Are Older Patients More Satisfied With Hospital Care Than Younger Patients?
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OBJECTIVE: Determine relationships between age, self-reported health, and satisfaction in a large cohort of hospitalized patients.

DESIGN: Cross-sectional survey.

SETTING: Thirty-one hospitals in a large Midwestern metropolitan area.

PATIENTS/PARTICIPATION: Randomly selected medical and surgical patients (N = 64,900; mean age, 61 years; 56% female; 84% white) discharged during specific time periods from July 1990 to March 1995 who responded to a mailed survey (overall response rate, 48%).

MEASUREMENTS AND MAIN RESULTS: Patients’ overall ratings of hospital quality and satisfaction with 5 aspects of care (physician care, nursing care, information provided, discharge instructions, and coordination of care) were measured by a validated survey, which was mailed to patients after discharge. Analyses compared satisfaction in 5 age groups (18 to 35, 36 to 50, 51 to 65, 66 to 80, and > 80 years). Scores for the 5 aspects of care initially increased with age (P < .001) and then declined (P < .001). A similar relationship was found in analyses of the proportion of patients who rated overall quality as “excellent” or “very good.” Satisfaction was also higher in patients with better self-reported health (P < .001). In analyses of patients with poor to fair health, satisfaction scores peaked at age 65 before declining. However, for patients with good to excellent health, scores peaked at age 80. Moreover, declines in satisfaction in older patients were lower in patients with better health. These findings were consistent in multivariable analyses adjusting for potential confounders.

CONCLUSIONS: Satisfaction exhibits a complex relationship with age, with scores increasing until age 65 to 80 and then declining. This relationship was consistent across individual satisfaction scales, but was modified by health status. The results suggest that age and health status should be taken into account when interpreting patient satisfaction data.

KEY WORDS: patient satisfaction; age; health status; quality of health care.


Patient satisfaction is a widely used measure of health care quality that has been linked to other outcome measures and to patients’ behavioral intentions. For example, patients who are more satisfied with their care are more likely to be compliant with various aspects of treatment1–3 and to return to providers for additional care.4–6 Furthermore, hospitals with higher patient satisfaction scores also have higher ratings of quality, as assessed by physicians and hospital employees.7 For these reasons, patient satisfaction is increasingly being used to evaluate the performance of individual physicians, hospitals, and health plans.8,9,10

However, in addition to the above attributes of care, patient satisfaction has also been shown to vary according to specific demographic and clinical characteristics.10–13 Although prior studies have often yielded conflicting results with respect to the magnitude and direction of associations between patient satisfaction and individual variables, the 2 most consistent and strongest associations have been noted for age and health status. In general, satisfaction appears to be higher in older patients2,4,11–17 and in patients with better overall health.11–15,18 However, most prior studies that have examined relationships between age and satisfaction have examined all patients over a specific age (e.g., 65 years) together and have not distinguished between the “young old” and older cohorts. Moreover, most studies have not examined whether relationships between age and satisfaction may be modified by health status. Given that health status tends to decline in older patients, such interaction effects are likely.

Understanding how patients’ baseline characteristics affect patient satisfaction is critical to interpreting patient satisfaction data and to making correct inferences about the effectiveness of specific interventions and the performance of individual providers. Because the elderly are the fastest growing segment of the population and account for a disproportionate share of health care encounters, age-related differences in satisfaction are increasingly relevant. Thus, the current analysis was conducted to more definitively determine relationships between age, self-reported health, and satisfaction in a large cohort of hospitalized patients.

METHODS

Study Design

The study was designed as a cross-sectional, secondary analysis of data collected through the Cleveland Health Quality Choice Program, a regional initiative designed to measure hospital performance in Northeast Ohio that publicly disseminated comparative hospital data for patient satisfaction and several other outcome measures.19,20
Patients

The sample included randomly selected medical and surgical patients aged 18 years and older who were discharged from 31 Cleveland hospitals during specific time periods in 1990 to 1995 (July 1990 – November 1990, July 1991 – May 1992, and December 1992 – March 1995). Eligibility criteria included all discharges from acute care beds with the exception of: i) in-hospital and known post-discharge deaths; ii) discharges to intermediate or long-term care facilities; iii) discharges against medical advice; and iv) admissions for psychiatric care, alcohol or drug dependence, or labor and delivery (International Classification of Diseases, 9th revision, Clinical Modification primary codes 290-334, 630-648, and 650-676; diagnosis-related groups [DRGs] 370-384 and 424-438).

Data Collection

From each participating hospital, roughly 40 patients per month were surveyed. Patients were identified from computerized files of eligible patients that were submitted monthly by hospitals. Surveys were mailed to eligible patients 8 to 12 weeks after discharge and were accompanied by a letter from the chief executive officer of the hospital explaining the purpose of the survey. Postcard reminders were sent to patients 1 week after the initial questionnaire was mailed, and follow-up letters and questionnaires were sent to all nonrespondents 4 weeks after the initial mailing. Survey fields were closed 8 weeks after the initial mailing. Surveys were returned to an independent survey research firm, which performed all data entry and then returned data files to Cleveland Health Quality Choice.

The response rate was 52%, with 70,423 of the 135,199 patients surveyed responding. Respondents to the patient satisfaction survey, as compared to nonrespondents, were older (mean ages ± SD, 61 ± 17 vs 58 ± 20 years; P < .001) and more likely to be female (56% vs 53%; P < .001) and married (62% vs 47%; P < .001). Of the survey respondents, we further excluded 5,511 patients who did not complete the single item on overall health status (see below) and 12 patients in whom age was missing, leaving a final study sample of 64,900 patients (overall response rate of 48%).

Survey Description

Satisfaction with various aspects of care during hospitalization was assessed using the Patient Judgment System. The Patient Judgment System is a validated instrument that was developed on the basis of a comprehensive review of prior patient satisfaction literature, analysis of verbatim patient responses to questions about hospital quality, and discussions with focus groups and hospital leaders. Reliability and validity were initially determined during a pilot test of 2,113 patients in 10 hospitals and later reestablished in 5,625 patients from 32 hospitals. The instrument includes 10 multi-item scales, that elicit information about specific aspects of care (e.g., physician care, nursing care) and several single-item indicators of care.

For this study, we selected 5 scales and 1 single-item indicator for analysis. The 5 scales included physician care (6 questions), nursing care (5 questions), information provided (3 questions), discharge instructions (3 questions), and coordination of care (4 questions). The single-item assessment asked patients to rate the overall quality of care and services received from the hospital. A description of the items comprising each scale is shown in Table 1. Patients were also surveyed about race, education level, and insurance type, whereas other demographic data, including age, gender, and marital status, were obtained from electronic hospital files.

For all satisfaction questions, patients responded on a 5-point scale (poor, fair, good, very good, and excellent), which has been previously demonstrated to produce good response variability and to predict patient behavior. For scoring purposes, responses to the 5 multi-item scales were transformed to linear ratings ranging from 0 (poor care) to 100 (excellent care). To assess health status, patients were asked to “rate your overall health” during the prior 2 weeks.

Analyses

Patients were classified into 5 prior age groups (18 to 35, 36 to 50, 51 to 65, 66 to 80, and >80 years). For the 5 multi-item scales, bivariate associations between satisfaction and age and between satisfaction and health status were determined using analysis of variance (ANOVA). Further stratified analyses examined relationships between age and satisfaction within individual levels of health status. If the results of the ANOVA were significant at the P < .05 level, Scheffe’s pairwise comparison procedure was used to examine differences in satisfaction between individual age groups, controlling for the potential problem of multiple testing.

<table>
<thead>
<tr>
<th>Scale</th>
<th>Items</th>
<th>Content</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physician care</td>
<td>6</td>
<td>Physician attention, availability, concern and caring, skill, communication, teamwork</td>
</tr>
<tr>
<td>Nursing care</td>
<td>5</td>
<td>Nursing skill, attention, speed of response, concern and caring, communication</td>
</tr>
<tr>
<td>Information provided</td>
<td>3</td>
<td>Ease of obtaining, clarity of instructions, informing family and friends</td>
</tr>
<tr>
<td>Discharge instructions</td>
<td>3</td>
<td>Discharge efficiency, discharge instructions, attention to postdischarge needs</td>
</tr>
<tr>
<td>Coordination of care</td>
<td>4</td>
<td>Consideration of needs, teamwork of all hospital staff, helpfulness of staff, sensitivity</td>
</tr>
<tr>
<td>Overall quality</td>
<td>1</td>
<td>Overall quality of care received during the hospitalization</td>
</tr>
</tbody>
</table>