REVIEW ARTICLE

Patient Satisfaction and Rehabilitation Services

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Objective: Despite the widespread use of patient satisfaction measures, there has been only a small amount of research and writing on the topic in rehabilitation. This article reviews selectively the large amount of literature on satisfaction in health care, examines work in rehabilitation settings, and highlights issues in patient satisfaction, given the unique circumstances of rehabilitation services.

Data Sources: A Medline search was made of the past 10 years using descriptors related to patient satisfaction, rehabilitation, and selected diagnostic categories. Additional sources came from references on satisfaction accumulated by the author over the past 20 years.

Study Selection: Because of the voluminous literature, findings from existing reviews were emphasized, particularly those using meta-analytic methods. All articles that involved satisfaction in rehabilitation settings were included.

Data Synthesis: Research in health care generally shows high levels of satisfaction. Personal aspects of care, including full communication, are the most important predictors, whereas age, education, and social status show weak relationships with rating levels. Dissatisfied patients tend to seek other providers. Higher satisfaction is associated with patient compliance and better outcomes. Levels of satisfaction are especially high in rehabilitation.

Conclusions: Measures of patient satisfaction with rehabilitation should include items regarding progress and degree of return to independent living. Responses of proxies answering in place of patients should not be regarded as equivalent to patients’ opinions. The field is in need of standard, validated measures appropriate for various settings.

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MEASURING THE WAY patients feel about the treatment they receive is hardly a new topic in health care. What is new is the extent to which patient satisfaction measures are being used to indicate quality of care and to market services. Literature on the topic has become voluminous, as shown by recent reviews. The apparent ease with which it is possible to construct and distribute satisfaction questionnaires makes them attractive. However, satisfaction is a complicated multidimensional concept whose measurement and application are anything but simple.

There is evidence that satisfied patients are more apt to have continued loyalty toward treatment providers and may be more likely to cooperate with treatment regimens. The dissatisfied individual may share negative views with friends, physicians, or payers and may not return for care. If patients are competent to judge the quality of care they receive, as Rubin has concluded, responses about satisfaction could provide clinicians and managers with ways to improve what they do. Marketing specialists, to attract and keep customers, can use satisfaction statistics to inform various audiences how recipients feel about services.

The objective nature of patient satisfaction information is troublesome for some users. Patients tend to focus on personal aspects of care, for example, how comfortable they feel, which may or may not contribute to improvement. They may not be able to judge the effectiveness of highly technical medical procedures. Emotions unrelated to treatment may color responses to surveys. Patients may feel uncomfortable conveying critical comments about care for fear of alienating treaters.

Arguments about the benefits of satisfaction measurement are ongoing, but use continues to increase.

Patient satisfaction questionnaires are used widely in rehabilitation, but the number of research reports using such measures is small. Although the level of satisfaction with services appears to be high, the factors that contribute to such levels have not been identified. Similarly, the relationship between patient and family satisfaction and patient progress has had little investigation.

Patient and family satisfaction are particularly important to the success of rehabilitation. Active patient involvement is essential to physical improvement and learning of new skills. Education for the competent management of chronic disease after discharge requires full attention from patient and family. The duration of treatment is often fairly long, so sustained cooperation is critical.

The first objective of this article is to review selectively the literature in general health care to highlight issues and findings regarding patient satisfaction. The second is to examine research on patient satisfaction in rehabilitation settings. Finally, some conclusions are drawn about the use of patient satisfaction in rehabilitation, given the special circumstances of this field.

SATISFACTION: A SELECTIVE REVIEW

In a 1983 review of patient satisfaction, Pascoe found six previous reviews for the period from 1974 to 1980. Since that time, there have been several others, some of them lengthy. In addition, Hall and Dornan, in a series of articles, used meta-analysis to bring some order to this literature. Although the amount of research has continued to grow, the diversity of purposes, without theoretical connection, makes integration a difficult task. The summary here does not address all of the complexities involved in satisfaction measurement. The reader who wants greater detail can turn to more extensive reviews.

Patient satisfaction is an attitude about service, service providers, or patients’ health status. There are both affective and cognitive components; the affective reflects positive or negative feelings, and the cognitive is concerned with what is important and how it is evaluated. Some instruments also include behavioral intentions in the form of questions about whether the patient would return for service or would recommend the service to a friend. The study of attitudes has a long history in...
the social sciences; much of it has been ignored in the application of satisfaction measures in health care.

Patient satisfaction is most frequently measured by a questionnaire in which the respondent checks the extent of satisfaction (for example, very satisfied, satisfied, dissatisfied, or very dissatisfied) or renders a judgment about the adequacy of service or outcomes (eg, excellent, good, fair, or poor). Actions to be taken because of satisfaction, such as intention to return for additional service, are often included. Additional information on the construction and application of satisfaction measures in health care can be found in works by Strasser and Davis,9 and Steiber and Krowinski."10

Level of satisfaction is usually regarded as an outcome; that is, as a result of services, patients are more or less satisfied. With this model, low levels may be a barrier to future utilization. However, it is possible for satisfaction to be an input variable in which initial satisfaction with health care can result in greater or lesser use of services.11 Skepticism about doctors, for example, could result in underuse of their services. The correlational nature of most studies makes it difficult to establish the direction of causation.

**Dimensions of Satisfaction**

The subject matter of questionnaires varies with the purpose of the measure, but most reports address a fairly common list of topics.1,2,6 A frequently quoted set of dimensions comes from Ware and coworkers,12 who conducted a content analysis of questionnaires reported in the literature and found eight domains of satisfaction (table 1). The first four (interpersonal manner, technical quality, accessibility/convenience, and financial aspects) were by far the most commonly measured features of care. Pascoe viewed these dimensions as nonorthogonal, that is, they overlap conceptually. He noted that Ware and Snyder,13 in a factor analysis of the Patient Satisfaction Questionnaire, found four dimensions: physician conduct, availability of care, continuity/convenience of care, and access mechanisms. In another factor analysis of an expanded version of the Patient Satisfaction Questionnaire,14 one large factor,

<table>
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<tr>
<th>Dimension</th>
<th>Definition</th>
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<tr>
<td>Interpersonal manner</td>
<td>Concern, consideration, friendliness, patience; negative aspects: abruptness, disrespect, provoking embarrassment</td>
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<tr>
<td>Technical quality</td>
<td>Competence of providers, adherence to high standards of diagnosis and treatment</td>
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<tr>
<td>Accessibility/convenience</td>
<td>How easily appointments can be made, waiting time, convenience of location</td>
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<td>Financial aspects</td>
<td>Ability to pay, payment mechanisms</td>
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<tr>
<td>Physical environment</td>
<td>Physical facilities, including cleanliness and comfort of accommoda-ations</td>
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<tr>
<td>Availability of providers</td>
<td>Sufficent providers and facilities in area</td>
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<td>and facilities</td>
<td>Regularity of care from the same provider or facility</td>
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<tr>
<td>Continuity of care</td>
<td>Perceptions of the usefulness of care in maintaining or improving health status</td>
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Data from Ware and coworkers.12

including humaneness, quality, and general satisfaction, accounted for 42% of the variance, with a second factor that included accessibility and availability. There is little agreement about the factor structure of satisfaction measures.

Hall and Dornan4,8 have written extensively about patient satisfaction; several of the reports involve meta-analyses. Meta-analysis is an increasingly popular method of reviewing and evaluating a body of research literature. Individual study results are systematically abstracted, quantified, coded, and assembled into a database that can be statistically analyzed. A meta-analytic review can detect trends from many small studies that singly would not merit firm conclusions. There are criticisms of metaanalysis methods, particularly in inclusion of highly heterogeneous research designs and measures.15 Concerns about the quality of meta-analyses have resulted in a call for standards to be developed for the conduct of this review method.16

Hall and Dornan searched the health care literature and identified 221 studies that met their inclusion criteria. Their description of inclusion criteria, search, coding, and analysis methods are in accordance with accepted meta-analytic practices. Hall and Dornan found that the greatest patient satisfaction was with general quality, humaneness of care, competence, and outcomes. Cost, bureaucratic arrangements (such as waiting time), and attention to psychosocial problems received the lowest satisfaction rankings.

The frequency with which various aspects of care were measured by satisfaction surveys was also examined. Humaneness, amount of information provided, overall quality, and competence were the most common topics. The authors noted that the domains covered in questionnaires are usually the topics of interest to providers and incompletely define the nature of satisfaction because the consumer's perspective is not included. Variations in dimensions of satisfaction among questionnaires make it difficult to compare studies.

Some measures with only one or two questions may ask for overall reaction to service without specification of domain. Another distinction is between a general attitude toward services as opposed to a specific episode of care. Specific measures provide more information, are more discriminating, and result in lower satisfaction ratings. Respondents usually rate their own care more favorably than care in general. Although there is some agreement about which topics are central to satisfaction measurement in health care, applications vary greatly, depending on the setting and purpose of measures. No single questionnaire dominates use. The Ware list18 is a good starting point for determining which dimensions to include.

**Correlates of Satisfaction**

Satisfaction measures have limited value if the factors that influence patients' opinions about care cannot be identified. The search for correlates of satisfaction is hampered by the lack of power in most research designs. Most research is correlational, which does allow some inferences about causation, but of a less power in most research designs. Hall and Dornan found that only 14% of the studies examined used an experimental paradigm. Nevertheless, there is a considerable body of work on correlates.

**Patient characteristics.** An obvious place to begin the search for influences on attitudes about satisfaction is with the characteristics of patients. The greatest amount of work has been with patient sociodemographic data, such as age, sex, ethnicity, and the like. This information is easily obtained, although the consistency with which it is collected varies. Hall observes that "Patients' sociodemographic characteristics are
the variables most often studied, but they are, paradoxically, the least well understood. Earlier reviews found age to be the most consistent factor, with older patients more satisfied with their care. Other variables, such as education, gender, social class, income, marital status, and race, have yielded inconsistent results.

Using meta-analysis on a database of 221 studies, Hall and Dorman found greater satisfaction associated with being older, having less education, having higher social status, and being married. The authors could not account for the opposite trends for education and social status because these usually are positively related variables. Because the few studies involving social status generally produced low correlations, new research involving social status could produce different results. Earlier reviews reporting greater satisfaction among women and individuals with small families were not confirmed. Most correlations with sociodemographic variables, even when statistically significant, were extremely small. They concluded that sociodemographic characteristics, at best, are a minor predictor of satisfaction.

Health-related patient behavior. What do patients do as a result of their satisfaction with care? Do higher levels of satisfaction lead to continued use of the same services? Are patients more apt to comply with treatment regimens if they are more satisfied with care? These are central issues to providers, but such questions are complex and answers are not clear-cut. The literature generally confirms that utilization and satisfaction are positively related. Because most studies are cross-sectional rather than longitudinal, it is not easy to establish the direction of causality: does higher satisfaction result in more utilization or is it the other way around? Zastowny and colleagues reviewed the literature and did a study of satisfaction with community pediatric services. They found only a small amount of variance explained in the relationship of satisfaction to utilization.

Anyone doubting the utility of satisfaction data should examine the research on what happens when patients become dissatisfied with services. Findings consistently demonstrate that dissatisfaction is linked to the intention to switch services or to reports of terminating services. There is also a decreased willingness to return to the same provider. In health maintenance organizations (HMOs), enrollees who quit report more dissatisfaction with care. There is a large amount of literature on factors related to patients' compliance with treatment. In general, patients who are more satisfied with care are more apt to comply by appearing on time for appointments and following instructions for medication use or other procedures related to treatment.

Service characteristics and financing. Determining the effect of treatment setting on patient satisfaction is complicated by the mixture of organizational and patient factors. Hospitalized patients clearly have some different concerns than outpatients. Pascoe devoted a section of his review to service characteristics, concluding that satisfaction was affected more by patient factors than by organizational characteristics. Some reviews make no distinction between service settings or populations, whereas others focus on a single setting such as hospitals, outpatient offices, or general practice. Although emphases may vary with setting, most satisfaction instruments still sample opinion about a fairly common set of topics.

The study of organizational structure of services in relation to patient satisfaction has usually considered various forms of group versus individual practice. It is often difficult to separate organizational aspects from financing. The most ambitious research on the effects of how health care is organized was the Rand Health Insurance Experiment, in which individuals were randomly assigned to various health plans. Results were inconclusive, with the assignment process itself an apparent factor in satisfaction. Subjects randomized to prepaid care in a staff-model HMO were less satisfied with their care than those assigned to fee-for-service arrangements. Patients who selected the HMO themselves were as satisfied with care as those randomly assigned to fee-for-service plans.

The Medical Outcomes Study, another Rand project, provided an opportunity to investigate satisfaction with outpatient services in several conditions: staff-model HMOs, multispecialty group practice, and solo or single-specialty small groups, under either prepaid or fee-for-service financing. Overall satisfaction ratings were very high under all conditions. Patients treated by solo practitioners with fee-for-service financing were most likely to give excellent overall ratings. Patients were less likely to stay with physicians who received lower ratings. Access to services was the source of greatest problems—office waits, office location, time spent with providers, difficulty getting through on the telephone, and waits for appointments. These were worse in large settings, especially HMOs.

A review of the performance of managed care plans found that HMO enrollees were less satisfied with quality of care and patient-physician interaction than those in fee-for-service arrangements. Recent work has shown that enrollees who are offered a choice may have similar levels of satisfaction for both forms of health care, but individuals who were offered only a managed care plan at enrollment had lower levels of satisfaction.

Provider-patient interaction. At the heart of patient satisfaction is what happens during the process of providing care. Perceptions of the quality of care are most heavily influenced by manifestations of concern and caring, the interpersonal aspects of the patient-professional relationship, and evidence of technical competence. The nature and extent of communication during encounters, which span all of these factors, are also part of satisfaction.

There is general agreement that patient perceptions of provider handling of the interpersonal aspects of care are positively related to ratings of satisfaction. Professionals who are seen as warm, friendly, caring, and sensitive to patient needs are more frequently given higher satisfaction marks. In a meta-analysis of satisfaction studies, Hall and Dorman found that humanness of care was most frequently surveyed (65% of studies), and informativeness was next (50% of studies). Patients usually rate interpersonal care quite highly. In the Medical Outcome Study, personal aspects of outpatient physician encounters were rated highest of all elements of care, with 92% of ratings either excellent or very good. Some authors are skeptical of such high ratings because more specific questions may reveal dissatisfaction. Lewis found that 38% of British patients felt they could not discuss personal problems with their primary physician. Physicians often avoid discussing psychological or social problems, either because they take up time or because they are seen as irrelevant. Satisfaction with attention to psychosocial problems is measured infrequently; Hall and Dorman found that only 3% of studies included such topics.
Clear communication, comprehensive explanations, and sufficient time to convey such information are prominent features of satisfaction with interpersonal aspects of care.1,2,7,24 Greater satisfaction is highly associated with the provision of information.24 Cleary6 noted that physician recommendations often are not remembered or understood because of poor communication. The current press for greater efficiency and less time for consultation puts an even greater strain on communication.

Age and gender of physicians, as well as amount of training, affect satisfaction with medical encounters. Analysis of more than 600 medical visits in a dozen communities in the United States and Canada25 found that patients examined by younger physicians, especially younger female physicians, reported lower satisfaction ratings. This was true for both male and female patients, although the lowest satisfaction was with male patients examined by younger female physicians. There is some evidence that satisfaction levels and perceptions of competence are higher when physicians are still in training,8 a possible reflection of their taking more time in interviews.

The second factor in patient-provider interactions, technical competence, shows differences in orientation between professionals and patients. Most health professionals assume that quality of care is determined primarily by technical competence, but perceived interpersonal and communication skills usually account for a larger share of patient satisfaction.1 Several studies have found that perceptions of qualifications, intelligence, and technical skills are related to satisfaction,1,4 but much of the evidence is not decisive. It is difficult for professionals to agree on criteria for technical competence, so patients can hardly be expected to have a clear idea of what constitutes competence. The most definitive research would compare patient ratings with some other standard or independent judgment. In a detailed review of whether patients can evaluate the quality of hospital care, Rubin found much of the research comparing staff and patient evaluations to have design flaws. Nevertheless, he concluded that most studies show agreement between staff and patient evaluations with regard to quality of care.

Health outcomes. A patient’s satisfaction with service in relation to health status after receiving service would seem to be a topic of central interest for research. In fact, it has not been. Hall7 found that health status was surveyed in only 6% of studies reviewed. Others have also noted the paucity of research on health status.1,3,4 Pascoe4 examined 12 studies that related health status or severity of illness to satisfaction and found conflicting results. Hall and associates,26 in examining the literature, found a general trend for better health status to be associated with higher levels of satisfaction, although again there were inconsistencies. In a national survey of more than 6,400 recently discharged inpatients,19 the patient characteristic most strongly correlated with patient evaluations was perceived health status; those individuals who reported their health as better had greater satisfaction. The number of problems reported during hospitalization was inversely related to satisfaction levels.

Although perceived health status is a legitimate measure of treatment outcome, there is a problem in relating it to how patients feel about their care. Individuals with poorer health are apt to be less satisfied with their care, regardless of its effectiveness, so satisfaction measures may reflect more than service quality.

Summary

Although some studies of patient satisfaction with health care methods, some findings are sufficiently clearcut to suggest important conclusions. Several domains frequently appear in satisfaction measures, but there is no explicit agreement about what should be included or excluded. The eight dimensions listed by Ware12 are a fairly inclusive list; most instruments include several from this group, including interpersonal aspects of care, technical competency, access, physical facilities, and financial arrangements.

Analysis of the correlates of satisfaction shows that older and less educated individuals are usually more satisfied. As might be expected, those in better health are also more satisfied with their treatment. Higher satisfaction goes with increased utilization and better compliance with treatment regimens. Patients who are unhappy with their care, not surprisingly, often seek a change in providers.

One of the most persistent findings is that interpersonal aspects of care—perceptions of interest, caring, and sensitivity to patient needs—are highly important to how patients view those who treat them. Clear and sufficient communication is also a contributing factor to a satisfactory consultation. Perceptions of technical skill are an uncertain contributor to satisfaction, although there is evidence that patients and professionals can agree on various aspects of quality of care. Favorable clinical outcomes have been linked to patient satisfaction, although the amount of research on this topic has been modest.

RESEARCH ON SATISFACTION WITH REHABILITATION

Until the mid-1990s, few published studies investigated satisfaction in medical rehabilitation settings, and most of these had small samples that were highly selected. More recently, however, a few reports have furthered understanding of the role of satisfaction measurement in rehabilitation.

Investigators at a Canadian facility27 distributed 150 surveys to outpatients upon discharge and received 50 back for analysis, a return rate that has potential bias. Using a four-point scale with 4.00 as the highest rating, they found an average score of 3.43 for access, 3.65 for physical environment, and 3.83 for care, all reflecting a high degree of satisfaction.

Follow-up of 65 patients who had undergone a 3-week intensive program for chronic low back pain28 found that satisfaction levels at 5 years correlated weakly with current pain and disability status. Likewise, correlations between treatment satisfaction and improvements in pain, disability, and impairment were weak.

In a study of 81 individuals with multiple sclerosis who had received physical or occupational therapy within the past year,29 satisfaction levels were very high, particularly for interpersonal aspects of care. Because these individuals volunteered to complete questionnaires after having completed treatment, they may have had especially positive attitudes about the program. Winter and Keith29 interviewed a stratified sample of 151 outpatients in a telephone survey using dimensions from Ware.12 One third were still in treatment or had received services within 30 days; two thirds had been out of treatment more than 30 days. The group had an average age of 49 years with a variety of diagnoses, represented most heavily by strokes, head injury, orthopedic disorders, and back pain. As expected, a high percentage (90%) were satisfied with overall services. Older patients were more satisfied, and patients with more education were less satisfied. Satisfaction was also lower for those who had been out of treatment more than 30 days. Little or no progress was reported by 17%, most of whom had been out of treatment more than a month. About one fourth reported that their progress did not match their expectations.

Exploratory and confirmatory factor analysis and causal
modeling were used to construct a model of factors affecting satisfaction ratings. Age, sex, and education were most influential, followed by patient cost (travel miles to treatment, amount paid for transportation, and awareness of funding limits), patient exposure to disability and treatment, and, finally, patient expectations about progress.

In a study of 120 outpatient orthopedic centers over a 4-year period, 19,834 individuals rated their satisfaction with services. Most of the centers concentrated on physical therapy, with a few including occupational therapy. The satisfaction measure was developed from topics elicited from focus groups and refined after 9 months of use. The final version had 17 questions answered on a five-point Likert scale with five dimensions: overall satisfaction, therapist interaction, center operations, facility appearance, and billing. An additional open-ended question concerned willingness to refer a family member or friend. Telephone interviews lasting 4 to 5 minutes were conducted by a commercial survey organization. Patients were selected randomly with 20 patients per center per quarter.

Over the 4 years, the proportion answering very satisfied varied from 78% to 80%. The authors reported an overall satisfaction rate of 93% to 96%, presumably the total of those answering somewhat satisfied and very satisfied. A regression analysis was performed to identify the questions most highly correlated with overall satisfaction. The five variables with the highest correlations were concerned primarily with communication and personal relations.

Although this study had a large sample, it was narrowly focused on outpatients with orthopedic problems who were receiving physical therapy. Overall satisfaction with services was very high, in keeping with findings of other studies.

A Canadian study examined consumer satisfaction with a rehabilitation outreach program at a mobile clinic serving rural areas. An interdisciplinary team affiliated with a rehabilitation center traveled to 15 rural communities in eastern and northeastern Ontario. In 1992, the team made 45 community visits involving 304 patients. Patients who were considered unable to provide a valid response to satisfaction questions were excluded unless they were accompanied by a family member or friend. A total of 168 patients were found eligible (55.3% of all patients seen).

The consumer satisfaction form consisted of 32 items divided into three sections. The first used six questions on access, the second included 11 items on satisfaction, and the third was a section of open-ended questions on the best and worst aspects of service and any other comments the respondents wanted to make. The questionnaires were given to patients to take home and mail back rather than fill out in the presence of team staff.

A total of 143 acceptable surveys was received in the mail, a response rate of 85%. Most respondents (77%) were living in their own homes. The balance were inpatients or residents of nursing or group homes. The most common diagnosis was stroke (31%), and the rest were an assortment of neurologic, orthopedic, and other disorders. The combined ratings of satisfied and very satisfied on the 11 items of the satisfaction scale ranged from 91% to 98%. Family members who completed the scale had significantly higher ratings than patients who responded.

In a rare solicitation of patient views about what should be included in a satisfaction measure, Heinemann and colleagues interviewed 50 inpatients, half during hospitalization and half a month after discharge. From these interviews, a 40-item questionnaire was constructed with items about communication, effectiveness of care, care by specific disciplines, and environmental factors. All of these domains have been identified in previous studies, so patients' views did not result in new topics.

Heinemann included enquiries about satisfaction in telephone interviews conducted 1 month after discharge. Between 1992 and 1996, there were 9,626 discharges from inpatient programs and interviews were completed for 3,942 patients, a response rate of 41%. The most frequent reason for not completing an interview was inability to locate the patient. Patients were the respondents in 63% of the interviews; the balance were family members, friends, or caregivers. The largest diagnostic group was patients with orthopedic conditions, 25%, with strokes next at 21%, brain injury at 13%, spinal cord injury at 12%, and the reminder at 29%.

Because the raw summed scores of the satisfaction measure were ordinal, which precluded using parametric statistics for analysis, the authors used Rasch analysis to produce equal intervals between items. This method also allowed analysis of the fit of items with each other and of the total score as well as a test of the unidimensionality of the scale.

Comparison of patients who were interviewed with those who were not found significant differences in impairment groups, gender, age, race, and functional status. Patients with brain injury or burns were less apt to be interviewed; those with arthritis, orthopedic impairments, and major multiple trauma were more likely to be interviewed. Women were more likely to respond than men, and older patients were more likely to be interviewed than younger ones. Patients with higher admission and discharge functional status and those who made larger gains were more apt to be contacted than those with lower functional status and gains.

Three items were identified as not fitting with the rest and were discarded, resulting in a 37-item satisfaction scale that was unidimensional. The distribution of ratings showed 2% poor, 6% fair, 46% good, and 46% excellent. Patients with burns and pulmonary conditions were somewhat more apt to indicate high satisfaction. Women were slightly more satisfied than men, and younger patients were more satisfied than older (contrary to most studies). Family, friends, and caregivers tended to rate patient satisfaction more positively than did patients. Degree of satisfaction was unrelated to linear measures of motor and cognitive functioning on the Functional Independence Measure at either admission or discharge.

This study makes a significant contribution to the literature on patient satisfaction with rehabilitation services. Scale development included patients' views about subject matter and careful attention to the psychometric properties of the scale. Rasch analysis is an unusual approach to the statistical refinement of satisfaction measures, yielding useful information on the composition of scale items. The authors acknowledge the potential bias from the relatively low response rate. They do not comment on the problem of very high satisfaction levels.

Research on patient satisfaction with rehabilitation services has progressed from a scattered set of studies, often with sampling problems and small numbers, to a few investigations that merit serious attention. The uniform finding from studies thus far is that patients express high levels of satisfaction, regardless of setting. Although this favorable information is valuable for marketing purposes, it poses some problems. It implies that in the eyes of patients and families, there is relatively little room for improvement of services, although one of the purposes of satisfaction measurement is to improve quality of care. Identification of the reasons patients and families regard services so highly is a task still faced by the field. Most patients admitted to rehabilitation for the first time have little idea of what to expect, so high ratings may be a
product of their lack of any comparisons. Ratings may be high
despite minimal functional gains,\(^4\) so it is not necessarily a
matter of patient improvement.

**DISCUSSION AND CONCLUSIONS**

**The Rehabilitation Setting**

Patient satisfaction research in health care has been con-
ducted principally in primary and short-term care settings.
Although much of it is relevant to medical rehabilitation, some
aspects of rehabilitation are sufficiently different to merit
special consideration. Restoration of function, often over a
prolonged span of time, requires procedures and goals quite
different from those of much of health care. The patient’s
performance, rather than the cure of disease, has priority.
Inpatient settings, with interdisciplinary teams, may give pa-
tients interactions with a wide variety of professionals. Team
members, although supportive of and concerned with the
patient’s comfort, are also demanding. Training in self-care,
mobility, methods of managing chronic disease, strategies for
compensating for cognitive deficits, and other such procedures
requires a degree of active engagement not required in most of
health care. Methods of measuring satisfaction must reflect
the patient’s experience in such settings.

Satisfaction with the patient’s progress or status at discharge
is rarely probed in acute care. It should be a major consideration
in rehabilitation, although most research of rehabilitative services
has ignored it. The skills patients acquire and their level of
independence in various settings can be seen readily by patients
and families. They should be able to respond to questions about
their satisfaction with these outcomes. The discrepancy be-
tween expectations and progress is also of interest; in the
Winter’s research,\(^3\) one fourth of the respondents reported
that their progress did not match their expectations.

The team structure of rehabilitation complicates measure-
ment of satisfaction because so many individuals provide
treatment. If one of the arms is to identify sources of either
satisfaction or discontent, it is necessary to include questions
about various services. Of course, this makes questionnaire
lengthier and may affect the response rate. In Heinemann’s
research,\(^4\) 18 of the 37 questions of their survey concerned
individual services. A problem here is whether patients are able
to differentiate between so many treaters.

The number of patients who are unable to complete satisfac-
tion measures, particularly because of cognitive deficits, is a
concern in rehabilitation. Family members or other proxies
are commonly queried then instead of patients, but their experience
with services is apt to be somewhat different than that of
patients. Aharony and Strasser\(^1\) identified two studies involving
proxies, finding that these individuals rated care more nega-
tively than patients. However, both studies had serious methodo-
logical flaws. Heinemann\(^5\) found that other caregivers were more
favorable in ratings than family members and friends, who in
turn were more positive than patients. To minimize bias from
proxy ratings, they suggested adjusting for type of respondent.
Proxy ratings are a compromise, providing at least some
information about how well services are regarded, but opinions
from various types of respondents should not be seen as
equivalent.

Most systems of satisfaction measurement focus on percep-
tions of quality of service. They are collected near the time
of discharge or after discharge. The results, often compiled several
months after questionnaires are answered, are used to make
improvements in service for future patients. Because patients
often use rehabilitation services for longer periods, it may be possible
to measure satisfaction during treatment and make adjustments
while patients are still in therapy. Such procedures are in
keeping with the philosophy of continuous quality improve-
ment. However, short feedback times require prompt handling
of questionnaires.

**Conclusions**

Many of the problems with patient satisfaction measurement
in rehabilitation are shared with the rest of health care.
Although several domains of satisfaction appear frequently in
questionnaires, there is no formal agreement about which
should be included. Although different settings may require
different emphases, there is still a core of questions that
should be included. Without some uniformity in instruments, there will
continue to be no way to compare levels of satisfaction across
settings and programs. In rehabilitation, it would be of great
benefit to develop standard measures for various types of
services, as has been done with functional status assessment.

The very high levels of satisfaction manifested in most health
care research, and especially in rehabilitation, requires the
development of some new strategies of investigation. In a
comparative analysis of seven measures of patient satisfaction in
Veterans Administration ambulatory services,\(^6\) a substantial
acquiescent response tendency was found (that is, a tendency to
respond in an acceptable direction). Simon and Patrick\(^7\)
suggested that consumer satisfaction responses are the result of
cognitive processing of service encounters. To understand the
patient’s subjective experience, it is necessary to use qualitative
techniques to probe for the connections between that experience
and responses to satisfaction. A general theory of consumer
satisfaction, currently lacking, would furnish a framework for
investigation and explanation.

The amount of research on satisfaction with rehabilitation
services is still modest, and many questions remain unan-
swered. A major issue is whether patient or family levels of
satisfaction have any influence on service delivery or outcomes
or on patient or family health behaviors. Do facilities change
their methods of treatment in the face of adverse patient
reaction? Do negative responses about care result in patients’
failure to follow treatment regimens or in their seeking care
elsewhere? Answers will come only with satisfaction measures
that are methodologically sound, with adequate validity
and reliability, and with reasonable standardization.

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