Abstract: Patient satisfaction is an individual's cognitive evaluation of, and emotional reaction to, his or her health-care experience. This concept is increasing in importance as survey data are being used by health-care facilities for self-assessment, accreditation requirements, and compensation formulas. High patient satisfaction is associated with increased market share, financial gains, decreased malpractice claims, and improved reimbursement rates. Modifiable factors that contribute to satisfaction include physician-patient communication, the setting of appropriate expectations, minimization of waiting times, and provision of continuity of care. There are also factors that are less amenable to change, including chronic illness, opioid dependence, and sociodemographic status. Satisfaction with a surgical outcome differs from satisfaction with an office visit. Accurate expectations and patient-reported outcome measures are important determinants of satisfaction after a surgical procedure. Physicians can improve patient satisfaction in their practice by understanding the implications of satisfaction and the predictors of success.

Patient satisfaction, an individual’s evaluation of his or her health-care experience, is becoming increasingly important as health-care systems recognize the benefits of patient satisfaction and payers begin using such data in reimbursement decisions. This review will describe what patient satisfaction means, why it matters, and how physicians and hospitals can improve it.

What Is Patient Satisfaction?
In outcomes assessment language, a broad concept such as patient satisfaction is termed a construct. Various constructs of patient satisfaction have been delineated; in general, these consist of both a cognitive evaluation and an emotional reaction to provided care. In addition, patient satisfaction includes an individual’s evaluation of distinct dimensions of health care.

Disclosure: None of the authors received payments or services, either directly or indirectly (i.e., via his or her institution), from a third party in support of any aspect of this work. One or more of the authors, or his or her institution, has had a financial relationship, in the thirty-six months prior to submission of this work, with an entity in the biomedical arena that could be perceived to influence or have the potential to influence what is written in this work. No author has had any other relationships, or has engaged in any other activities, that could be perceived to influence or have the potential to influence what is written in this work. The complete Disclosures of Potential Conflicts of Interest submitted by authors are always provided with the online version of the article.

Potential dimensions of this construct include patient interactions with the provider and with the physical environment. Another definition of patient satisfaction is the congruence between expectations and outcomes, with the care received being judged against expectations that depend on variables such as education, attitudes, and prior experiences.

Why It Matters: The Implications of Patient Satisfaction
The quality of medical care has traditionally been judged by discrete parameters, such as complication rates and mortality. In recent decades, providers have begun to understand that patients’ perceptions of their care are also important to the patients. Patient-reported measures, including patient satisfaction, have emerged, with the concept of patient satisfaction increasing in popularity and economic impact.
Patient satisfaction can influence clinical care in a number of ways. Dissatisfied patients are less likely to attend follow-up appointments, and satisfied patients are more likely to comply with treatment regimens. Through improved continuity of care and compliance, patient satisfaction has the potential to improve outcomes.

Non-health-care industries recognize the economic importance of customer satisfaction because of a positive correlation between a company’s growth rate and customer recommendations of the company. Customer loyalty is defined as the return of the customer to the company for further services. Loyalty and satisfaction are related but different. Customers evaluating their satisfaction as “good” often do not return. Merely “satisfied” customers will move to another provider, given the opportunity. Only patients with “excellent” satisfaction are likely to return for further services or recommend the provider to others. In health care, rating systems focus on excellent scores because of their economic impact on practices or hospitals. Whereas highly satisfied customers (promoters) are likely to tell others and bring new referrals, dissatisfied customers (distracters) may do the opposite. In a study of an academic otolaryngology practice, 7.6% of customers were dissatisfied, resulting in an estimated lost annual referral revenue of $2.3 million. Selected patient satisfaction survey results, including those of the Consumer Assessment of Healthcare Providers and Systems (CAHPS) surveys, are available to the public and can influence patients’ decisions on where to seek care. Satisfied patients are also less likely to file malpractice claims. By addressing patient satisfaction, practices and institutions can increase market share, patient retention, referrals, and, ultimately, revenue.

Patient satisfaction data are now being directly tied to compensation. Acute care hospitals are required by the Centers for Medicare & Medicaid Services (CMS) to submit patient satisfaction data in order to maintain eligibility for full reimbursement. The CMS withholds a percentage of the diagnosis-related-group-based payment (1% for the 2012 fiscal year, increasing to a cap of 2% by 2017), which can be earned back by demonstrating sufficient satisfaction and quality scores. Some managed care organizations are electing not to contract with hospitals that do not require satisfaction surveys. Finally, many hospitals use patient satisfaction data as a factor in determining compensation to either individual physicians or physician groups.

Hospitals use patient satisfaction data to evaluate service quality, process problems, improvement efforts, and efficiency as well as to determine whether patients are likely to seek care elsewhere and to provide benchmark information. In addition, the data may be required by national accreditation agencies (including The Joint Commission). Finally, these data may become a component of physicians’ assessments required by a hospital or a licensing body, as data from the National CAHPS Benchmarking Database allow comparisons with local, regional, and national benchmarks.

**Improving Patient Satisfaction**

Despite the importance of patient satisfaction, physician acceptance of, or interest in, patient satisfaction data is skewed by full waiting rooms and patient compliments. Unfortunately, physician and patient impressions are often discordant. For example, in one study, 67% of physicians thought that patients knew their names, whereas only 18% of patients actually did. In another study, 98% of physicians stated that they sometimes discussed patients’ fears and anxieties, whereas 54% of patients stated that the physician never did. Improving satisfaction first requires physicians to recognize that satisfaction can be improved, use the data, and focus on improving pertinent satisfaction issues under their influence. These factors include physician-patient communication, continuity of care, waiting time, appointment duration, the health-care environment, expectations, demographics, and health status.

**Modifiable Predictors of Satisfaction**

Physician-patient communication has the strongest impact on patient satisfaction. Critical aspects of communication include having the physician seated during the encounter, paying undivided attention, listening, inviting questions, and validating concerns. Acknowledging risks and uncertainty can facilitate shared responsibility and trust. Use of the mnemonic AIDET (Acknowledge, Introduce, Duration, Explanation, Thank you) may be helpful as a communication guide. “Acknowledge” includes making eye contact and letting patients know that they were expected to be seen. “Introduce” includes providing the name and title of the physician and explaining the roles of other providers on the health-care team. “Duration” includes providing information regarding the anticipated time for symptom resolution, additional testing, appointments, and results. “Explanation” includes discussing what is about to occur and allowing for questions. “Thank you” includes asking the patient to initiate contact if they need anything else. Phrases such as “Is there anything specific you wanted to address today?” or “Do you have any questions?” or “Would you like me to go over these items again?” may be helpful. Communication by telephone after an office visit or hospital stay can also improve satisfaction. Fortunately, with the utilization of more extensive electronic medical records (EMRs) in the examination room, the EMR entry does not appear to have a negative effect on satisfaction, although more research is needed in this area.

Resources, including teaching sessions and textbooks, are available for education in communication skills. The AAOS (American Academy of Orthopaedic Surgeons) Communication Skills Mentoring Program (http://www3.aaos.org/education/csm/index.cfm) holds several workshops each year and teaches a variety of communication techniques through interaction sessions, video vignettes, and workbooks. The Institute for Healthcare Communication (http://healthcarecomm.org) also conducts programs designed to improve communication between clinician and patients.

Both the time spent with the physician and the waiting time affect provider ratings. In an assessment of the relationship between waiting time and practice satisfaction, Camacho et al. found that the combination of longer waits and shorter visits produced a decrease in overall satisfaction. Specifically, waits of more than twenty minutes combined with visits of less than five
minutes resulted in decreased satisfaction\textsuperscript{23}. For visits of more than five minutes, a wait of more than fifty minutes was required before provider satisfaction was affected\textsuperscript{24}. Other variables related to waiting may affect satisfaction as well. The total time spent in the clinic setting may affect satisfaction, as many patients may not take into account the time required for procedures such as radiographs and cast removal when creating expectations for their visit\textsuperscript{9}. Communicating time expectations and delays can be helpful\textsuperscript{28}. Other areas that potentially affect satisfaction, particularly areas involving techniques to ameliorate potential patient dissatisfaction, require further investigation. Although it might be assumed that poor satisfaction is inevitable with the disclosure of a new diagnosis, various techniques of presenting the information can potentially change patients' satisfaction\textsuperscript{27}.

**Non-Modifiable Predictors of Satisfaction**

Some predictors of satisfaction are beyond the control of the individual physician, at least on the initial visit. Patients with better subjective health\textsuperscript{21,24,34}, better functional status\textsuperscript{27}, or a lower pain level tend to be more satisfied\textsuperscript{25}. Conversely, lower satisfaction is found among patients with chronic fatigue syndrome\textsuperscript{35}, chronic illness\textsuperscript{36}, and opioid dependence\textsuperscript{27}. Sociodemographic characteristics are minor predictors of satisfaction\textsuperscript{8}. Of all demographic factors, the most consistent determinant of satisfaction is patient age, with higher ratings received from the elderly\textsuperscript{22,24,36}. Education level also influences satisfaction, with greater satisfaction scores received from patients with lower education levels\textsuperscript{37}. Sex does not typically influence ratings\textsuperscript{3,22}.

In many practice settings, physicians are held accountable for certain satisfaction scores. Therefore, it will become very important for physician groups and health-care facilities to adequately control for these non-modifiable factors in provider evaluations.

**Other Determinants of Satisfaction**

Satisfaction can be improved by a hospital or clinic through modification of the physical and emotional environments. Rooms containing tasteful furniture, artwork, and lighting can increase the perceived quality of care\textsuperscript{38}. Staff responsiveness, timely patient assistance, and interpersonal care that makes patients feel they are receiving individualized attention\textsuperscript{41} also contribute to satisfaction\textsuperscript{18,24,27}. Patient satisfaction has only a weak relationship with physician productivity\textsuperscript{42}, with increases in productivity being related to slight decreases in satisfaction with physician-patient interaction time but not related to overall satisfaction.

Greater satisfaction is typically associated with greater continuity of care\textsuperscript{20}. This may be expected, as satisfied patients would likely return to the same department. Satisfaction is also associated with the length of the physician's employment\textsuperscript{27}; this may also be due to satisfied patients remaining in the practice, or it may be due to improvement in the physician's relationship skills over time\textsuperscript{27}.

Inpatient and outpatient experiences differ qualitatively. In a study of pediatric orthopaedic inpatients, satisfaction with service was greater for elective admissions than for trauma admissions\textsuperscript{43}. Parents gave higher scores for their perception of medical treatments and staff attitude, and they gave the lowest scores for informational issues, such as awareness of ward rounds, the person to whom questions should be directed, and the identity of the doctors and nursing staff who were responsible for their child's care. Providing information that explains when to expect ward rounds, to whom questions should be directed, and which physician is responsible for care may improve satisfaction with inpatient care.

**Predictors of Patient Satisfaction with Surgical Outcomes**

Multiple definitions of patient satisfaction include a correlation between expectations and outcomes\textsuperscript{22,27}, and decreased satisfaction may therefore be due to a failure to take into account or meet these expectations\textsuperscript{22,27}. This is particularly evident in satisfaction with a surgical outcome\textsuperscript{44}. McGregor and Hughes found that patients frequently had unrealistic expectations of spine surgery, leading to lower levels of satisfaction\textsuperscript{1}. Lutz et al. found that symptomatic improvements following discectomy were most often obtained in patients with favorable expectations about surgery\textsuperscript{45}. However, when physicians predicted a great deal of improvement after surgery, 39% of patients were not satisfied with the outcome\textsuperscript{46}; this suggests that physicians' expectations tended to be overly optimistic and highlights the importance of setting accurate expectations.

Patient-reported outcomes are more important determinants of satisfaction with surgery than specific clinical or radiographic variables\textsuperscript{5,45-47}. O'Holleran et al. demonstrated that pain, functional disability, and work disability had the strongest associations with patient satisfaction with the outcome following rotator cuff surgery\textsuperscript{45}. Similarly, Kocher et al. demonstrated that the strongest postoperative associations with patient satisfaction following anterior cruciate ligament reconstruction included stiffness, giving-way, swelling, and patellofemoral symptoms\textsuperscript{47}. In both studies, specific surgical and clinical variables were also associated with satisfaction but to a lesser extent\textsuperscript{46,47}.

**Future Directions**

In conclusion, patient satisfaction is a multidimensional concept with increasing importance and effects on economic outcomes. It is helpful for providers to recognize the importance of satisfaction data, which are becoming a standard for judging the quality of physicians and institutions. It is important that providers have tools to modify factors that can improve patient satisfaction and to assure that they are not held accountable for factors beyond the control of the provider and the institution.

The emphasis on patient satisfaction rightly directs attention to the needs of the patients and “what patients want.” However, this focus may have unintended consequences. Satisfaction may be mistaken for a global indicator of quality of care. Satisfaction tools may not be capable of measurements related to other important patient care principles, such as evidence-based medicine, cost-effective care, and shared decision-making. Although some providers may assume that use of these care principles will result in patient satisfaction, others may believe that performing more tests or interventions will keep
their satisfaction scores high. Further research is needed to evaluate the relationships among satisfaction, cost, and quality.

Eric D. Shirley, MD
Department of Orthopaedics,

References


Nemours Children’s Clinic, 807 Children’s Way, Jacksonville, FL 32207.
E-mail address: e Shirley@nemours.org

James O. Sanders, MD
Department of Orthopaedics,
University of Rochester,
601 Elmwood Avenue, Box 665,
Rochester, NY 14642