

IMPROVING THE PATIENT EXPERIENCE THROUGH THE HEALTH CARE PHYSICAL ENVIRONMENT



March 2016

ACKNOWLEDGMENTS

Authors:

- » Lynn Kenney, Advocacy Senior Analyst, American Society for Healthcare Engineering
- » Deanna Martin, Membership and Communications Director, American Society for Healthcare Engineering

The American Society for Healthcare Engineering would like to acknowledge the wide range of people and organizations who made valuable contributions to this publication:

- » Sheila Cahnman, AIA, FACHA, LEED AP, President, JumpGarden Consulting, LLC
- » Randall Carter, Senior Vice President, Planetree
- » Barbara A. Dellinger, MA, FIIDA, AAHID, CID, EDAC, Director of Design Research, Adventist HealthCare
- » Lorissa MacAllister, PhD, AIA, NCARB, LEED AP, President, Enviah, and Healing Spaces Specialist, Samueli Institute
- » Eileen Malone, RN, MSN, MS, EDAC, Senior Partner, Mercury Healthcare Consulting
- » Lisa Platt, MS, CPC-PI, CSSBB, EDAC, LEED AP BD+C, Director of Business and Product Development, Planetree
- » Ellen Taylor, AIA, MBA, EDAC, Director of Research, The Center for Health Design
- » Kara Ulasewicz Travis, Senior Director, Patient Services and Relationship-based Care, Bassett Healthcare

Suggested Citation: Health Research & Educational Trust. (2016, March). *Improving Patient Experience Through the Health Care Physical Environment*. Chicago, IL: Health Research & Educational Trust. Accessed at www.hpoe.org

Accessible at: www.hpoe.org/physicalenvironment

Contact: hpoe@aha.org or (877) 243-0027

© 2016 Health Research & Educational Trust. All rights reserved. All materials contained in this publication are available to anyone for download on www.aha.org, www.hret.org or www.hpoe.org for personal, non-commercial use only. No part of this publication may be reproduced and distributed in any form without permission of the publication or in the case of third-party materials, the owner of that content, except in the case of brief quotations followed by the above suggested citation. To request permission to reproduce any of these materials, please email hpoe@aha.org.

TABLE OF CONTENTS

Executive Summary.....	4
» Hospital Leader Checklist for Improving the Patient Experience Through the Health Care Physical Environment.....	4
Introduction.....	5
Place: How the Physical Environment Affects the Patient Experience.....	5
» Noise.....	6
» Pain management and care	6
» Communication.....	6
People: Taking a Team Approach to Patient Satisfaction.....	8
Process: Supporting Patients and Staff.....	9
Using the People, Process and Place Model.....	9
Conclusion.....	11
Case Studies	
» Cleveland Clinic, Ohio.....	12
» South Shore Hospital, South Weymouth, Massachusetts.....	13
» Enloe Medical Center, Chico, California.....	14
» Lee Memorial Health System: Cape Coral Hospital, Florida.....	15
» St. Elizabeth Hospital, Appleton, Wisconsin.....	16
Resources.....	17
Additional Resources	21
Endnotes.....	22

EXECUTIVE SUMMARY

Hospitals and health systems are working to improve patient scores measured through the Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) survey, the results of which are now tied to CMS reimbursements via the hospital value-based payment model.

The HCAHPS survey focuses mostly on the patient's experience of care. While only two of the survey's 32 questions are specifically focused on the physical environment, this guide will demonstrate that every aspect of a patient's experience of care is influenced by valuable and often underused resources: the health care physical environment and the people who manage it.

By using the "people, process, place" model outlined in this guide, hospital and health system leaders can identify the many complex variables that affect the patient experience. This model helps hospital leaders identify people-centered ways to improve the patient experience through establishing a culture of caring; implementing process improvements, such as processes that support patients and staff; and making improvements to the place of care, including the hospital physical environment, technology and furniture. By working with people, processes and place, hospital and health system leaders can take a more holistic approach to improving the patient experience.

The physical environment affects many areas included in the HCAHPS survey. For example, research has shown that patients' perception of cleanliness can be improved with lighting, decor choices and furniture selection. Pain management is influenced by positive distractions, such as views of art and nature. Staff responsiveness can be affected by the layout of a hospital unit, and communication scores can improve when hospitals provide quiet spaces for staff to discuss issues with patients.

Of course, the physical environment is not the only factor influencing the patient experience; people and processes also contribute. Without a culture of caring and without processes that support patient care, hospitals will fall short of their HCAHPS goals.

This guide explains some of the ways the physical environment affects the patient experience, and shows why hospital and health system leaders should take a team approach involving support staff to help improve satisfaction scores.

HOSPITAL LEADER CHECKLIST FOR IMPROVING THE PATIENT EXPERIENCE THROUGH THE HEALTH CARE PHYSICAL ENVIRONMENT

- Encourage the patient satisfaction team to use the people, process and place model and tool to consider ways to boost satisfaction scores.
- Recognize every member of the hospital staff as a member of the patient care team.
- Support changes to processes and the physical environment that will improve the patient experience.
- Support pilot projects to help determine the best approaches to improving patient satisfaction.
- Track scores after improvements or changes have been made to gauge success.
- Celebrate successes and share best practices.
- Continue to assess and identify new opportunities for improving the patient experience.

INTRODUCTION

Health care organizations have long strived to keep patients satisfied as they provide medical care. Since HCAHPS scores are publicly reported and linked to reimbursement, there is a heightened focus on survey results. Consumerism and the shift from volume to value also amplify the need for strong patient satisfaction.

Hospitals and health systems are trying a variety of approaches to improve scores, but a holistic approach that considers people, process and place will help leaders identify the many complex variables that affect the patient experience. Hospitals can engage staff and improve the patient experience by focusing on three components, as illustrated in Figure 1.

FIGURE 1. IMPROVING PATIENT EXPERIENCE



Source: ASHE, 2015.

These three factors support one another and cannot stand on their own. For example, a perfectly designed hospital cannot excel without caring staff and patient-friendly processes. This model identifies the resources needed to help improve patient satisfaction scores.

This guide is focused on the physical environment and first explores some of the ways place affects the patient experience. This guide also includes brief sections on people and processes—with a specific focus on how facility professionals and processes related to facility management can improve the patient experience.

While the physical environment and contributions from facility professionals are critical to success, health care leaders should take a holistic approach to optimize the patient experience across people, process and place factors.

PLACE: HOW THE PHYSICAL ENVIRONMENT AFFECTS THE PATIENT EXPERIENCE

For decades, researchers have investigated a sweeping range of factors that influence patient satisfaction and experiences, including personal attitudes, demographics, medical issues, and even the type of insurance a patient has. Research on the health care physical environment examines the effects of architecture, interior design, furniture placement, art, lighting, building materials, building systems, maintenance programs and other elements that affect the patient experience.

Research on how the physical environment affects health outcomes began in the 1980s. More than 600 studies have linked the hospital-built environment to factors such as patient satisfaction, stress, health outcomes and overall health care quality.¹ This research has spurred the use of “evidence-based design” in hospitals, a field in which designers incorporate findings from this body of research into their work. The information contained in this guide is supported by evidence-based design research and case studies. By working across multiple factors influencing the patient experience and by using evidence-based design, hospital and health system leaders can assert greater control over their organization’s HCAHPS scores.

NOISE

Hospital noise is a major cause of awakenings and loss of sleep for patients.² Noise also interferes with the healing process and can disrupt the patient experience.³ It makes sense that patients rate hospitals poorly when they cannot get good sleep or rest and have the additional stress of noise added to the already-stressful situation of being unwell. Data shows that noise in hospitals is the factor that scores lowest on HCAHPS scores nationwide.⁴

Creating a quieter environment can make a big difference in patient satisfaction scores. Saint Alphonsus Medical Center in Boise, Idaho, evaluated the impact of the physical environment on the perception of noise and quality of sleep. The hospital ran a pilot by renovating a nursing unit using sound-absorbing materials including carpet in corridors, sound-absorbing wall surfaces and high-performance acoustic tiles. When patients were surveyed in the renovated unit, as compared to a standard unit, quality of sleep as rated by the patients improved from 4.9 to 7.3 on a scale of 1 to 10, with 10 being the best.

PAIN MANAGEMENT AND CARE

Research has shown that patients in private, comfortable hospital rooms give more positive evaluations of the care they receive than patients in more traditional double-occupancy rooms.⁵ Patients in more comfortable rooms also rate their doctors, housekeepers and even the hospital food higher than those in typical rooms—and they are more likely to recommend the hospital to others.⁶

Several studies have shown that patients who have a view of nature—or even a picture of a landscape scene—require fewer doses of pain medication than control groups with views of abstract art, brick walls or plain walls.⁷ Studies have shown that a combination of sensory exposures with nature can reduce perceived pain even more than just a view, and some patients and staff members feel less stressed when exposed to areas like healing gardens.⁸

Mercy Medical Center in Baltimore focuses on patient- and family-centered care and incorporated several evidence-based design features to enhance the patient experience when it built a hospital in 2010. To provide natural light and views of nature, Mercy Medical Center oriented waiting rooms and public spaces toward a city park adjacent to the hospital, and created rooms with views of the Baltimore harbor. The hospital created rooftop healing gardens to provide places for patients, visitors and staff to relax and refresh. Mercy Medical Center also incorporated family space in patient rooms, decentralized storage to help promote staff responsiveness and designed an acuity-adaptable layout to reduce the movement of patients. Mercy Medical Center has a four-star HCAHPS rating, out of a possible five stars, with 80 percent of patients reporting they would definitely recommend the hospital, compared to a national average of 71 percent.⁹

COMMUNICATION

Communication between caregivers and patients is an important part of the patient experience. Much of the research regarding communication is focused on the actions taken by physicians and nurses, but the health care environment plays a role as well. Quieter spaces lend themselves to better communication with caregivers. And single-patient rooms help provide a more private and intimate setting for communication on sensitive health care topics.¹⁰

Lorissa MacAllister, president of Enviah, conducted research at Emory University Hospital in Atlanta and found an interesting correlation between patient satisfaction scores and the location of hand-washing sinks in patient rooms. Patients may be in pain or need help, but a physician or nurse has to wash their hands first. When the location of the sink made it possible for the caregiver to maintain eye contact with the patient while washing hands, the Press Ganey mean score for clinical communication increased by up to nearly 28 percent.¹¹

TABLE 1: HOW THE PHYSICAL ENVIRONMENT CAN AFFECT THE PATIENT EXPERIENCE

HCAHPS Dimension	Potential Solutions
Perceived cleanliness	<ul style="list-style-type: none"> » Use nonporous surfaces without joints or seams to enable effective and efficient cleaning. » Use impervious (nonporous) upholstery to enable cleaning and avoid stains (i.e., fabric should not be used in patient care areas or heavily used areas such as cafeteria or visitor areas). » Carpet tiles should be used minimally for sound absorption and to ease foot fatigue. When used, environmental services should be educated about proper cleaning methods. » Consider using rounded corners where surfaces meet (i.e., flooring and inside wall corners) to prevent the buildup of dust and particles. Integrated floor bases can be made of the same products as the floor. » Consider chairs with “clean-out gaps” where the chair and seat meet so that debris drops to the floor. » Use darker-colored floors or flooring with flecks to help hide shoe marks.
Communication	<ul style="list-style-type: none"> » Select furniture that enables eye-to-eye contact between caregivers, patients and family members. » Position communication white boards so the patient can easily see the board, and ensure thorough information is communicated (so that pieces of paper do not need to be taped to the wall to supplement the white boards). » Design rooms and units in ways that promote better communication between patients, caregivers and family members.
Discharge planning	<ul style="list-style-type: none"> » Design a large and well-planned family zone to engage home caregivers. » Use enhanced communication features such as a resource area with a computer and Wi-Fi in the family zone.
Transition in care	<ul style="list-style-type: none"> » Design a large and well-planned family zone to engage home caregivers. » Use features to enhance communication, such as stacking chairs that can be brought in if needed or a tabletop for showing special items such as bandages, dressings or medication application.
Pain management	<ul style="list-style-type: none"> » Use positive distractions, such as views of nature or art depicting calming nature scenes (not abstract art). » Provide entertainment systems that are strategically placed, user-friendly and in good repair.

HCAHPS Dimension	Potential Solutions
Staff responsiveness	<ul style="list-style-type: none"> <li data-bbox="630 237 1430 447">» When designing unit layouts, include clinicians in the design (especially the layout and location of nurses’ areas) so they are committed to the design. Be sure there is adequate “cultural change” training for major changes in the layout and the expectations associated with it. <li data-bbox="630 447 1430 636">» Improve access and visibility of the patient, and be sure the staff understands new features (such as interior windows with integral blinds or the use of “European” showers where the shower area is part of the overall bathroom). <li data-bbox="630 636 1430 741">» Consider the location of light switches, especially night lights needed for giving medications or using equipment at night. <li data-bbox="630 741 1430 957">» Be sure there is adequate space for workstations on wheels (WOWs) or wall-mounted computers so that staff can look at the patient while using either. If using WOWs, provide small “parking niches” with ergonomic stools so that nurses can get off their feet for a few minutes.

Sources: Eileen Malone, Mercury Healthcare Consulting; Barbara A. Dellinger, Adventist HealthCare.

Many patients feel a loss of control when they are hospitalized. They may be afraid, uncomfortable or anxious. Providing patients with more control can help improve their experiences. Proper wayfinding and signage in hospitals, for example, can help patients navigate a new setting without adding stress. Giving patients bedside control of their room temperature, lighting and television can help, as can providing single-patient rooms to create a sense of privacy.¹²

The perception of cleanliness also is affected by the physical environment. The perception of clutter—even when environments are clean—can lead to lower patient satisfaction scores. Bassett Healthcare in Cooperstown, New York, found that patients noticed an unused cabinet that was often put behind a patient’s chair. This made the room feel smaller and more cluttered. The Bassett environmental services team removed the cabinet to determine if patients would rate the rooms as cleaner, and on internal surveys, patients reported that the room seemed cleaner.¹³

PEOPLE: TAKING A TEAM APPROACH TO PATIENT SATISFACTION

A hospital’s staff is a tremendous resource for a health care organization, and tapping into that resource can be a powerful driver of improved patient experiences. Many hospitals have patient advisory committees, and leaders in the field embrace the idea that all staff members are part of the patient care team. Yet not everyone takes this comprehensive team approach.

The American Society for Healthcare Engineering (ASHE) of the AHA conducted a survey of facility managers in 2015.¹⁴ About half (49 percent) of the facility managers who responded said they were not members of their hospital’s patient satisfaction committee. When asked how important the facility manager’s role currently is in patient satisfaction (on a scale of 1 to 5, with 5 being extremely important), the mean score was 4.23. When asked how important the facility manager’s role should be in patient satisfaction, the mean score was 4.67.

Hospitals and health systems that are involving all staff in patient experience improvement efforts—including facility professionals—are trying different approaches. Some facility professionals, for example, are making rounds to patient rooms asking if patients are comfortable and if there is anything they need. Other hospitals have created “no pass” zones and have trained all nonclinical staff to respond to call lights instead of walking by a room with a patient call light on. At St. Barnabas Hospital in New York City, front-line staff are asked to take the following steps when working in a patient’s room:

- » Knock on the door and ask the patient if it is a good time to enter.
- » Introduce yourself and let the patient know why you’re there and how long the repair or task will take.
- » Wash your hands to avoid spreading germs and infection.
- » Ask the patient their name and how they are feeling.
- » Ask if the patient is comfortable (how is the room temperature, would they like any water, etc.).
- » Upon completion of the task, wish the patient a good day and ask if you can do anything else to help them.
- » Smile, make eye contact and show that you care.¹⁵

Creating a culture of caring among and by all staff, including those who have traditionally not had much interaction with patients, can be challenging. But communication is important. Hospital leaders can adopt a service and hospitality mindset—and spread that culture throughout their organizations—to create better patient experiences.

PROCESS: SUPPORTING PATIENTS AND STAFF

Hospitals and health systems are complex organizations with many policies and processes that affect patients directly. For example, a hospital’s decisions on where mobile phones can be used can influence noise scores. Other processes affect staff, which can indirectly affect patients. For example, if a hospital layout is inefficient and nurses have to spend a lot of time walking to get supplies before returning to a patient, a patient may rate “communication with nurses” lower simply because the nurse doesn’t have as much time to spend at the bedside.

Lowering or shutting off some lights at night reminds staff and visitors that patients are sleeping and to keep noise down. Likewise, changing the resupply or equipment moving processes can lead to quieter spaces. Creating a better process for reducing temperature variations in patient rooms can lead to better patient comfort.

Processes, people and places may be tied together. Bassett Healthcare, for example, created flexible inpatient discharge spaces in patient lounges and conference rooms for use when other areas are at capacity. The facility department helped reconfigure the rooms with privacy curtains, allowing the place to be used for discharges or for their original intent, depending on the need. This change also affected the workflow, or process, for discharging patients by locating all patients awaiting discharge in a dedicated discharge unit. Thanks to the change, the discharge nurse and patient have a visually private, comfortable space to review discharge instructions and wait for transportation in a less hectic, more calming environment.¹⁶

USING THE PEOPLE, PROCESS AND PLACE MODEL

Patient satisfaction teams and other hospital leaders can use the people, process and place model to address specific areas for improvement. For example, Table 2 shows how the model can be used to address the HCAHPS question: How often was the area around your room quiet at night?

TABLE 2: USING THE PEOPLE, PROCESS AND PLACE MODEL

Question		Improvement Goal	
How often was the area around your room quiet at night?		Decrease noise to enable patient sleep and rest and decrease staff stress.	
Components that Influence the Patient Experience			
People/Culture	Process Reengineering	Place	
<p>Desired end-state Improved decibel level, HCAHPS score, staff satisfaction about noise</p> <p>Steps to achieve this</p> <ul style="list-style-type: none"> » Establish a sense of urgency for improvement » Identify target goals » Develop noise reduction campaign plan: <ul style="list-style-type: none"> • Set the stage with research and best practices • Clarify values, vision • Measure and reward progress • Find and tell the best stories 	<p>Staff actions</p> <ul style="list-style-type: none"> » Nighttime care guidelines » Quiet voices » Resupply and equipment movement procedures 	<p>Building features</p> <ul style="list-style-type: none"> » Single-patient rooms » Sound-absorbing materials » Design to separate noise sources (e.g., ice-making equipment) 	
		<p>Patient actions</p> <ul style="list-style-type: none"> » Earplugs » Television and radio headphones 	<p>Technology features</p> <ul style="list-style-type: none"> » Hands-free communication » Beepers on vibrate » No overhead paging
		<p>Visitor actions</p> <ul style="list-style-type: none"> » Orientation to noise reduction » Cell phone use 	<p>Equipment</p> <ul style="list-style-type: none"> » Equipment maintained without squeaks » Decreased equipment volume, links to hands-free devices

Source: Eileen Malone, Mercury Healthcare Consulting.

In this example, the people-related steps to create a quieter environment include setting targets, measuring progress and celebrating successes. Every discipline and department should participate. Many hospitals also invite members of the community to provide input, including creating a patient-family advisory council to get valuable feedback from the local patient population. Using the people, process and place model, hospital teams would:

- » Determine the ideal end-state and then identify steps needed to create a culture that supports those goals—people
- » Examine the staff, patient and visitor actions that can improve the patient experience around noise—process
- » Improve building features, technology and equipment to help reduce noise—place

This tool can be used to explore improvement strategies for any and all of the patient experience of care questions on the HCAHPS survey. A blank copy of this template is included in the Resources section of this guide.

CONCLUSION

The patient experience is influenced by a wide variety of factors. To help improve patient satisfaction, hospital and health system leaders should ensure they are taking a holistic, team approach that uses their organization's available resources—including the health care physical environment and the professionals who manage those spaces. By considering the people, processes and places that affect the patient experience, health care leaders can help their organizations meet important patient satisfaction goals.

CASE STUDIES

CLEVELAND CLINIC, OHIO

BACKGROUND

The 1,200-plus bed Cleveland Clinic was interested in reducing noise levels on inpatient units and improving “quiet at night” HCAHPS scores. The hospital conducted studies of seven patient units that had the lowest scores. As part of these studies, the noise level of patient rooms, corridors and nurse stations was assessed. The study identified that the loudest and most frequent noises were from medical equipment alarms, doors closing, carts (both medical and nonmedical) and linen chutes.

IMPROVEMENTS

Regarding facilities, the teams recommended adding better sound-absorbing ceiling tile and silicone tabs on doors, adjusting or removing door closers and replacing patient room door latches with a quieter model. Equipment/technology recommendations included switching out the casters and wheels on wheeled equipment to quieter versions, placing pagers on vibrate mode and lowering the volume of the ringtone of the telephone at the desk. Behavior/operations recommendations included providing training on noise control, reducing or eliminating late night deliveries/interruptions, changing IV bags before alarms sound, turning off TVs when they are not in use and holding patient rounds in rooms rather than in corridors.

The Cleveland Clinic also is considering how to reduce maintenance on nursing units to reduce noise and disruption. This may include specifying more durable finishes and furnishings and designing the building for less on-unit maintenance and easier access when maintenance is required.

RESULTS

The HCAHPS scores for “always quiet at night” show an improvement of 6 percentage points since the completed study in two of the four units that participated in the phase two work sessions. Since the recommendations and changes included facilities, equipment/technology and behavior/operations modifications, it is not known how much of a difference each has made. Future facility modifications and new equipment have to be reviewed for potential disruption, and behavior awareness has to be reinforced through training.

CONTACT

Joe Strauss
Director, Planning and Design
216-445-5571
strausj2@ccf.org

SOUTH SHORE HOSPITAL, SOUTH WEYMOUTH, MASSACHUSETTS

BACKGROUND

South Shore Hospital is a 370-bed facility in southeastern Massachusetts. A 2012 addition to the hospital's Emerson patient tower added a new orthopedics wing to replace one built in 1978. The previous orthopedics department featured crowded double rooms, a central nurse station that was distant from some patient rooms, and no natural light in the common areas. HCAHPS scores in 2012, prior to the new wing opening, reveal that only 52 percent of patients felt the hospital staff were "always" responsive, likely due to the difficulty of patient-nurse interaction in the cramped rooms and the distance of some rooms from the nurse station.

IMPROVEMENTS

The new orthopedics wing, which occupies the fifth floor of Emerson patient tower, is arranged with nurse stations on either end of a rectangular layout. "The two stations allow the nurses to migrate to the station closer to their patients," said Dean Haspela, the nurse manager on the orthopedics wing. "This has increased the frequency of monitoring of the patients and has really helped the connection between the nurses and patients."

The new wing also features single rooms with layouts specifically designed to facilitate clinician interaction with patients. For example, the equipment that previously was located throughout the patient room is now placed in one specific area along the wall. "Now there is a clear and easy path for the nurse to approach the patient bedside without going through an obstacle course," Haspela said. The open room design also facilitates patient mobility and improves the interactions between patients and therapists.

Among the improvements facilitated by the hospital's Patient and Family Advisory Council is a couch in each room that folds out to become a comfortable bed. "I think the couches are used a lot," said Bob Rodak, director of facilities planning for the hospital. "We do not have set visiting hours, so if a friend or family member stays late and does not want to drive home, they can comfortably stay the night." This is particularly important considering that many patients in the orthopedics wing are older individuals who may become disoriented and benefit from having a family member or friend close by.

The new wing also provides much more light than the previous wing did. "Now instead of three-foot-wide windows in the patient rooms, they run wall to wall," Rodak said. "I think that has made a big difference." In addition, floor-to-ceiling windows in the corridors flood the common areas with sunlight.

RESULTS

Patients are being discharged one day earlier, on average, because they move more frequently and have better access to therapy. The HCAHPS "always" score for responsiveness jumped to 89.9 percent by 2016. The "always" score for communication with nurses increased from 68.2 percent in 2010 to 97.2 percent in 2016, and the "definitely recommend" score increased from 64.3 percent in 2010 to 87.5 percent in 2016.

CONTACT

Susan Romano
Patient Experience Consultant
781-624-4145
susan_romano@sshosp.org

ENLOE MEDICAL CENTER, CHICO, CALIFORNIA

BACKGROUND

Enloe Medical Center is a 298-bed facility in Northern California. Parts of the hospital were built in the 1930s, and by the end of the 20th century, it was clear that the small rooms, harsh lighting and lack of acoustic controls were not conducive to patient satisfaction. A primary complaint was noise: Enloe's HCAHPS scores in 2009 showed that only 35 percent of patients rated their hospital room as "always" quiet at night. The hospital leaders began planning renovations and construction of a new patient tower in 1999, and the tower was completed in 2012.

IMPROVEMENTS

Facility improvements to reduce the noise level began with "low-hanging fruit," such as having the engineering department promptly lubricate squeaky equipment wheels, stopping floor buffing at 10:30 p.m. and routing staff pages to cell phones or pagers rather than announcing them overhead.

More substantial changes occurred with the construction of the new patient tower, Magnolia Tower. The patient rooms are inset off the hallway, providing a space cushion between the commotion of the hallway and the room. And the layout of the patient floors was designed to reduce congestion around the nursing station, which results in fewer loud conversations that might interrupt sleep.

The choice of materials also played a role in noise reduction. Sheet vinyl flooring was chosen instead of harder vinyl composition tile (VCT) flooring. The sheet vinyl flooring has a noise reduction coefficient (NRC) of 0.15 to 0.2, compared to an NRC of 0.05 for VCT flooring, which means footsteps and rolling equipment are not nearly as noisy. In addition, acoustic tiles in the ceiling help deaden the noise that is generated.

RESULTS

The noise-control efforts resulted in an increase from 35 percent of patients rating their room "always" quiet in 2009 at night to 60 percent in 2014. This moved Enloe from the bottom 5 percent of the country to above the average. The sound-reducing materials that were used when Magnolia Tower was built are now being added to another patient tower at Enloe that was built in 1980.

CONTACT

Marcia Nelson, MD
Vice President of Medical Affairs
530-332-5414
marcia.nelson@enloe.org

LEE MEMORIAL HEALTH SYSTEM: CAPE CORAL HOSPITAL

CAPE CORAL, FLORIDA

BACKGROUND

Cape Coral Hospital is a 291-bed, 442,000-square-foot facility in Southwest Florida and part of Lee Memorial Health System. Scott Kashman, the hospital's chief administrative officer, and his team wanted to create a person-centered healing environment. The hospital's goal was to create a better work environment for employees, clinicians and volunteers, which, in turn, would benefit patients and families. The hospital used the Samueli Institute's model of an optimal healing environment to guide its efforts.

IMPROVEMENTS

As part of the changes to become more person-centered, the hospital created a "Pathway to Discovery," a circuit of footpaths around Cape Coral's 43-acre campus that encourages more outdoor activity. The 1.1-mile pathway includes a teaching garden with butterfly-friendly plants used for clinical rehabilitation sessions; an auxiliary-funded healing garden near the women's care and birthing suites to help staff and hospital visitors relax and unwind; a pond; and exercise stations. The pathway connects the hospital, the Wellness Center, the Outpatient Rehabilitation Center, the Child Care Center and physician offices.

Therapists gathered patient feedback to help design the space. The \$200,000 project was community funded. There was an additional \$130,000 grant from the city of Cape Coral. In addition, the city signed a memorandum of understanding with Lee Memorial Health System to develop shared healthy lifestyle programs. The Cape Coral Hospital campus and the Outpatient Center at Surfside will be listed in the city's future parks and recreation listing.

The project was welcomed by neighbors because the pathway and its gardens are open to everyone. The teaching garden is based on a curriculum that helps children learn about nutritious fruits and vegetables. This curriculum was developed by the American Heart Association, which also donated the initial planters for the garden.

RESULTS

The Pathway to Discovery project was a significant part of a series of projects that helped Cape Coral Hospital increase HCAHPS patient experience scores from 57 percent to 68 percent in the "top box" category. The pathway is used by many hospital staff too, so the administration expects a similar improvement in scores in its next employee satisfaction survey.

CONTACT

Scott Kashman
Chief Administrative Officer
239-424-3851
scott.kashman@leememorial.org

ST. ELIZABETH HOSPITAL, APPLETON, WISCONSIN

BACKGROUND

Staff at St. Elizabeth Hospital in Wisconsin had complained about noise in the emergency department. Specifically, staff said that patients in exam rooms could hear conversations at the nurses' station, and vice versa. Patient studies found that people were concerned about privacy and confidentiality, and the hospital did not want noise transferred between areas.

IMPROVEMENTS

St. Elizabeth Hospital renovated its ED and tested numerous combinations of sound-reducing materials, including wall, ceiling and flooring materials. Ultimately, ceiling tiles with a noise reduction coefficient (NRC) of 0.70 were installed, and the flooring was changed from carpet to vinyl. A special acoustical covering called SoundCoustic – a thin, cleanable covering—was added to the walls.

In addition, according to Jayme Couchene, project manager for Boldt Construction, exam rooms were constructed a little differently than usual.

“We took the walls all the way up to the ceiling and sound-boxed the top and bottom,” Couchene explained. All of the walls joining exam rooms were constructed to achieve a sound transfer coefficient (STC) rating of 47. Walls between exam rooms and bathrooms now have a STC rating of 50, and the wall separating the exam room from the core of the ED has an STC rating of 53.

Furthermore, the seals on the glass exam room doors were improved, and integrated blinds were added to increase visual privacy.

“That emergency department renovation was a pilot project for noise control,” said Gary Kusnierz, vice president of performance excellence. “We took what we learned there and applied it to a new emergency department ... and later to a new patient tower. It was nice to see all that effort from that initial project applied to other projects.”

RESULTS

Patient surveys from the time periods before and after the improvements show an increase in the “would you recommend” category from the 55th percentile to the 90th percentile. “When we were finished with the ED area, the complaint we got—if you could call it that—is that the area was almost too quiet,” Kusnierz said. “The team couldn't tell how busy it was; before, they assessed activity levels based on noise.”

CONTACT

Gary Kusnierz
Vice President of Performance Excellence
920-628-9350
gary.kusnierz@ministryhealth.org

RESOURCES

HOSPITAL LEADER CHECKLIST FOR IMPROVING THE PATIENT EXPERIENCE THROUGH THE HEALTH CARE PHYSICAL ENVIRONMENT

- Encourage the patient satisfaction team to use the people, process and place model and tool to consider ways to boost satisfaction scores.
- Recognize every member of the hospital staff as a member of the patient care team.
- Support changes to processes and the physical environment that will improve the patient experience.
- Support pilot projects to help determine the best approaches to improving patient satisfaction.
- Track scores after improvements or changes have been made to gauge success.
- Celebrate successes and share best practices.
- Continue to assess and identify new opportunities for improving the patient experience.

TEMPLATE FOR USING PEOPLE, PROCESS AND PLACE MODEL TO IMPROVE THE PATIENT EXPERIENCE

Question		Improvement Goal
Components that Influence the Patient Experience		
People/Culture	Process Reengineering	Place
Desired end-state Steps to achieve this	Staff actions	Building features
	Patient actions	Technology features
	Visitor actions	Equipment

EIGHT DOMAINS OF CARE MEASURED BY THE HCAHPS SURVEY WITH OBSERVED RELATIONSHIPS TO THE PHYSICAL ENVIRONMENT

Observed Possible Relationships Between Environment and HCAHPS Scores	Nurse Communication	Doctor Communication	Staff Responsiveness	Pain Management	Discharge Information	Communication About Medicine	Cleanliness of the Hospital	Quiet at Night	Overall Hospital Rating	Willingness to Recommend Hospital	Further Reading and Research
Single patient rooms	✓	✓					✓	✓	✓	✓	Ulrich, R.S., Zimring, C.M., Zhu, X., et al. A review of the research literature on evidence-based healthcare design. <i>Health Environments Research and Design</i> , 1, no. 3 (2008), 61–125.
Family zones in patient rooms	✓	✓			✓	✓			✓	✓	Choi, Y.S. and Bosch, S.J. Environmental affordances. <i>Health Environments Research and Design</i> 6, no. 4 (2013): 53–75.
Decentralized nurse stations	✓		✓	✓					✓	✓	Sadler, B.L., Berry, L.L., Guenther, R., Hamilton, D.K., Hessler, F.A., Merritt, C., Parke, D. <i>Good Health Care by Design, The Hastings Center Report</i> . (Garrison, NY: The Hastings Center, 2011).
Pleasantness of room décor	✓	✓		✓			✓		✓	✓	Becker, F., Sweeney, B., Parsons, K. Ambulatory facility design and patients' perceptions of healthcare quality. <i>Health Environments Research and Design</i> 1, no. 4 (2008): 35–54.
Soothing color	✓	✓		✓			✓		✓	✓	Devlin, A.S. and Arneill, A.B. Health care environments and patient outcomes. <i>Environment and Behavior</i> , 35 (2003): 665–694.
Lighting	✓	✓		✓			✓				Devlin, A.S. and Arneill, A.B. Health care environments and patient outcomes. <i>Environment and Behavior</i> , 35 (2003): 665–694.
Sound-absorbing materials (ceiling tiles, flooring, wall panels)	✓	✓		✓	✓	✓		✓	✓	✓	Mazer, S. Hear, hear. <i>Health Facilities Management</i> , April 2005. Moeller, N. Sound masking in healthcare environments. <i>Healthcare Design</i> , November 2005. Mazer, S. Sound advice: Seven steps for abating hospital noise problems. <i>Health Facilities Management</i> , May 2002.

Observed Possible Relationships Between Environment and HCAHPS Scores	Nurse Communication	Doctor Communication	Staff Responsiveness	Pain Management	Discharge Information	Communication About Medicine	Cleanliness of the Hospital	Quiet at Night	Overall Hospital Rating	Willingness to Recommend Hospital	Further Reading and Research
Images of nature				✓			✓		✓	✓	Ulrich, R.S., Zimring, C.M., Zhu, X., et al. A review of the research literature on evidence-based healthcare design. <i>Health Environments Research and Design</i> , 1, no. 3 (2008), 61–125.
Same-handed room configuration	✓	✓						✓	✓	✓	Watkins, N., Kennedy, M., Ducharme, M., Padula, C. Same-handed and mirrored unit configurations. <i>Journal of Nursing Administration</i> , 41, no. 6 (2011).
Artwork							✓				Devlin, A.S. and Arneill, A.B. Health care environments and patient outcomes. <i>Environment and Behavior</i> , 35 (2003): 665–694.
Communication training	✓	✓	✓	✓	✓	✓			✓	✓	http://healthcarecomm.org/about-us/impact-of-communication-in-healthcare/
Maximize use of natural light				✓					✓	✓	Malenbaum, S., Keefe, F. J., Williams, A., Ulrich, R., Somers, T. J. (2008). Pain in its environmental context: Implications for designing environments to enhance pain control." <i>Pain</i> 134(3): 241.
Space supporting regular clinician rounding	✓	✓	✓	✓		✓			✓	✓	Rodriguez, S. (2013). Patient experience: Perception is everything. <i>Hospital Peer Review</i> 38(7): 76–78. Blakley, D., Kroth, M., Gregson, J. (2011). The impact of nurse rounding on patient satisfaction in a medical-surgical hospital unit." <i>MEDSURG Nursing</i> 20(6): 327–332.
Quiet spaces to receive discharge information	✓	✓	✓		✓	✓			✓	✓	Ying, H., Becker, F., Wurmser, T., Bliss-Holtz, J., Hedges, C. (2012). Effects of nursing unit spatial layout on nursing team communication patterns, quality of care, and patient safety. <i>Health Environments Research and Design Journal</i> 6(1): 8–38.
Staff respite areas			✓						✓	✓	

Observed Possible Relationships Between Environment and HCAHPS Scores	Nurse Communication	Doctor Communication	Staff Responsiveness	Pain Management	Discharge Information	Communication About Medicine	Cleanliness of the Hospital	Quiet at Night	Overall Hospital Rating	Willingness to Recommend Hospital	Further Reading and Research
Improved hospital amenities (dining/retail)									✓	✓	<p>Goldman, D., and Romley, J. A. (2008). Hospitals as hotels: The role of patient amenities in hospital demand." (No. w14619.) National Bureau of Economic Research.</p> <p>Goldman, D.P., Vaiana, M., and Romley, J.A. (2010). The emerging importance of patient amenities in hospital care. <i>New England Journal of Medicine</i> 363(23): 2185–2187.</p>
Addressing needs of Generation X and younger						✓			✓	✓	<p>Williams, K. C., and Page, R.A. (2011). Marketing to the generations. <i>Journal of Behavioral Studies in Business</i>, 5(1): 1–17.</p> <p>McCracken, L., Pickens, G., Wells, M. (2009). <i>Thompson Reuters Research Brief: Matching the Market: Using Generational Insights to Attract and Retain Consumers.</i></p>

ADDITIONAL RESOURCES

EVIDENCE-BASED DESIGN RESEARCH

[Center for Health Design Knowledge Repository](#)

PATIENT EXPERIENCE ORGANIZATIONS

[Association for Patient Experience \(Cleveland Clinic\)](#)

[The Beryl Institute](#)

[Institute for Healthcare Improvement](#)

[Institute for Patient- and Family-Centered Care](#)

[Planetree](#)

[Samueli Institute](#)

[Schwartz Center for Compassionate Care](#)

ENDNOTES

1. Ulrich, R. and Zimring, C. Report to the Center for Health Design, (2004). The role of the physical environment in the hospital of the 21st century: A once-in-a-lifetime opportunity. Retrieved from: <http://tinyurl.com/l683794>
2. Ibid.
3. Dube, J. A., Barth, M. M. and Cmiel, C. A. (2008). Environmental noise sources and interventions to minimize them. *Journal of Nursing Care Quality*, 23(3), 216-224. doi: 10.1097/01.NCQ.0000324585.68966.51.
4. Kenney, L. (2015). *HCAHPS scores, the patient experience, and the Affordable Care Act from the facility perspective*. ASHE monograph. Retrieved from: http://www.ashe.org/management_monographs/mg2015kenney.shtml.
5. Swan, J. E., Richardson, L. D. and Hutton, J. D. (2003). Do appealing hospital rooms increase patient evaluations of physicians, nurses, and hospital services? *Health Care Management Review*, 28(3), 254-264. Retrieved from <http://www.ncbi.nlm.nih.gov/pubmed/12940347>
6. Ulrich, R. and Zimring, C. Report to the Center for Health Design. (2004). The role of the physical environment in the hospital of the 21st century: A once-in-a-lifetime opportunity. Retrieved from: <http://tinyurl.com/l683794>
7. Malenbaum, S., Keefe, F. J., Williams, A., Ulrich, R. and Somers, T. J. (2008). Pain in its environmental context: Implications for designing environments to enhance pain control. *Pain*, 134(3), 241-244. doi: 10.1016/j.pain.2007.12.002.
8. *Therapeutic Landscapes: An Evidence-Based Approach to Designing Healing Gardens and Restorative Outdoor Spaces*. (2013) (1st edition). Hoboken, NJ: Wiley.
9. U.S. government site for Medicare/Hospital Compare. www.medicare.gov/hospitalcompare
10. Ulrich, R. and Zimring, C. Report to the Center for Health Design, (2004). The role of the physical environment in the hospital of the 21st century: A once-in-a-lifetime opportunity. Retrieved from: <http://tinyurl.com/l683794>
11. MacAllister, L., Zimring, C., & Hanna, R. (2014). Satisfying Space: How the physical environment can influence patient satisfaction. Paper presented at the Healthcare Design Conference San Diego, CA.
12. Lyy, Y.K. and Lin, C.J. (2010). Factors predicting patients' perception of privacy and satisfaction for emergency care. *Emergency Medicine Journal* (28).
13. Kenney, L. (2015). *HCAHPS scores, the patient experience, and the Affordable Care Act from the facility perspective*. ASHE monograph. Retrieved from: http://www.ashe.org/management_monographs/mg2015kenney.shtml.
14. The survey was sent to 1,000 facility managers who were members of the American Society for Healthcare Engineering—200 facility managers randomly chosen from each of ASHE's 10 regions. A total of 105 surveys were completed between April 24 and May 4, 2015, for a response rate of 10.5 percent.
15. Kenney, L. (2015). *HCAHPS scores, the patient experience, and the Affordable Care Act from the facility perspective*. ASHE monograph. Retrieved from: http://www.ashe.org/management_monographs/mg2015kenney.shtml.
16. Ibid.

ABOUT US

Hospitals in Pursuit of Excellence

Hospitals in Pursuit of Excellence is the American Hospital Association's strategic platform to accelerate performance improvement and support delivery system transformation in the nation's hospitals and health systems. HPOE provides education on best practices through multiple channels; develops evidence-based tools and guides; provides leadership development through fellowships and networks; and engages hospitals in national improvement projects. Working in collaboration with allied hospital associations and national partners, HPOE synthesizes and disseminates knowledge, shares proven practices and spreads innovation to support care improvement at the local level.

American Society for Healthcare Engineering

With more than 12,000 members, ASHE is the largest association devoted to professionals who design, build, maintain and operate hospitals and other health care facilities. ASHE members include health care facility managers, engineers, architects, designers, constructors, infection control specialists and others. While membership is diverse, ASHE members share a dedication to optimizing health care facilities and creating and maintaining safe healing environments. ASHE, a personal membership group of the American Hospital Association, is a trusted industry resource that provides education, regulatory guidance, networking, advocacy representation and professional development for members. ASHE is committed to members, the facilities they build and maintain and the patients they serve.