

UNDERSTANDING THE CONSUMER PERSPECTIVE TO IMPROVE DESIGN QUALITY

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The value of involving patients' and family members' voices in the dialogue about healthcare facility environments is immense if society's goal is to meet people's needs. Reports from these ultimate end consumers about what matters to them in the built environment, and about what supports their healthcare experience will provide important information for healthcare planners, managers, architects, and interior designers who strive to create caring and supportive healthcare environments. The Picker Institute and The Center for Health Design conducted a multiyear project to identify what end consumers of healthcare seek in the built environment and what supports or detracts from their healthcare experience. Through focus groups with patients and family members, we have learned that the built environment does affect the quality of their experience. Patients and family members told us that they want a built environment that: 1) facilitates connection to staff, 2) is conducive to well-being, 3) is convenient and accessible, 4) is caring for family, 5) is confidential and private, 6) is considerate of impairments, 7) facilitates connection to the outside world, and 8) is safe and secure. From these research results, we developed a patient satisfaction survey and a patient-centered environmental checklist. These assessment tools will help healthcare facility designers and healthcare organizations collect information about consumers' needs, measure satisfaction, and provide facility comparisons for modeling the industry's best practices.

INTRODUCTION

Understanding the requirements, expectations, preferences, and experiences of consumers is essential to high-quality performance in any activity designed to produce goods and services. So, too, is quantitative and qualitative feedback from consumers a critical component of the ongoing need for information managers and decision makers to assess and improve performance. These principles, long accepted as criteria for excellence in business performance (see, for example, Public Law 100-107, The Malcolm Baldrige National Quality Improvement Act of 1987), are recognized now to apply equally to service enterprises, including education and healthcare (U.S. Department of Commerce, 2000a, 2000b; Berwick, 1997). Within this context, patients are acknowledged to be the ultimate (although not the only) consumers — the *end consumers* — of healthcare services.

An increasingly substantial body of research relating to healthcare quality conducted over the past decade or so has therefore sought to enhance understanding of the patients' perspective on illness and experiences with healthcare. This includes explorations of patients' experiences with the total burden of illness (Gustafson, *et al.*, 1993), their perceived involvement in clinical decision-making and individual encounters with individual clinicians (Greenfield, *et al.*, 1988; Brody, *et al.*, 1989; Coulter, 1999), their experiences with care in clinics and doctors' offices (Epstein, *et al.*, 1996; Laine, *et al.*, 1996), in hospitals (Gerteis, *et al.*, 1993), long-term-care facilities (Higgs, *et al.*, 1992; Wilde, *et al.*, 1995), health plans (Crofton, 1999), and with clinical trials (Heymann, 1995; Goodare and Lockwood, 1999).

Parallel lines of research have also developed, tested, and validated techniques for assessing and reporting on the quality of care from the patients' perspective in a variety of care settings and environments (Davies and Ware, 1988; Ware and Hays, 1988; Meterko, *et al.*, 1990; Cleary, *et al.*, 1991; Cleary, 1999; Uman and Urman, 1997; Crofton, *et al.*, 1999). These methods generally entail a multistage process, beginning with the use of qualitative research (including focus groups, cognitive interviews, and analysis of staff critical-incident reports) to elicit issues of importance to patients and consumers; the development of survey instruments that incorporate identified dimensions of importance; and testing surveys in the field to assess patients' experiences of care within and across institutions or geographic areas. The quantitative data on patients' experiences that the surveys yield are used, in turn, to inform consumers and to foster quality improvement (Cleary, 1999).

The physical design of healthcare facilities is recognized as an integral part of the patients' experience with healthcare services and their satisfaction with care (Hutton and Richardson, 1995; Reidenbach and Sandifer-Smallwood, 1990). Recent studies have also shed light on the relationship between the physical environment of care and patients' medical outcomes (Rubin, 1997). Patients and family members' subjective perceptions of and experiences with the built environment, however, remain relatively little explored (Carpman and Grant, 1993; Hutton and Richardson, 1995; Reidenbach and Sandifer-Smallwood, 1990). Instead, the focus of hospital design has traditionally been on the needs of physicians and staff, with little attention to the perceived needs of patients (Baker and Lamb, 1992).

This provider-focused orientation, however, is changing rapidly. As healthcare organizations become more competitive, they begin to seek unique selling features, such as those of a high-quality built environment, upon which to market their facility strategically. Healthcare organizations are now in the position of attracting consumers, placing a much greater emphasis on the provision of patient-centered care. As Hahn, *et al.*, note, "Today's competitive market requires us to be sensitive to customer needs including access, safety, and aesthetics" (1995:114).

The value of including patients and family members' voices in the dialogue about healthcare facility environments is immense if society's goal is to meet people's needs. Consumer participation allows designers and architects to go beyond their own limited experience with the built environment of a particular healthcare facility and "to optimally accommodate users' needs" (Carpman and Grant, 1993:267).

As healthcare facilities strive to satisfy their consumers in a competitive healthcare market, attention turns to patient perceptions of their physical surroundings and how environmental elements affect their healthcare experiences. When considering design improvements, input from patients allows a hospital to be more patient focused (Smith, *et al.*, 1995). Soliciting patient feedback and reports from consumers about the built environment, about what matters to them, and about what supports their healthcare experience will provide meaningful information for healthcare planners, managers, architects, and interior designers who aim to create caring and supportive healthcare environments.

To explore the built environment's relationship to consumer experience, The Picker Institute and The Center for Health Design conducted a multi-year, multiphase project. The Picker Institute's mission is to promote healthcare quality assessment and improvement strategies that address patients' needs and concerns, as defined by patients, and to help develop models of care that make the experience of illness and healthcare more humane. Incorporated in 1994 with support from The Commonwealth Fund and Boston's Beth Israel Hospital, The Picker Institute is a nonprofit affiliate of CareGroup, Inc. The Institute's products and services include surveys to assess patients' experience and satisfaction with care; educational programs, publications, and videotapes; and consulting services.

The Center for Health Design is founded on the conviction that design plays a powerful role in promoting the highest level of health, well-being, and achievement in our lives. A nonprofit corporation serving a network of nearly 30,000 people around the globe, The Center is at the forefront of new trends, research, and technology. As an advocate for design's essential role in healthcare, The Center's mission is to facilitate, integrate, and accelerate the creation of life-enhancing environments (Cooper Marcus and Barnes, 1995).

OBJECTIVES

The purpose of this project is to understand the relationship that consumers (that is, patients and family members as *end-user consumers* of healthcare) have with the built environment in three distinct healthcare settings: acute, ambulatory, and long-term care. The study focuses on delineating environmental elements according to criteria that are found to be important to consumers and which enable patients and their families to have a positive healthcare experience (Fowler, *et al.*, 1999). By focusing on what is important to consumers in the built environment and why such things are important to them, The Picker Institute research team has used this information to develop a patient satisfaction survey instrument and a patient-centered environmental checklist. These tools will provide healthcare facility designers and healthcare organizations with a strategy to collect information about their consumers' needs systematically, measure their experience and satisfaction, and provide facility comparisons to improve quality by benchmarking and modeling the industries' best practices.

OVERALL STUDY DESIGN

The first two phases of this project span a two-year period.

- Phase I, beginning in June 1997 and completed in November 1997, convened nine focus groups of patients and families across three distinct healthcare settings: acute, ambulatory, and long-term care.
- Phase II, which began in February 1998 and was completed in September 1999, expanded upon Phase I focus-group research to include three focus groups of healthcare professionals and to question more diverse patient populations in three additional patient focus groups and four patient in-depth interviews.

Three technical advisory groups oversaw the progress of this research: 1) The Center for Health Designs Research Committee, 2) The Center for Health Design's Environmental Quality Work

TABLE 1. Institutional profile for focus-group research: Phase I.

Institution	Location	Setting	# Beds	# Patients Seen Annually	Age of Facility	Last Major Renovation
A	Suburban	Acute	272	500,000	74 yrs. old	1996-1997 fiscal year
A	Suburban	Ambulatory	N/A	13,000	74 yrs. old	1996-1997 fiscal year
B	Suburban	Acute	169	13,000	12 yrs. old	In progress
B	Urban	Ambulatory	N/A	25,000	10 yrs. old	None
B	Urban	Skilled nursing	201	301 residents	40 yrs. old	None
C	Suburban	Assisted living	72	80 residents	2 yrs. old	New

Group, and 3) a Greater Boston-based Industry Advisory Board. All three groups comprised experts in healthcare facility design, facility management, and healthcare executives.

FOCUS-GROUP RESEARCH

A qualitative research technique known as focus-group methodology served as the primary method of obtaining consumer feedback. A focus group is a structured discussion with multiple participants about a certain topic (Kreuger, 1998; Merton, *et al.*, 1990). An impartial moderator guides the discussion following a predetermined list of key questions. Data from focus groups can help identify and clarify underlying attitudes and beliefs around a given issue. Focus groups increase understanding about the meaning of experiences and events from the consumers' perspective. It is important to note that focus groups are not appropriate for problem solving, decision-making, or reaching consensus. Data generated from these discussions are not representative or generalizable.

Focus-Group Criteria and Recruitment

Phase I. During Phase I, The Picker Institute conducted nine focus groups, three each in acute, ambulatory, and long-term-care settings. Three of the groups met in Boston, Massachusetts, and six in St. Paul, Minnesota. Three different healthcare institutions, comprising a total of five facilities, served as hosts for research with the nine focus groups in Phase I. (See Table 1 for profiles of Phase I institutions.)

Phase II. During the second phase, we held three focus groups with acute-care patients of diverse ethnic and racial backgrounds from an urban acute-care facility. The total number of acute-care beds is 902, with 31,060 admissions per year. The facility is forty years old and is currently undergoing major renovations. Respondents were diverse with respect to age and health status. In terms of gender, the majority (70%) of participants were women. We also conducted four in-depth interviews with patients with physical impairments and with patients who use assistive devices. In addition, we conducted three focus groups with healthcare providers to assess how the built environment impacts on their work and what they think patients need from the acute-care setting.

Of the twelve total focus groups of patients and families held in Phases I and II, six groups were a mix of patients and family members, and the other six groups comprised of only patients (3 groups) or only residents (3 groups). Although some researchers prefer that focus-group participants be as homogeneous as possible, the mixed groups with both patients and family members in the same group worked successfully. A benefit was that the patients and family members were able to articulate how their experiences differed.

Focus-group participants were recruited from a representative sample of patients and family members in each of the healthcare settings. Groups were constructed to ensure that there was variation across age, gender, health status, and patient/family member status.

Focus-Group Data Collection and Analysis

Phase I. The research team developed and used a written focus-group moderator's guide structured around four topics: 1) How do patients/families define the built environment? 2) What is important to patients/families in the built environment? 3) Are there particular instances when patients/families notice the built environment more than others? 4) Why is the built environment important to patients/families?

Following detailed reviews of audiotaped focus groups and transcripts and identification of emerging themes and issues, the research team developed a set of measurement domains, coded the group responses, and sorted the data into the domains. Research team members coded and sorted the data independently, with discrepancies reviewed, reconciled, and documented.

Phase II. Information generated from focus groups with ethnically and racially diverse patients in Phase II reinforced patient feedback collected in Phase I. Likewise, persons with impairments or using assistive devices raised many of the same issues regarding their experiences with the built environment as those identified by patients in Phase I focus groups.

FINDINGS

Patients and Family Members

By analysis of the patient/family focus-group data from Phase I and Phase II, the Picker team identified eight dimensions that patients and family members reported as most important to their experience. Specifically, patients and family members want a healthcare environment that:

1. Facilitates a connection to staff
2. Is conducive to a sense of well-being
3. Is convenient and accessible
4. Promotes confidentiality and privacy
5. Is caring of the family
6. Is considerate of impairments
7. Facilitates a connection to the outside world
8. Is safe and secure.

Discussion of results is limited to patients discharged from acute-care settings since our present assessment tools are designed for acute-care settings. Patients and family members' voices speak clearly in the following quotations (in italics) from focus-group data.

1. *Connection to staff.* Patients and family members were primarily concerned about access to staff during their acute-care hospital stay, especially from their rooms. They wanted to be able to summon staff immediately, and they wanted to know that staff could see them and/or reach them in an emergency.

What was most assuring in ICU was seeing all the equipment working and the nurses were right there. I mean the rooms are designed around the central island. If we buzzed, they were there within seconds, literally.

Where is my room going to be in respect to the nurses station? Are [the nurses] going to be a long ways or short way? It's much more comforting to have the equality of the round station, where that is not a consideration.

2. *Conducive to well-being.* An environment that promotes well-being can facilitate a patient's comfort, sense of control, and welfare, which, in turn, supports the patient's ability to adapt and manage illness.

[The hospital] just looked dirty. It just disgusted me. I thought if anything dropped on [the floor], I was going to throw it away. It felt really unclean all the time.

Those rooms are very cold. There's no warmth to them at all. They could change the drapes. They could put pretty pictures on the wall. There's no color. It's very lifeless there.

3. *Convenient and accessible.* Patients and family members desire an environment that is convenient and accessible. Getting to the hospital, proximity of parking, and ease of movement once inside the facility are critical features of the built environment.

I think accessibility [is important]. You know, from the parking lot to the building, [and] in the building, to find your way. In the room, getting in and out of the bed, using the bathroom, movement in the hallway I think if all the accessibility is put together correctly, then all those things will work well together.

4. *Confidential and private.* Patients and family members emphasize the need for privacy, especially in patients' rooms, and for places where they can get away from the noise and activity of the nursing unit.

Irrespective of [whether] it's gonna cost me extra, I want a private room. It sure makes a difference to be on my own — not to have to worry about who was the next character that they were going to bring in, and what were they going to do.

5. *Caring for family.* Because family members can play a critical role in improving the health of patients, it is important to address family members' needs. Comfortable accommodations for family members can support their well-being and ability to be effective caregivers.

There was a smaller room and it had a couple of nice soft comfy couches, tables, a telephone. You know, a nice lighting lamp and you could close the door and it was very nice. It was a nice refuge from all of the things that were going on. And if you just needed to be alone or you needed to call family members to give an update, it was a good place to go. It was just nice because you felt like you were out of the hospital. You were in a nice area that you could just relax, let your hair down and just catch your breath before you had to get back out to deal with whatever you had to deal with.

6. *Considerate of impairments.* A number of patients use assistive devices (such as a wheelchair, or IV poles) during their hospital stay. They may also be recovering from illness and are learning to adapt to new physical limitations. Patients want an environment that takes these experiences into account, for example, being able to maneuver through space with equipment.

I broke my leg so I had difficulty, never having been in a wheelchair and maneuvering the wheelchair around the bed. It seemed that the room was wide enough, but it was deep enough at the foot of the bed that another inch would have made a world of difference because my motor skills weren't that great at that point. I don't think I successfully got the chair in [the restroom]. I had to leave the chair outside and hop in, on one foot. And that is kind of inconvenient. It's scary when you've been given drugs to kill pain and so on. So, your dexterity is not that good.

7. *Connection to the outside world.* Pleasant sights and scenes of the outside (that is, visual connection to life outside of the hospital) may promote a quicker recovery.

I think what's important can be the view from the window, too, even if you can't go outside or there's no atrium or anything like that. It would be nice to have something to look out the window at, other than a parking lot.

8. *Safe and secure.* Patients often feel exposed and helpless. An environment that creates a sense of safety and security can minimize this vulnerability. There should be places to secure one's personal possessions. Barriers to mobility (e.g., ambulating with equipment over floor surfaces) that jeopardize a patient's safety should be eliminated.

Trying to get over lumps and trying to maneuver around things, you know, that's not real safe ... But, it felt real reckless. It felt like somebody didn't really plan this very well.

Healthcare Providers

We also found in Phase II that providers' requirements and expectations were similar to patients' needs and preferences. For example, both patients and healthcare providers emphasized wayfinding, privacy, and accommodations for family as salient features of the built environment.

I think the [lack of] parking would be a major issue for the patients. I have patients who get short of breath walking from the parking space to the building. The distance from the car to the entrance is horrendous, especially for weak people.

It's kind of an awkward situation when you have to express bad news and make sure no one else can hear the bad news. There aren't private rooms where a physician can meet with the family. I have to meet families in a corridor with other families sitting around listening to this conversation about death and dying and it is not very pleasant.

When their loved one is sick and they want to stay there all night and be there, it's just a very uncomfortable place to be.

PATIENT SURVEY

As part of Phase II, a patient survey was created for the built environment (Table 2). Survey development was based upon The Picker Institute's standard methodology for conducting survey research: literature review, focus groups, technical/expert advisory review, pretesting, and pilot testing (Cleary, *et al.*, 1991; Cleary, *et al.*, 1992; Fowler, 1995). The Picker Institute designs surveys whose questions predominantly ask patients what they experienced rather than using ratings of satisfaction or excellence. Emphasis is on developing questions that ask for reports about specific experiences. As Cleary and Edgman-Levitan (1997) note, "Such questions tend to reflect better the quality of care and are both more interpretable and actionable for quality improvement purposes" (1997:1608).

The patient survey of the built environment is designed as an important component of a comprehensive strategy for facility designers and health care executives to collect information about their facility environments systematically from the consumers' perspective (Picker Institute, 1999). It is important to understand patients' priorities because these may be quite different from those set by facility planners or architects. It is expected that survey results can help designers prioritize areas of importance and certain features that require attention. Facility results also can be compared between sites for benchmarking, and comparative databases can be set up so institutions can compare their built environment with others in their market area or nationally. Through such a strategy, facility designers and their clients become *intermediate consumers* of knowledge about *end-consumer* (patient/family) needs and priorities.

TABLE 2. Healthcare design: Patient survey of the built environment (sample questions).

Once you entered the hospital, how easy was it to find the admissions area?	Very difficult	Somewhat difficult	Easy	Very easy
How would you rate the room temperature?	Too hot	Just right	Too cold	The temperature varied
Were there private areas where you could talk with staff about things such as your illness or treatment?	Yes	No	I don't know	
Was your room large enough for visitors?	Yes	No	I don't know	
Was there enough space in the bathroom(s) to use equipment?	Yes	No	I don't know	

Survey Development

We undertook four processes to develop the survey: 1) formulating questions based on existing literature and focus-group content, 2) pretesting the instrument, 3) a review by a technical advisory committee, and 4) pilot-testing the survey.

Formulating questions. We reviewed the literature on topics related to the survey content. As previously noted, studies focusing on consumer-centered satisfaction and experiences regarding the built environment are lacking. Findings from focus groups and individual interviews were used to construct survey questions. Questions were then evaluated in a consistent manner according to key design principles.

Pretesting the questionnaire. We pretested the survey in June 1998, conducting face-to-face interviews with 12 patients from one health care facility located in Boston, Massachusetts. Respondents were diverse in age, ranging from 34 to 78 (mean age was 56 years), gender (67% female), and health status (58% had no medical condition reported within the last three months). After patients completed the questionnaire, we debriefed them to determine what parts of the survey were difficult to understand, whether they considered the questions and response options relevant, and whether they thought important features of the built environment were adequately addressed. As part of the pre-test, we also estimated survey completion time.

Review by Technical Advisory Committee. Members of the advisory committee provided feedback on the survey. This process was extremely valuable because it allowed us to incorporate expert priorities into our system for developing the survey while maintaining a patient-centered approach of rooting questions in what consumers identify as important.

Pilot test. We pilot-tested the survey with a total of 600 randomly selected adult medical and surgical patients discharged from three healthcare organizations (200 at each site), located in three different states. One of the advantages of this survey is its ability to differentiate clearly among hospitals. That is, data collected with our survey have yielded quality scores that are significantly different among institutions studied. Furthermore, the use of systematic techniques in designing questions resulted in survey questions that respondents understood and that enabled respondents to accurately recall relevant information, and enabled the integration of the information into a reliable answer. In addition, items have been tested to ensure that respondents are willing to report the information.

TABLE 3. Healthcare design: Patient-centered environmental checklist (sample questions).

	worst				best
Connect to Staff Do patients have visual access to the nursing staff?	1	2	3	4	5
Conducive to Well-Being Are patient rooms acoustically private?	1	2	3	4	5
Convenient and Accessible Are the drop-off areas clearly marked so patients can find them easily?	1	2	3	4	5
Caring for Family Does a comfortable and private place exist for family members to grieve?	1	2	3	4	5
Confidential and Private Do quiet areas exist where patients can be alone?	1	2	3	4	5
Considerate of Impairments Does some portion of the information desk accommodate the needs of a person in a wheelchair?	1	2	3	4	5
Connect to the Outside World Are patients able to view the outside world while lying in their beds?	1	2	3	4	5
Safe and Secure Is medical equipment stored in areas out of patients' sight?	1	2	3	4	5

Survey Questions

The survey questions reflect reports about the patient's experience related to the built environment. In addition to these reports, the survey contains several questions asking patients to rate, on a scale of 0 to 10, selected aspects of the built environment (e.g., the patient's room, the visiting/waiting area). The survey also includes questions about demographic characteristics (i.e., ethnicity, race, education, and self-reported health status). Other information collected includes age, gender, number of nights spent in hospital, and insurance coverage.

PATIENT-CENTERED ENVIRONMENTAL CHECKLIST

The patient-centered environmental checklist is a tool for designers and/or administrators to assess characteristics of an acute-care facility's built environment "through the eyes" of patients and their families (Picker Institute, 1999). The content stems from focus group data (Table 3).

The checklist's suggested use is as a self-assessment tool. Managers, executives, and design professionals can use the tool to systematically review 91 distinct elements of the built environment that are most important to patients and family members. It is important to note that the checklist is an identification method, not a problem-solving mechanism.

The checklist may also serve as the impetus for initiating questions and discussion when planning, designing, or evaluating hospital renovations or new facilities. The items on the checklist are meant to be evaluated in conjunction with data obtained through the patient survey instrument. We strongly recommend that these tools be used under the consultation of a design professional and with reference to appropriate codes and regulations.

CONCLUSION

Elements of the built environment play an important role in the quality of healthcare delivery. Focus-group findings support the contention that the built environment does have an impact on the quality of experience for patients and their families. In some instances, the built environment serves a supportive role, for example, by providing easy access, pleasant distractions, and privacy. At other times it is distracting and challenging, such as in circumstances with excessive noise and failure to acknowledge the needs of patients who are elderly, disoriented, or disabled from illness. Discussions with patients and families reveal that patients and family members have meaningful insights to bring to the dialogue about the built environment in healthcare. Many healthcare professionals identified the same needs related to the built environment as patients.

This project suggests how focus groups can serve as a valuable source of information to guide development of self-assessment tools. Specifically, focus-group content was used as the basis for development of a field-tested acute-care survey and a patient-centered environment checklist. These assessment tools will provide facility designers and executives with a comprehensive strategy to collect and measure consumer input about acute-care built environments and will also permit comparison of facilities in a standardized way.

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ACKNOWLEDGEMENTS

The Picker Institute and The Center for Health Design wish to acknowledge the following healthcare institutions that served as hosts for focus groups: HealthEast, St. Paul, MN; Lahey Clinic, Burlington, MA; Washington Hospital Center, Washington, DC; and Whitney Place Assisted Living Residence at Westborough, Westborough, MA. We also express our gratitude to members of The Center for Health Design's Environmental Quality Work Group, The Center for Health Design's Research Committee, and the Industry Advisory Board for their review of this research.

AUTOBIOGRAPHICAL SKETCHES

Amy Leventhal Stern, Ph.D., was a Survey Scientist at The Picker Institute in Boston during these studies. Her research in the field of aging and healthcare services focuses on evaluating policies and services for the elderly, including the economics and delivery of Alzheimer's care. Currently, she is principal investigator for the study Consumer-Driven Quality Measures of Adult Day Care, funded by the National Institute of Aging, and a consultant to the MEDSTAT Group in Washington, DC.

Susan K. MacRae, R.N., is the Deputy Director of the University of Toronto Joint Center for Bioethics, and a bioethicist with the University Health Network (Toronto General Hospital, Toronto Western Hospital, and Princess Margaret Hospital). She has worked as a nurse in Calgary, Alberta, as a clinical ethics fellow, a program coordinator, and as an ethics consultant through the MacLean Center for Clinical Medical Ethics in Chicago. Most recently, she was a research fellow in patient-centered care at The Picker Institute in Boston. Her goals are to explore the links between bioethics and quality in the current healthcare system, from a patient-centered and clinical perspective.

Margaret Gerteis, Ph.D., a manager with the Barents Group of KPMG Consulting, has over twenty-five years of experience as a health services researcher, writer, and consultant. Dr. Gerteis was a founding member of The Picker Institute, a non-profit

firm focusing on patients' subjective experiences of health care, where she served as the Institute's Director of Communications and Director of Quality Research and Development. Before joining Picker, she was Deputy Director of the Harvard School of Public Health's Center for Health Communication. Dr. Gerteis is the lead editor of the book *Through the Patient's Eyes: Understanding and Promoting Patient-Centered Care* (Jossey-Bass Publishers, 1993). More recently she has served on the Board of Examiners of the Malcolm Baldrige National Quality Program.

Teresa Harrison is currently a Project Associate for the AIDS Prevention in Nigeria project at the Center for International Development. She previously worked in quality of care research at the Picker Institute. Teresa holds a Masters of Science degree from Harvard School of Public Health in Population and International Health.

Emily Fowler, MHA, is a Survey Scientist at The Picker Institute who contributed greatly to the research and writing for these studies.

Susan Edgman-Levitan, B.A., P.A., was President of The Picker Institute until it closed in May 2001, and she directed the research reported here on patients' perspectives on healthcare design. She is an instructor in the Department of Medicine, Harvard Medical School. Her publications include the books *Medicine and Pediatrics* and *Through the Patients' Eyes*. She chairs the Institute for Healthcare Improvement Breakthrough Collaborative on Service Quality. In public service she has served as a board member, commissioner, or conference chair for many healthcare institutions, including among others the National Patient Safety Foundation, the National Commission for Information Therapy, and Planetree.

Janice Walker, R.N., M.B.A., was Vice President for Client Services and Research at The Picker Institute at the time of these studies. She has been a manager at the Health Data Institute and head nurse in the coronary care unit at Boston City Hospital. She is now Executive Director of the Center for Information Technology Leadership at Partners HealthCare System.

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Manuscript revisions completed 3 March 2002.