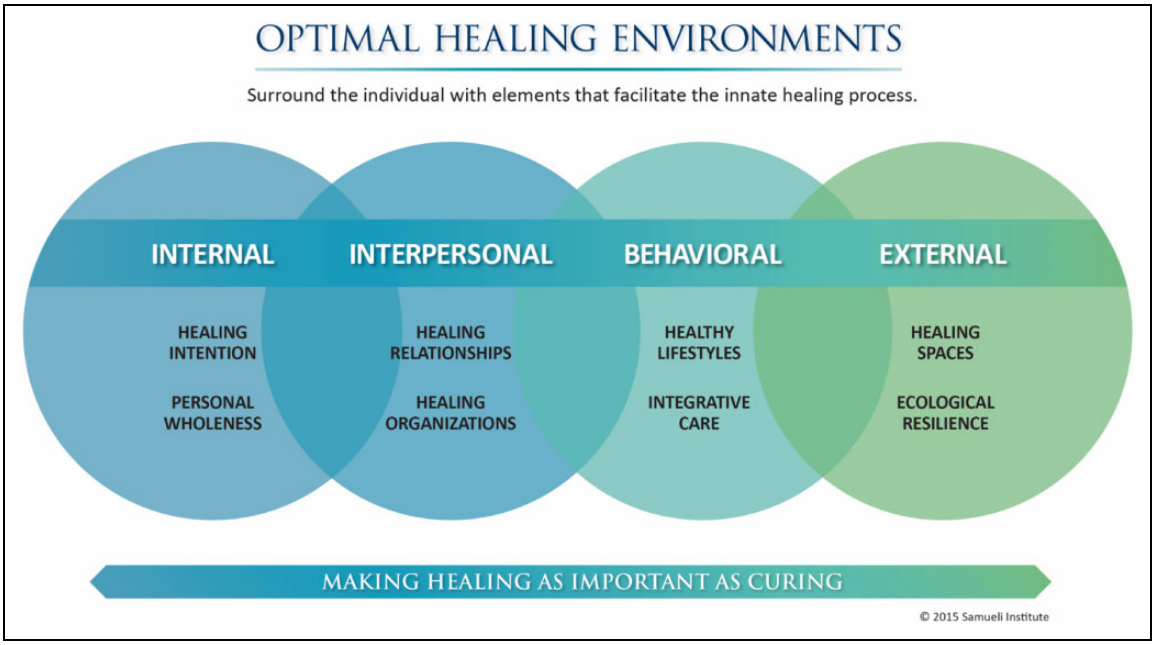

Figure 1. Optimal healing environment framework.

that seating arrangements influenced patient interactions within a psychiatric ward (3). More recently, the application of science to design has had a remarkable impact on health care and health-care facilities. Evidence-based design (EBD) uses scientific tools to establish links between design and patient, family, and organizational outcomes. Its principles support design decision-making to improve safety, efficiency, and clinical outcomes. A review of EBD literature (4) revealed key design elements that influence patient, staff, and organizational outcomes (Table 1). A study by MacAllister (5) identified spatial features that impact patient satisfaction scores: bed location and orientation, window opening, point of first encounter, and nursing orientation in the room. Other than patient satisfaction, spatial features have been linked to other outcomes linked to room design that include reduced injuries, fewer infections, less stress, and improved quality of sleep (6,7).

A systematic review by Dijkstra et al (8) examined the relationship between environmental stimuli in health-care settings and patient health and well-being. The study found that noise abatement interventions positively affected patients' perceived quality of care. They also found that exposure to sunlight and pleasant ambient odors had significant positive effects on stress, pain, and mortality rate in women (8). Seven design strategies that contributed to healing in psychiatric settings include (a) single rooms, (b) calm, naturalistic, and domestic artwork or photographs, (c) east-facing windows, (d) plants, (e) acoustic ceiling tiles, (f) low noise-producing unit areas, and (g) window views of nature (9). Schweitzer et al (10) described the "powerful and pervasive" link between the hospital environment and behaviors, stating that "a positive toned mood affects how occupants feel in a space and affects physiological restoration" (10, pp. 72 and 79).

Using the scientific model established in EBD, this study looks to understand healing spaces through the explicit exploration of the patient's perspective. There is little published research describing patients' engagement with their environment or patients' perceptions of the impact of the environment on healing. A primary barrier to healing is stress and the environment can impact one's stress (11,12). Specifically, Ulrich (12) identified the psychological and behavioral manifestations of support that have been promoted and enhanced by design features. These supportive design features afford a sense of control, positive distraction, and social engagement of the patient to improve their well-being and level of stress. While this exploratory study is not intended to further explore the theory of supportive design, it purports to take an initial step in understanding the connection between the physical environment and the patient, the interaction of the patient with the environment, and the patient's perception of how the spatial features within the environment contribute or detract from the healing experience.

Purpose

The purpose of this mixed methods study was to gain a deeper understanding of healing spaces as a phenomenon experienced by patients and the meaning they assign to the physical environment in relation to a healing experience. Specifically, (1) How do inpatients receiving treatment for cardiac conditions experience their physical care environment? and (2) How does the physical care environment

Table 1. Summary of the Relationship Between Design Factors and Health-Care Outcomes (adapted from Ulrich et al 2008).

	Views of Nature	Access to Daylight	Appropriate Lighting	Single-Bed Rooms	Family Zone in Room	Carpeting	Noise Reducing Finishes	Ceiling Lifts	Nursing Floor Layouts	Decentralized Supplies	Minimize Distractions	Activity-Adaptable Rooms
Staff stress				→			→					
Staff injuries								→				
Staff effectiveness									←	←	←	
Staff satisfaction		←										
Infection rate				→								
Medical errors			→								→	
Patient falls					→							→
Patient sleep			←	←			←					
Patient privacy				←			←					
Spatial disorientation												
Pain medication use	→	→										
Patient depression		→	→									
Encourage social support				←	←	←						
Communication with patients			←	←	←							
Length of stay	→	→										
Patient satisfaction			←	←			←					←

contribute either positively or negatively to their perception of their experiences of healing?

Methods

Research Design

A mixed methods research design, combining quantitative and qualitative methods, was used to better understand the impact of the physical environment on patients' experiences. A phenomenological approach was used to gain an understanding of the patients' experience of healing and their perception of how the physical space and its features (eg, inpatient room, furnishing, views, and equipment) contributed to their experience. Quantitative data were collected during the interviews by asking patients to rate specific aspects of their experience and the physical environment. Architectural drawings and observations of the physical environment were evaluated by the lead researcher (L.M.) for layout, size, furnishings, views, technology, and distractions. Figure 2 presents the data collection methods.

Site Selection

A list of potential hospital sites was generated based on the following criteria. The hospital (a) has a subscription to the C.A.R.E. Channel, (b) submits patient experience of care scores to Centers for Medicare and Medicaid Services (CMS) (Hospital Consumer Assessment of Healthcare Providers and Systems [HCAHPS]), (c) has a sufficient number of patients meeting eligibility criteria on specific units, (d) has participated in research in the past (ie, to achieve Magnet status), and (e) was able to designate an on-site principal investigator (PI). A member of the HHS team sent an introductory e-mail containing a project overview to the identified nursing research leadership at 7 facilities. The SI researchers followed up directly with the sites by e-mail and phone to assess interest in the study. Of the 7 sites, 2 were willing and able to participate in this research project. Table 2 provides information on the 2 sites, WVUH and HCH, that collaborated on this study.

Participant Selection and Enrollment

In discussions with the collaborating site PIs, it was determined that a homogenous patient population would be optimal for this study and that patients with long-standing, stable cardiac disease would be a suitable cohort. Eligible study participants were those who met all of the following criteria: (a) aged 18 years or older, (b) diagnosed with congestive heart failure or had elevated troponin levels (>0.30 ng/mL), (c) occupied the current hospital room on 1 of the identified units for at least 48 hours and not more than 5 days, (d) oriented to person, place, and time and willing to give informed consent, and (e) fluent in English. Patients who had experienced any unexpected complications (eg, infection, cardiac, or respiratory arrest) during the current

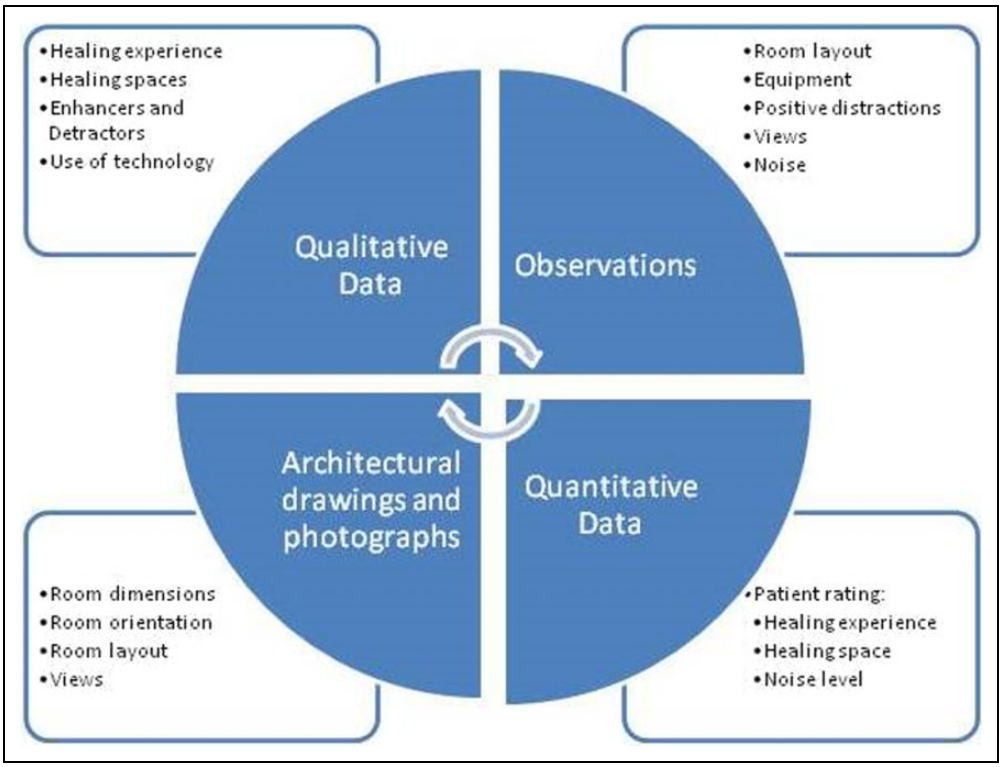

Figure 2. Mixed methods research model.

hospitalization were not eligible to participate, as these confounders could negatively impact the patient's perception of a healing experience.

Inpatients receiving care in one of the study units at WVUH and HCH were screened for participation in the study by the nursing staff. The SI researchers did not have access to patient records, as all information was collected through the electronic health record by the clinical nursing staff. A designated unit nurse approached eligible patients, briefly explained the purpose of the study, and, if the patient was interested in participating, scheduled a time for the patient to meet with the SI researchers. After written informed consent was obtained, the researchers conducted one-on-one semi-structured interviews and collected relevant data. Participant recruitment continued until themes were repeated frequently and saturation was achieved at each hospital.

Data Collection and Sources

Four sources of data were collected in this study: qualitative data, quantitative data, researcher observations, and analyses of architectural drawings and photographs. Qualitative data were collected through in-person interviews by 2 SI researchers in patients' rooms. Open-ended questions inquired about patients' perspectives on healing, healing spaces, and the contribution of the physical environment to their healing experience. The interviews lasted between 15 and 35 minutes and were audio-recorded with the participant's permission. Interview questions and probes were structured to ensure that references to the C.A.R.E. Channel occurred at the end of the interview, unless the participant mentioned it spontaneously beforehand (Table 3). Quantitative data were obtained by asking participants to rate 3 areas on a 10-point Likert scale: their healing experience, their hospital room as a healing space, and the noise level in and around their room.

Researchers collected observational data from patient rooms of study participants and recorded these on an environmental checklist (Table 4), noting spatial room features that have been shown to have an impact on health by Ulrich et al (4). Other important spatial features mentioned by participants during interviews were also noted. A final data source were architectural plans with room configurations, room measurements, and photographs of empty rooms that were obtained with permission. While the researchers had intended to collect aggregate room-specific HCAHPS scores as well as other patient's self-reported outcomes, the organizations were not able to provide that level of detailed data in the required time frame for the study. The authors reviewed the publically reported HCAHPS data for the hospital units included in the study, and they were both similar in their outcomes.

Data Analysis

The SI research team reviewed the audio recordings and transcribed notes from the interviews. Key phrases that described how participants defined healing, healing spaces, and healing

Table 2. Study Site Descriptions.

	West Virginia University Healthcare, Morgantown, West Virginia	Holy Cross Hospital, Silver Spring, Maryland
Bed size	531	443
Cardiac specialty units	10 East and 10 west	CIC, IMC, and PCU
Percentage of private rooms	100	0
HCAHPS vendor	Press Ganey	Press Ganey
Magnet designation	Yes	No
Ability to provide on-site PI	Yes	Yes
C.A.R.E. Channel implementation	March 2014	October 2004
Written protocols integrate C.A.R.E. Channel information on admission	Yes	Yes

Abbreviations: C.A.R.E., Continuous Ambient Relaxation Environment; CIC, Cardiac Intermediate Care; HCAHPS, Hospital Consumer Assessment of Healthcare Providers and Systems; IMC, Intermediate Medical Care; PI, principal investigator; PCU, Progressive Care Unit.

experiences in terms of their physical care environment were analyzed and then organized into clusters of meaning and composite themes. During discussions among the research team, the key themes that emerged from the patients' perspective were "healing," "healing spaces," "healing experience enhancers," and "healing experience detractors." The quantitative and qualitative data were tabulated and integrated with the EBD literature to portray the phenomenon of healing spaces as experienced by patients in the hospital.

Findings

This study was conducted in 5 inpatient units in the 2 hospital facilities. Seventeen participants, 9 at WVUH and 8 at HCH, were enrolled. Study participant demographics are presented in Table 5. Researchers observed that patient rooms in both hospitals were austere in design and decor. Each room was furnished with a patient chair, hospital bed(s), an overbed table, TV(s), white board(s), and visitor chairs. All of the patient rooms met the minimal clearance around the bed of approximately 3 ft. The HCH was operated as semiprivate rooms, and the rooms in WVUH were all private rooms. The walls were painted in shades of white to gray, and the number of visitor chairs varied by room. Room specifics are detailed in Table 6 and Figure 3. Views from the bed varied from room to room; exemplars are shown in Figures 4 and 5.

Healing Experiences

Almost all of the participants responded that the term healing meant "getting better" or "getting well" (Table 7). Many described healing in terms of being symptom-free (eg, "getting up and walking around without struggling to breathe" or "I had pain, then I didn't have pain anymore; that is healing"). Some described a healing experience as improving or returning to the state of normalcy (eg, "leaving the hospital in a better state than when you arrived" and "returning to a state before you were sick"). Two participants understood healing to be something that the hospital staff did to or for them (eg, "they got me feeling like I'm back to me" and "they fixed me up"). Two respondents characterized healing as something beyond getting better, getting well, or returning to normal. One participant characterized healing as "God's grace." Another described it as "complete something, improve, become whole," elaborating on this with "learning something new and taking in new knowledge, understanding the world around you."

The experience of healing was predominantly described as a process of going from an illness state with bothersome or debilitating symptoms to a state of being better, well, or back to normal. Some viewed it as an external process of "being fixed" by hospital staff. A few described healing as a spiritual or a salutogenic process (eg, reaching completion, becoming whole). Average ratings of patients' healing experience were 7.3 at WVUH (private rooms) and 6.8 out of 10 at HCH (semiprivate; Table 8).

Healing Spaces

Participants described a healing space in terms of the physical attributes of the space, the feelings that the space evoked, the familiarity of the space, its relationship to nature, spiritual or religious significance, and as a space where they felt cared for by attentive staff (Table 9). Having sufficient space and not feeling crowded or closed in were the most commonly mentioned physical attributes. Other physical attributes that were associated with healing spaces included privacy, natural light, quiet, and cleanliness. Participants described a healing space in terms of the positive feelings and sensations it evoked. A healing space felt calm, soothing, and relaxing, a place where one felt comfort and "cozy."

The theme of a home-like environment emerged, with descriptions of familiar rooms in the home (eg, bedroom, backyard) and being with family members. Seeing views of nature was frequently mentioned in describing home as a healing space. One participant described her porch swing in the backyard, "watching the trees grow" as a healing space. Another described her bedroom or kitchen with a view outside to the forest, "where I can see birds at the bird feeder and the deer."

Participants associated a spiritual connection with healing spaces. For some, it was the experience of being in church; for others, "talking to the Lord," "serving God," and receiving "spiritual care by the priest." One participant said that a healing space is Nirvana, a place to improve your

Table 3. Qualitative Interview Probes.

1. Can you describe how this environment [referring to this hospital room] contributed to your healing experience so far?
2. How would you describe a healing space?
   - Given that description, how would you rate this room as a healing space? 1-10 (10 being a healing space)?
   - What would you change in the room to make it more of a healing space (ie, so it could get a better score)?
   - Did your family spend as much time in your room as you wanted? Did the room support that?
3. How would you rate your healing experience during your stay in this room 1-10? (10 being the highest)?
4. How noisy was your room on a scale of 1 to 10 (with 1 being quiet and 10 being the nosiest)?
   - Was it the same level of noise throughout the day?
   - If no, when was it the noisiest?
5. Was there anything in this room that helped you feel calm and peaceful (in other words, made you feel relaxed, rested, restored, and comfortable)?
   - Can you give specific examples of what made you feel this way?
   - Could you describe where you were in the room when you noticed this? (Were you standing? Sitting? Lying down?)
   - Was there anything in the environment that made this feeling better? Worse?
   - How did this impact your overall experience?
6. Was there anything in this room that made you feel stressed or agitated?
   - Can you provide specific examples of what made you feel this way?
   - Could you describe where you were in the room when you noticed this? (Standing? Sitting? Lying down?)
   - Was there anything in the environment that made this feeling better? Worse?
   - How did this impact your overall experience?
7. Was there anything in this place that made you feel uncomfortable or in pain?
   - Can you provide specific examples of what made you feel this way?
   - Could you describe where you were in the room when you noticed this? (Standing? Sitting? Lying down?)
   - Was there anything in the environment that made this feeling better? Worse?
8. Did you do anything to take your mind off the current situation?
   - Can you talk more about this? (eg, what exactly was a positive distraction? what time of day? how often?)
9. Did you use any technology while you were in the room, such as a TV, iPod, cell phone, or Internet?
   - In what ways was it helpful? Not helpful?
   - Can you provide specific examples?
   - Did it affect your mood? If so, in what way (positively, negatively)?
10. Did you watch the C.A.R.E. Channel during this hospitalization? (If no, skip to next question.)
    - If yes, tell me about your experience with watching the C.A.R.E. Channel.
    - What did you notice about it? (visuals? photographs? music?)
    - How did you find it? (ie, who was the first to turn on the channel: family? staff? yourself?)
    - How often and when did you watch it? (When did you turn it on? Night? Day? Did you turn it on during the day?)
    - How many times did you use the channel?
11. Is there anything else you would like to share with us today?

Abbreviation: C.A.R.E., Continuous Ambient Relaxation Environment.

Table 4. Environmental Checklist.

Design Elements or Environmental Interventions	Comments
Single-bed rooms	
Access to daylight	
Appropriate lighting	
Views of nature	
Family zone in patient rooms	
Carpeting	
Noise-reducing finishes	
Ceiling lifts	
Decentralized supplies	
Room layout	
Bed orientation	
Location of handwash sink	
Location of nurse work area	
Toilet room	
TV	
Family area	
Acuity-adaptable rooms	
Nursing floor layout	

Table 5. Participant Demographics.

Demographic	WVUH	HCH	Total
Number	9	8	17
Male	7	4	11 (64.7%)
Female	2	4	6 (35.3%)
Average age	69.8	81.5	75.3
Male	70.9	84.3	75.7
Female	66.0	78.8	74.5
Age range			
Male	55-90	80-93	
Female	50-82	58-96	
Diagnosis: CHF	5	6	11 (64.7%)
Elevated troponin	4	2	6 (35.3%)

Abbreviations: CHF, congestive heart failure; HCH, Holy Cross Hospital; WVUH, West Virginia University Healthcare.

well-being. Participants also related the concept of a healing space to the hospital as a place where caring attentive staff took care of them.

Table 6. Patient Room Data.

	WVUH	HCH
Room dimensions		
Private	17 ft × 12 ft	Not applicable
Semiprivate	Not applicable	24 ft × 24 ft
Placement of the toilet room	Exterior wall	Corridor wall
Window length	4 ft	10 ft
Placement of artwork	Headwall	No artwork

Abbreviations: HCH, Holy Cross Hospital; WVUH, West Virginia University Healthcare.

A few participants offered suggestions to make the hospital environment more like a healing space. Some addressed the physical space attributes (providing more space, privacy, natural light, quiet, neatness, and cleanliness), positive feelings (calm, relaxing, and soothing), and sensations (increasing comfort). Others suggested ways to bring in elements from their home and nature to the hospital room, recommending to "change the environment by adding the ability to connect with nature." Some could not see the connection between a healing space they had just described and the hospital room, describing their current surroundings as

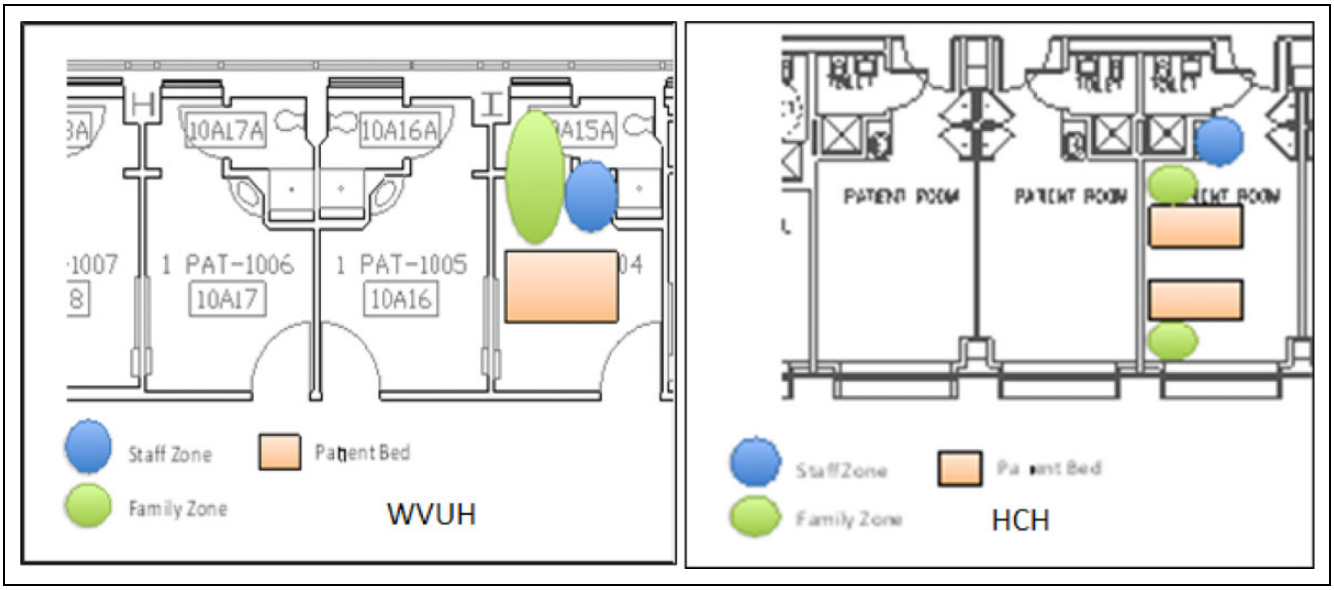

Figure 3. Inpatient room configurations.

Figure 4. Window view from West Virginia University Healthcare (WVUH).

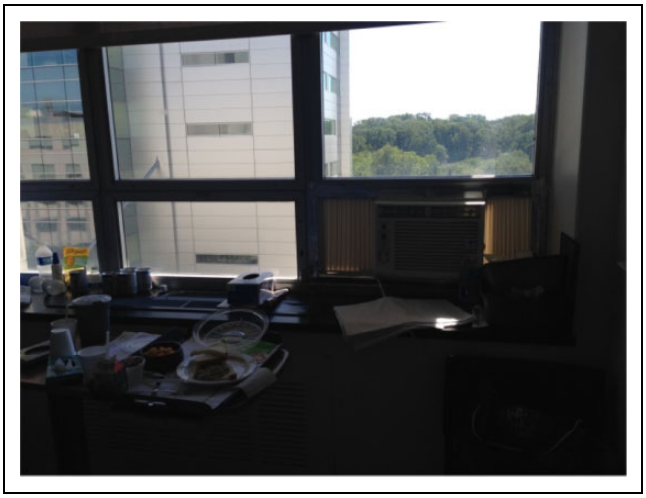

Figure 5. Window view from Holy Cross Hospital (HCH).

Table 7. Participants' Perceptions of Healing.

Meaning of Healing	n (%)
Getting better/well	6 (35.3)
Symptom-free	4 (23.5)
Return to prehospitalized state/normal	2 (11.8)
"Fixed" by hospital staff	2 (11.8)
God's grace	1 (5.9)
Become whole	1 (5.9)

Table 8. How Would You Rate Your Healing Experience During Your Stay in This Room?

Average of Rating of Healing Experience (n = 13 Responses, n = 4 No Response)			
Hospital/Unit	Private	Semiprivate	Total
HCH		6.8	6.8
Unit 1		4.8	4.8[a]
Unit 2		7.5	7.5
Unit 3		7.7	7.7
WVUH	7.3		7.3
Unit 1	7.1		7.1
Unit 2	7.5		7.5
Grand total	7.3	6.8	7.0

Abbreviations: HCH, Holy Cross Hospital; WVUH, West Virginia University Healthcare.
[a]Reflects average of 2 scores (7.0 and 2.5).

"impersonal and utilitarian." One participant noted, "There is nothing you can do to make the hospital room feel like home; they couldn't make it feel like home in a room like this."

In summary, participants described a healing space in terms of physical attributes or features and as a positive feeling state or sensation of comfort that the space evoked. Participants associated a healing space with being in their home, with family members, and with nature. Some associated a healing space with spiritual and religious significance, and others with being cared for by caring and attentive hospital staff.

Table 9. Patient's Perception of a Healing Space.

Healing Space	n (%)
Spatial attributes and features (sufficient space, privacy, natural light, quiet, neat, clean)	15 (34.1)
Evokes positive feeling/sensation (calm, relaxing, soothing, comfortable, cozy)	10 (22.7)
Home and family	8 (18.2)
Spiritual/religious (serving/talking to God, spiritual care by priest, being in church, Nirvana)	5 (11.4)
Nature	3 (6.8)
Hospital/hospital staff (hospital staff caring, attentive)	3 (6.8)
Total	44

Table 10. Patient's Descriptions of Healing Experience Enhancers.

Healing Experience Enhancers	n (%)
Spatial attributes and features (quiet, lighting, comfortable accessible furniture)	17 (32.7)
Hospital staff (caring, competent)	15 (28.8)
Home and family	6 (11.5)
Nature (views of nature, window)	5 (29.4)
TV (C.A.R.E. Channel)	4 (7.7)
Personal physical and mental state (sleep, rest, soothing inner thoughts)	4 (7.7)
Spiritual beliefs	1 (1.9)
Total	52

Abbreviation: C.A.R.E., Continuous Ambient Relaxation Environment.

Healing Experience Enhancers and Detractors

Healing experience enhancers. Several themes emerged that were categorized as "healing experience enhancers" in response to questions about how the hospital room and environment contributed to their healing experience (Table 10, Figure 6). Factors that contributed to a healing experience were positive attributes and features of the physical space, including low or no noise, access to indoor and natural light, comfortable hospital furniture, and adequate space. Fixtures and furniture that were described as healing contributors included medical equipment used by hospital staff to deliver care and visitor chairs for family visits. The hospital bed and chair were healing enhancers if they were perceived as comfortable. Participants identified care spaces including the staff and family zones in the room as healing enhancers as it enabled them to see people doing their job and to visit with friends and family.

The attentiveness, caring, and competence of the hospital staff contributed to participants' healing experiences. For many, visits from family members and feeling connected to home helped enhance their healing experience in the hospital. Taking time to rest and sleep and having "soothing

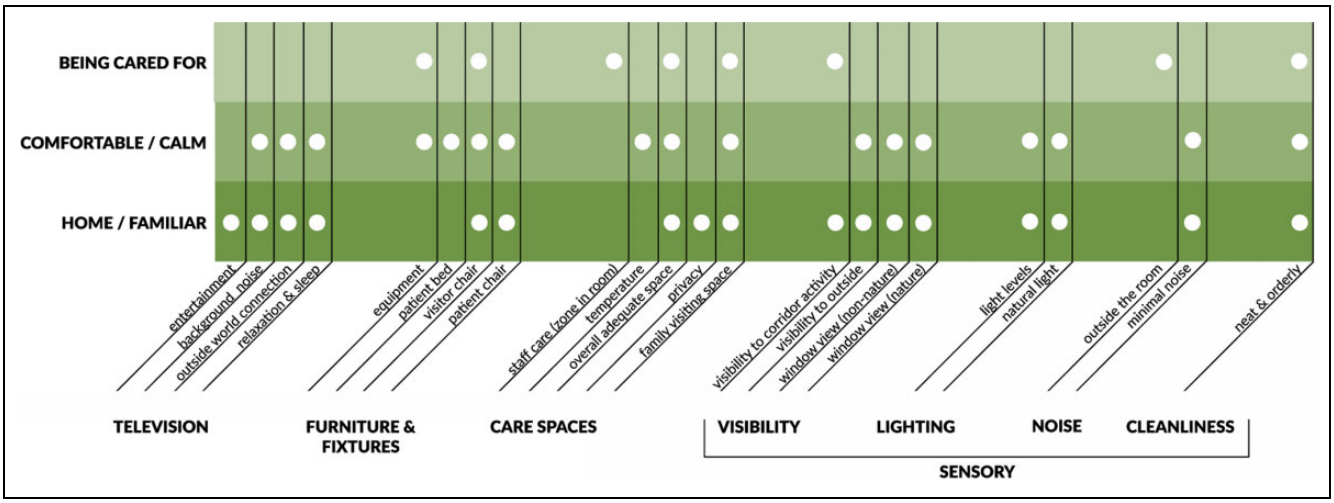

Figure 6. Healing experience enhancers related to experiential outcomes.

thoughts'' helped others. Several participants described watching a TV channel that helped to create a sense of relaxation, calm, and comfort (eg, ''it's a very comforting station'' and ''it calms me when I'm ready to go to bed a night''). When asked what they specifically liked, they mentioned that their favorite aspect was the music, the nature scenes, and feeling a ''connection with God's creation.'' Although none of the participants explicitly mentioned the C.A.R.E. Channel by name, the researchers probed to sufficiently identify or display the channel they were describing.

These healing experience enhancers are clustered into 7 groupings: the TV, furniture and fixtures, the care space, and 4 sensory features (ie, visibility, lighting, noise, and cleanliness). Table 10 presents these 7 groupings with the 3 commonly mentioned experiential outcomes by the participants (ie, being cared for, feeling comfortable and calm, and being in home/familiar setting).

Healing experience detractors. Participants responded to questions about what in the physical environment detracted from or negatively impacted their experience of healing; specifically, anything in the environment that caused pain, discomfort, stressfulness, or agitation. The predominant themes described as ''healing detractors'' were attributes and features of the physical space over which the patient lacked any control to change (Table 11, Figure 7). Lack of control of physical features in the environment was shared when the patient was speaking about discomfort, agitation, and even pain. Examples included insufficient space in the room to maneuver or have visitors comfortably visit, uncomfortable hospital beds and chairs, a bothersome level of noise, lack of privacy, lack of cleanliness, and inability to control the room temperature. Additionally, participants described negative physical and mental states that detracted from their healing experience. For instance, the physical discomfort associated with medical treatments and conditions, as well as mental agitation and sadness due to their physical restrictions and debilitated state. One participant expressed frustration about not being able to get out of the bed when she wanted to and requiring assistance from the nurses. A few negative encounters with hospital staff that lacked technical or interpersonal communication skills were also perceived as healing experience detractors.

Table 11. Patients Descriptions of Healing Experience Detractors.

Detractors From a Healing Experience	n (%)
Lack of control over the physical environment (insufficient space, uncomfortable furniture, lack of privacy, moderate noise, distance to bathroom (BR))	18 (56.3)
Negative physical and mental state (mobility restricted, painful condition/treatment)	11 (34.4)
Negative encounters with staff (lack of technical/ interpersonal skills)	3 (9.4)
Total	32

Passing time. Some activities that individuals described were time-passing distractions, which neither positively nor negatively impacted their healing experience. The most common distractor was watching TV. Nearly all participants turned on the TV during their hospitalization. For some, the TV was on as background (''it's just on for the noise''), while others chose to watch familiar news programs, game shows, and sports that they watched at home. Other activities to pass the time included the use of other technology, with about one-third of participants using cell phones, computers, or tablets to check e-mail and use social media. Several described reading the newspaper, playing games, or watching people in the hall as time pass.

Healing Space as Experienced by Hospitalized Patients

In this study, we asked hospitalized patients to consider what healing meant to them, describe attributes of a healing space, and then identify what factors in their environment either

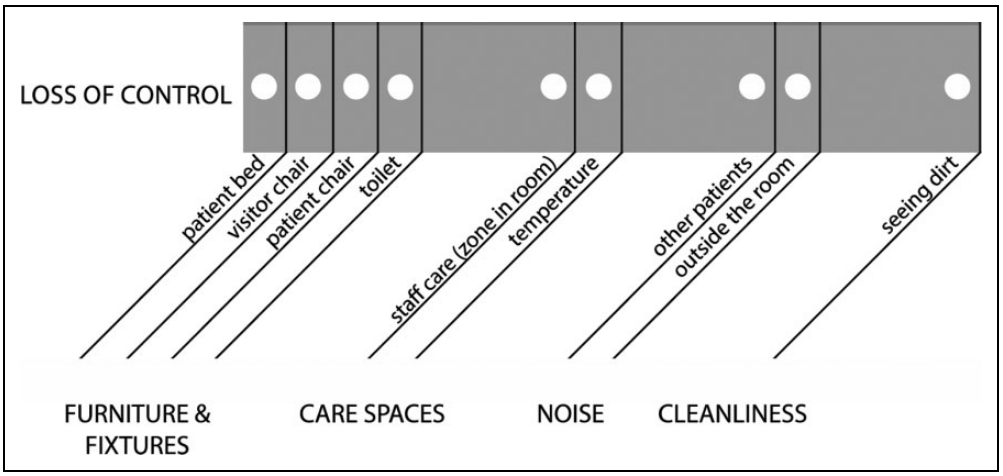

Figure 7. Detractors from a healing experience related to experiential outcomes.

contributed to or detracted from their healing experience during this hospitalization. Participants' lived experiences of healing were from a pathogenesis perspective of going from an illness state with troublesome symptoms to a state of being better, well, or back to normal. Some viewed it as an external process of being fixed by the hospital staff. Few described healing beyond this illness context from a spiritual or a salutogenic perspective in alignment with the SI definition of healing as a process of cohesion of body, mind, and spirit (1).

The phenomenological cataloging of responses systematically integrating all of the data collected into a cohesive picture resulted in 3 experiential outcomes of a healing experience that were influenced positively by the physical environment: (a) being cared for, (b) home-like environment, and (c) comfort and calm. These 3 themes clearly emerged through the interviews at each study site. The study participants shared their understanding of what was healing to them. While this is a personal emotive response, the themes discussed below were evident.

Through the interviews with the patients, healing space evoked a sense of being cared for and included the attentive support that they received from family and hospital staff. The patients shared directly that the care from the nurses and doctors, and just being in the hospital to receive the care, was healing to them. They also shared that having the space for visitors and family members to stay with them was healing. This theme is more an action that is afforded by the environment. Spatial features that supported "being cared for" included having adequate space and chairs for visitors. Visibility and the presence of hospital staff supported this experience as well.

Healing spaces evoked a sense of home. This sense of home enabled participants to establish a feeling of connection in an unfamiliar environment. This theme emerged through the comments that many of the patients, when asked about what is a healing environment, shared it was their own home. Watching favorite TV programs, having familiar furniture, having the family together, and seeing views of nature created this sense of home for some participants. This theme is a place that each person had and was able to clearly describe when asked. The patients described familiar items that triggered those memories and feelings. When asked if the home environment that they described could be found in their current hospital room, some could not see the connection, viewing their patient rooms as impersonal and utilitarian.

Finally, healing spaces evoked feelings of comfort and calm. Being comfortable and calm tracked primarily to the furniture, views, and sensory comforts like ambient noise and temperature. This theme emerged from an awareness of the ambient environment: the features of the space that were being dealt with on an ongoing basis that were unfamiliar. The patients described situations that helped them to either cope with these items or found ways to identify what could further support them in feeling comfortable. These actions were things like closing the door, so the noise from the nurses did not disrupt the patient visiting their loved one. The TV was utilized by many of the participants to achieve a sense of calm by either using it to drown out the noise or help them to pass the time while in pain.

Limitations

As an exploratory mixed methods study, the sample size was small with 17 participants who were older (50-96 years) with chronic coronary conditions. While this was a limiting factor, it was intentional by the research team to try to further limit the outside influences to the patient and find a population that would have a 3-day stay with a very predictable and similar care protocol so that we could be certain that care did not vary between sites. The older population may have interests different from other populations, so the findings and themes derived were generalized to a wider population as well as correlated with greater research on supportive design. Another limiting factor could be the variation of the bed units being semiprivate and private. The research team found that, however, there may have been an opportunity for the

semiprivate rooms to enhance detractors of the environment with a roommate. The team did not find that to be the case and the outcomes did not show an influence of the private and semiprivate spaces.

Discussion

Participants' descriptions of healing space and healing experience enhancers are congruent with Ulrich's theories of supported environments (12–15). The theory of supportive design identifies stress reduction as a primary pathway to healing and postulates that physical design supports social relationships, provides positive distractions, and enhances a sense of control. Similarly, participants in this study identified healing spaces with social support (ie, being cared for) and the comfort and familiarity of home. Research strongly supports the role of the visitors and family visits as a stress reducer (16,17). While a sense of control is a critical factor in Ulrich's theory, participants did not specifically identify it as a contributor to healing experience in this study. In fact, we found the corollary to be true; many of the detractors to healing described by participants had to do with their *lack of control* over their physical environment (eg, insufficient space, uncomfortable furniture, lack of privacy, and moderate noise).

Congruent with a study by Friedman et al (18), participants in this study highlighted the TV as a positive distraction, using it to help sleep, as calming background noise, and to keep in touch with the outside world. Friedman et al (18) found that patients who were allowed to watch at least an hour of TV prior to surgery were less anxious than patients randomly assigned to routine care. Other studies have demonstrated that positive distractions, such as the TV, art, and nature, reduce stress and anxiety in patients (19,20), as contrasted with static views and lack of space (17). The findings of this study provide a further evidence of how the environment supports the perceived care and well-being of patients beyond the actual care they are receiving. These findings build on a foundation, as well as provide an opportunity, for further study of environmental contributors to healing using supported design theory. The TV was clearly a portal to the patient that afforded them to connect with something outside of their current situation. The interviews with the patients revealed that the TV was the primary element used to take their mind off the current situation, as well as provide relaxation. The variation of outcomes for the patient depended on the channel selection and how easy the TV was to openly "surf" the available stations. When the TVs were channel based, the patients were able to quickly find their favorite show that they watched at home or find a soothing channel that provided them a more calm environment to drown out the hospital noise. When the stations were within a menu of options, there was a higher frustration with engaging with the TV and the patients tended just to watch their "known shows," and few of them found calming stations to sooth them. The findings in this study show that the TV can be a primary portal for the patient to find positive distraction connecting with the outside world as well as calm.

Conclusion

The physical environment provided cognitive, physical, and spiritual support through visual associations with home, comforting distractions, comfortable furnishings, and space that supported the patients' social relationships with family and hospital staff. Patients offered real-life descriptions and understanding of the concepts of healing and healing spaces. Their pragmatic descriptions of healing space and their perceptions of the inpatient space differed from the researcher's theoretical and idealistic descriptions. The theoretic definition of healing space as a physical environment that enhances cohesion of mind, body, and spirit and promotes social cohesion and healing relationships may need to give way to a more pragmatic definition. Patients identified healing space by the feelings the space evoked; specifically, a sense of being cared for, a sense of home, and feelings of comfort and calm. The present study confirms that there are spatial enhancers and detractors to a patients' experience of healing beyond the care they are receiving and that patients can identify healing spaces with healing enhancers. With the knowledge of this information, the staff can engage the environment more greatly to support the patient. Hospital staff can use this study to further enhance the care that the patient receives to move toward healing. A healing space creates a sense of being cared for and reminds one of the best of being home, surrounded by a feeling of comfort and calm.

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