

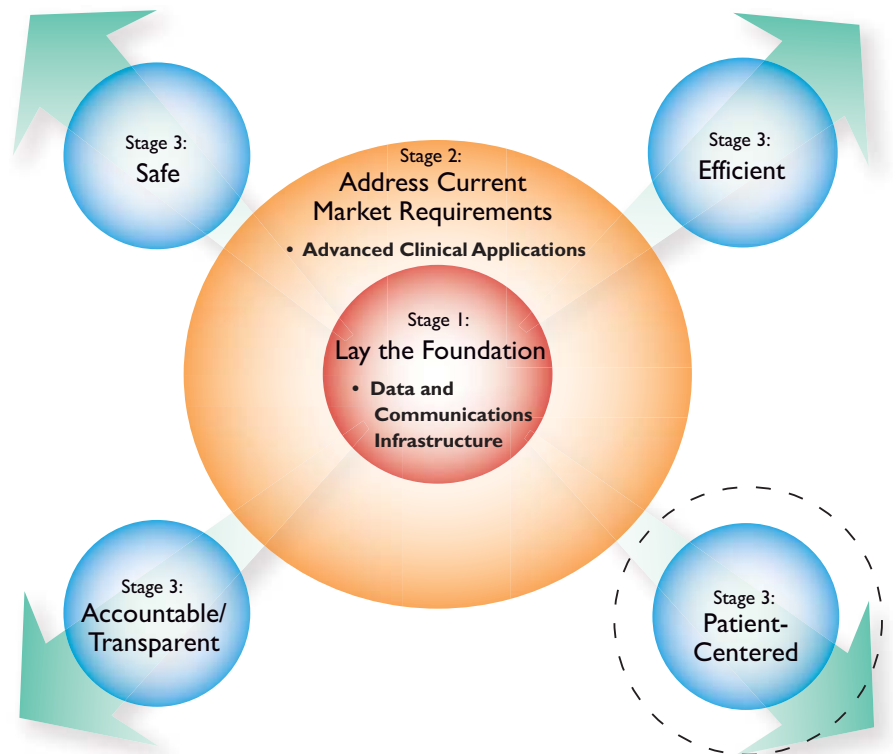
Patient-Centeredness

Using IT to Support the Shift to Patient-Centered Care

By CSC's Emerging Practices Group

Healthcare in the United States is evolving simultaneously across four dimensions: patient safety (including quality), efficiency, accountability and transparency, and patient-centeredness (see figure 1). Patient-centeredness is a broad term, integrating ideas such as customer focus, patient loyalty, and patient satisfaction into one concept. Today, the focus that was previously placed on the provider and payer includes the patient as an equally important constituent.

Figure 1
Evolution Framework
for Hospital
Technologies



ADDRESSING MARKET REQUIREMENTS: SHIFTING THE FOCUS TO PATIENTS

There are many reasons for the shift toward more patient-centered care. One is that providers are finding that healthcare must be responsive to individual preferences, needs, and values if they are to improve the health of patients.^[1] They realize that even if care is safe, efficient, and transparent, they must still create a positive overall patient experience in order for the treatment to be effective and for patients to give high satisfaction marks.

Other important developments are also promoting the renewed focus on the patient. For one, the adoption of high-deductible consumer-directed health plans is making healthcare more multi-tiered. Most consumers now fall into one of three classifications: those who are well-insured, those who are uninsured or underinsured, and those who pay for enough of their care out-of-pocket to consider costs in their care decisions. Consumers in the third tier, sometimes referred to as “the discerning concerned,” view healthcare like any other good or service and respond to care options that offer the best value for their money. For these consumers, customer service is an important part of the decision about where to go for care.

The anticipated emergence of a widely-used, standardized approach to measuring satisfaction is another driver of patient-centeredness. Now required by the Centers for Medicare and Medicaid Services (CMS), the Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) measures patient satisfaction with many different aspects of the inpatient experience. Recently released to the public in a format that permits side-by-side comparison, this was designed to give consumers additional information to use in deciding where they should seek care.

Finally, competition is raising the bar on what constitutes good performance. Competition, by definition, entails appealing to consumers’ conception of value based on quality, price, and service offerings. And even though the overall demand for physician visits and hospital care is surging, no institution today can afford *not* to attract patients with better than average coverage or patients who will pay out-of-pocket for enhanced services.

CHANGES IN CONSUMER EXPECTATIONS

Change in consumer expectations is perhaps the biggest driver to making care more patient-centered. With so many advances in other service industries, consumers have become accustomed to receiving high-quality service. Consumers expect greater responsiveness, the ability to access information when they need it, and online systems that remember who they are and what their preferences are. Unfortunately, these expectations are rarely met in healthcare.

Consider a few examples. Consumers can order a book from a retailer online, and not only does the retailer retain all of the registration and billing information from the purchase, it can also suggest books based on the customer’s preferences and the preferences of other customers who buy similar items. Contrast this with a typical experience in the healthcare system, where it is common for patients to have to repeat basic information — name, insurance, etc., — in order to get a lab test done — even when

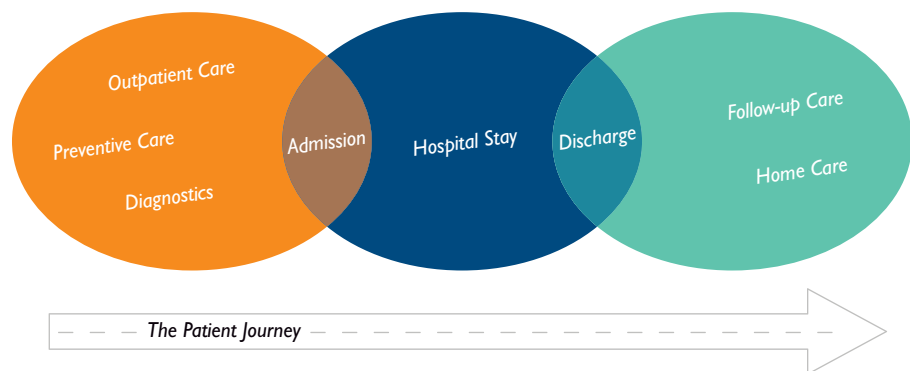
coming straight from the provider's office. Or, consider how a navigational device in a car provides turn-by-turn instructions from one's home to the hospital, yet once inside the building patients receive little help in finding out where to go. Or, recall the last time you waited for a table at a popular restaurant; you may have received a handheld device that enabled you to wander and still be alerted when your table was ready. At most hospitals you would probably not dare to move from the waiting room, lest you not be present when your loved one comes out of surgery.

Clearly the healthcare system lags behind other industries in putting consumers and their families at the center of the experience. *So how can it improve?*

USING IT TO SUPPORT PATIENT-CENTERED CARE

Deploying the right technologies in the right places along the patient journey can make an immense difference. Patients, in their new mindset as discerning consumers, take notice when organizations use technologies that make their stay more enjoyable, convenient, personalized, and comprehensible. By increasing patient satisfaction and patient loyalty, these efforts can also have a positive financial impact.

Figure 2
Major Technology Groupings Along the Patient Journey



Most technologies that improve patient-centeredness are effective because they address one or more of the following objectives: creating a patient-friendly environment, providing personalized care, improving continuity of care, or helping patients to become more involved in their care. The following sections describe technologies that are available today that healthcare organizations can use to help deliver a care experience that meets these objectives.

Creating a Patient-Friendly Environment

Creating a patient-friendly environment entails more than having the latest medical equipment and paying attention to the architectural design of buildings. It requires viewing the hospital visit as a consumer experience, and identifying ways to improve each step along the way. For many patients, simply setting foot inside the lobby can be confusing and intimidating, as they struggle to figure out where to go, where they need to negotiate checking in, and what they need to bring. Self-service **kiosks and digital signage solutions** help to relieve this stress by providing wayfinding assistance and customized, printable maps. Upon arrival, patients can check in by swiping a credit card or driver's license, and receive information about

where to go and how to get there. Kiosks are versatile. They can be deployed specifically for wayfinding, or they can also be designed to prompt patients to update their registration information, sign consent forms, or pay co-pays and existing balances. Digital signage offers similar benefits by providing greetings to patients and visitors, communicating important announcements, and displaying room schedules. Both improve communication and enable patient self-service.

Kiosks lead the way to another important technology for improving patient-centeredness: **patient flow solutions**. With kiosk check-in, hospitals can track patient

Outpatient Care, Preventive Care, and Diagnostics

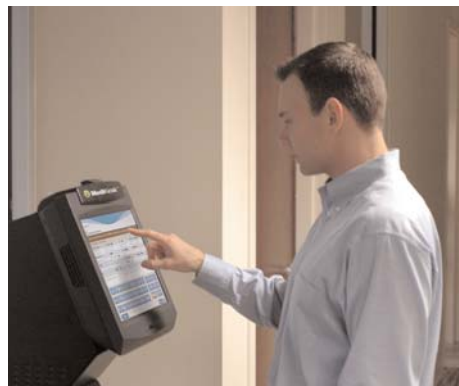
Patient Expectations

- Easy access to providers
- Quick referrals
- Convenient scheduling
- Short waits
- Efficient registration
- Access to education
- Reminders and confirmations

Technologies to Consider

- Kiosks
- Digital signage/wayfinding
- Online portals
- Email with providers
- Online scheduling
- Online bill-paying

Figure 3
Patient Check-In via Self-Service Solution
 (Photo courtesy of NCR Corporation)



wait times and analyze the patient flow metrics associated with the registration process. Full-featured patient flow solutions also make detailed messaging and analysis possible. For example, some systems allow admitting and ED staff, nurses, and housekeeping staff to send and receive notifications about changes in the status of rooms, beds, and other hospital resources to improve bed

turnaround time. By showing which rooms are available, how long each patient has been waiting, and which patients have outstanding orders, patient flow solutions provide the data to help hospital staff reduce delays in care and make for a much more comfortable patient environment. Patients may not interact with this technology directly, but they will experience the benefit of greater efficiency and shorter wait times.

A comfortable patient environment also implies a peaceful environment. However, the preliminary findings released recently from HCAHPS indicate that most patients rate hospitals poorly in the category of noise control. Some techniques for **noise reduction** do not require technological solutions. For example, Brigham and Women's Hospital (Boston, MA) formed a Noise Reduction Task Force and developed a set of noise reduction guidelines for inpatient oncology units that included speaking quietly, closing doors to patient rooms, offering ear plugs and eye masks to patients, and setting beepers and mobile phones to vibrate or silent modes. But

The Agency for Healthcare Research and Quality (AHRQ) asked over 190,000 patients across the nation, "How often was the area around patients' rooms kept quiet at night?"

Almost half of respondents said the area around their room was not always quiet:

Always quiet at night	54%	
Usually quiet at night	32%	} 46%
Sometimes or never quiet at night	14%	

Source: HCAHPS Database, March 2008

technologies can also help. For example, the latest wireless communication devices, such as portable phones and voice-activated badges (e.g., the Vocera VoIP badge), can reduce overhead paging by more than 90 percent. Noise-level meters can also reinforce quiet behaviors by providing immediate, visual feedback. At St. Joseph Health Center (Saint Charles, MO), administrators have installed noise meters called “Yacker Trackers,” which resemble traffic lights and serve to remind people when noise levels become too high. Originally designed for use by elementary school teachers, the devices feature a green light that illuminates when there is little or no noise, a yellow light when noise levels have reached a facility-defined threshold, and a red light when noise levels become unacceptably high.

For many patients, using the Internet for entertainment and communication is part of their daily lives. The time they spend in a hospital should be no exception. Today’s **patient entertainment systems** consist of far more than a simple television hookup. They are interactive systems that provide:

- Internet access, including email and Web browsing
- On-demand access to movies (these can be configured as free or pay-per-service)
- Television (including local programming and premium satellite channels)
- Music
- Audiobooks
- Interactive video games
- Spiritual resources
- Patient education
- Satisfaction surveys (administered mid-stay)
- Control of room environment and ability to make service requests

Many hospitals which have implemented interactive patient systems report that versatile, multi-featured systems are a better overall value than entertainment-only systems. By offering a variety of activities in one convenient device, such systems make hospital stays “feel more like home.”

Providing Personalized Care

Clinical care is most effective when it takes into account the unique attributes, preferences, and concerns of each patient. Creating a personalized experience starts with the ability to store and retrieve patient information as needed. At minimum, a healthcare organization should have the capability to capture basic information at the point of registration and recall it through other applications, so that the patient is not asked the same questions repeatedly. On the clinical side, having instantaneous access to **patient preferences** such as preferred language, diet, sleep habits, and cultural or religious affiliations, is critical to meeting today’s consumer expectations. Researchers have known for over a decade that incorporating patient preferences into care plans — instead of using typical one-size-fits-all treatments — yields high patient satisfaction ratings.^[2]

In some cases, merely being aware of a patient’s preferences does not guarantee that one can deliver the appropriate care. For example, hospitals that serve diverse patient populations often have a need for translation

services which outstrip their capacity for certain languages. However, by sharing resources through **video-based translator services**, hospitals can drastically improve their ability to accommodate even uncommon language preferences. Mercy Hospital (Miami, FL), for example, uses a video-based foreign-language interpretation service from Language Access Network to provide 24/7 interpreter service across a broad array of languages, including American Sign Language. Communicating with patients in the language that they prefer helps patients' understanding and retention of instructions, and ultimately leads to better outcomes.

Admission and Hospital Stay

Patient Expectations

- Control of environment
- Ability to communicate with staff
- Frequent contact with one's own doctor
- Quick response to needs
- Diversions
- Good meals/choices
- Contact with family
- Simple check-in
- Prompt service/no waits

Technologies to Consider

- Patient entertainment/ education
- Online menus
- Family notification system
- Rounding robots
- Internet access for guests
- Patient flow optimization

Similarly, information about dietary preferences can be helpful even if it is kept on paper, but it is much easier to accommodate when integrated with an **online menu system**. Hospitals can offer customized menu choices through the patient entertainment system, which makes it easier for patients to make their selections and easier for caregivers to monitor and record selections for dietary review. Several hospitals have also had success with a concept called “the liberalized diet,” developed as part of the Robert Wood Johnson “Transforming Care at the Bedside” initiative. Under this program, the hospital educates patients about what they should be eating, and then provides a full-range menu with the appropriate markings for low fat, low salt, and other designations. Patients can order what they want, but choices are monitored. If patients are making unhealthy choices, they get follow-up education that is targeted to their particular needs. This educational approach is more likely to change patient behavior than enforcing a special diet for a few days in the hospital. To date, the program has received consistently high satisfaction marks from patients.

The IOM has written that patients who are engaged in managing their health generally want to know three things: 1) what is wrong with their health, 2) what will happen to them, and 3) what they can do to change or improve their prognosis.^[3]

Interactive patient systems can also be leveraged to deliver **personalized health education** in the form of videos, diagrams, and on-screen text. This patient-centered education is made available *while the patient is still in the hospital*, so that staff can ensure that patients understand directions relating to care, medication, and follow-up

Figure 4
Personalized Health Information Delivered via an Interactive Patient System
 (Photo courtesy of Skylight Healthcare Systems)



procedures. Bedside systems can also be used to educate and enroll patients in intervention programs, disease management programs, or clinical trials that are appropriate for their needs. Giving timely, accurate education in this manner truly makes the most of each “teachable moment.”

The same principle is true of providing **personalized discharge information**. A 2005 study conducted by the University of Michigan Hospital found that adding one of hour of nurse-delivered education at the time of hospital discharge resulted in improved clinical outcomes, increased self-care measure adherence, and reduced cost of care in patients with chronic heart failure.^[4] Interactive patient systems offer an efficient and effective way to deliver this information. Patients can be presented with a library of physician-approved recovery care instructions, advice for home care and instructions on how to prevent complications, and guidance on when it is appropriate to seek medical help. Ideally, this information should be available for patients to bring home with them, and it should also be reviewed and endorsed by their own physician. By offering personalized education and medication reconciliation at the point of discharge, hospitals can help patients and families manage home care correctly and with confidence.

Discharge

Patient Expectations

- Planned discharge
- A simple and straightforward bill
- Information on next steps
- Prompt service/no waits

Technologies to Consider

- Patient-friendly bill
- Automated surveys
- Patient education
- Family notification system
- Data sharing with PCP

Improving Continuity of Care

In addition to making care more personal, providing personalized information at discharge also improves the continuity of care. Information can be used by the patient, passed on to the patient’s physician, or shared with family members. **Personal Health Records (PHRs)** and **Continuity of Care Records (CCRs)** are key to making care continuous because they help make information about a patient’s history, visits, tests, allergies, medications, and preferences available to clinicians and verifiable by the patient. PHRs aid in the continuity of care by allowing users to access and coordinate their lifelong health record *and* make appropriate parts of the record available to others who may need it. This will create situations in which hospitals are on the receiving end of data, where patients show up with a PHR and expect nurses and physicians to incorporate the data in care plans and treatment options.

Follow-Up and Home Care

Patient Expectations

- Follow-up care and monitoring
- Clear and relevant instructions
- Personalized follow-up calls

Technologies to Consider

- Home-based telemedicine
- Online portals
- PHRs
- Personalized patient education

Another group of patient-centered technologies that make possible great improvements in the continuity of care are those captured under the broad term **Telemedicine**. Originally used to refer only to videoconferencing,

Figure 5
Patient-Provider
Interaction via Remote
Presence Robotics
(Photo courtesy of Intouch Health)



telemedicine now encompasses portable glucometers, pulse oximeters, digital cameras, scales, interview tools, and monitors — all devices used to enable patients to provide data to remote caregivers, who can monitor the data and intervene if needed. Outpatient applications frequently target diabetes,

asthma, and chronic diseases such as chronic obstructive pulmonary disease (COPD). On the inpatient side, remote presence robotics enable physicians to navigate freely through the facility to conduct daily rounds and consultations remotely. These “rounding robots” improve the continuity of care by enabling patients to have more interactions with their own physician, than they otherwise would have during the course of their stay. For example, patients can see their own physician in person in the morning, and then again in the afternoon via the robot. In addition to improved patient satisfaction scores, researchers have shown that using a robot to conduct follow-up rounds leads to many patients receiving new, updated orders that are more appropriate for their current condition and comfort. One study found that almost 30 percent of patients were discharged one day earlier as a result of being able to “see” their own physician more frequently.^[5]

Helping Patients Become More Involved in their Care

“Healthcare IT has the potential to empower patients and support a transition from a role in which the patient is the passive recipient of care services to an active role in which the patient is informed, has choices, and is involved in the decision-making process.”

G. Demiris, JAMIA, 2008

Smooth transitions from hospital settings to self-care settings are just as important to patient-centered care as transitions from one hospital setting to another. As home internet connections become ubiquitous and as more patients feel comfortable communicating electronically, **patient portals** are becoming the

most efficient and effective way to foster ongoing communication, education, and patient self-involvement. Clinical messaging (i.e., email between patients and providers) is a major patient satisfier almost without exception, and in an increasingly competitive environment, it can also be a key determinant of patient loyalty. Other capabilities help patients become more active participants in their care by allowing patients to view their test results, access health and wellness information, and review current lists of medications for errors. Online portals encourage patients to become more involved in their care by making self-management *convenient*.

Finally, for patient-centered care solutions to work, they must extend to involve patients' families and friends. Many patients rely on them for support, assistance, and decision-making. Some hospitals allow family and friends to stay overnight, cook food for the patient, receive special in-hospital training on providing care, and act as advocates for gathering information, and raising concerns. **Family notification systems** in the inpatient setting make it convenient for families to become involved and attuned to the care of their loved one by giving them greater freedom to

move around the facility during periods of long waits. Whether delivered by email, pager, or text message on a family members' own preferred mobile device, family notification systems are an inexpensive way to connect family members with the care delivery process.

MEETING PATIENTS' EXPECTATIONS TODAY

Many technologies from other industries have been successfully carried over to meet customer expectations for better service in healthcare. Leading organizations such as the Cleveland Clinic have already recognized the need for a patient-centered perspective and have created positions such as "Chief Experience Officer" to identify and champion new processes and technologies.

To meet the expectations of today's consumers and remain competitive, hospitals need a strategic vision that puts patients and families at the center of care. With support from top leadership, teamwork from staff, and the right supportive technologies in place, any hospital can join these innovators in achieving patient-centered excellence.

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DS08_0097