

**GRADUATE MANAGEMENT PROJECT**

**THE IMPORTANCE OF VARIOUS FACTORS IN THE**

**DETERMINATION OF INPATIENT SATISFACTION:**

**HEALTH CARE PROVIDERS' AND PATIENTS' PERSPECTIVES**

Presented to

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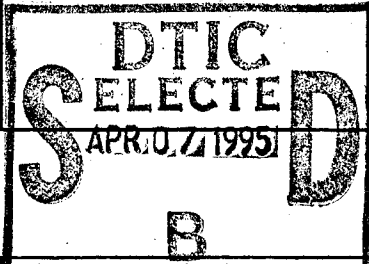
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## ABSTRACT

Few studies had compared health care providers' and patients' perceptions of the importance of various factors on patient satisfaction. Subjects of this study were 292 health care providers and 137 inpatients in a tertiary-care military hospital. Physicians, allied health professionals, registered nurses, vocational nurses, and medical assistants comprised the health care provider group. The survey instrument consisted of forty-four items that subjects quantitatively rated according to their importance in satisfying inpatients. The instrument also contained two qualitative questions, asking what the most important factors were in determining the satisfaction and dissatisfaction of inpatients. The quantitative responses indicated that the most important self-reported determinant of inpatient satisfaction was the State-of-the-Art Technical Quality dimension. Patients' responses to two qualitative questions indicated that the factors which satisfy them are different from those that dissatisfy them. Patients' qualitative response themes indicated that their most important satisfier was the Technical Quality of their care, and their most important dissatisfier was the Environment & Physical Comfort theme. Health care providers rated the importance of four out of seven dimensions of inpatient satisfaction significantly lower than patients. Many significant differences were discovered among the five health professions.

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## CHAPTER 1

### INTRODUCTION

The consumers of health services and the society at large have begun to demand better value for their health care expenditures. Most recently this demand has taken the form of a national debate on massive systemic health care reform. Health care delivery systems increasingly are being compelled to empirically demonstrate their value to the consumers. The value of health services may be measured in several ways including health status outcomes or number of well-days per covered beneficiary pool (Coile 1994). The most customer-oriented method of quantifying the quality of health services is through measurement of patient satisfaction.

The value of ascertaining patient satisfaction through their ratings is quite apparent. Patient ratings of the importance of various facets of their health care experience can be used to help guide health care provider behavior in an effort to enhance their customer service orientation. The ratings can also be used to guide systemic allocation of resources to support those aspects of the health care encounter that are most influential in satisfying patients. The importance rating information also can be included in the education of health care professionals in order to enlighten them to patient preferences.

Health care delivery systems traditionally have viewed patient satisfaction as a single continuum, or construct, rather than as a composite of

several distinct dimensions. Rather than looking at patient satisfaction as being merely an end product or outcome of the health care encounter, health care delivery systems should use patient satisfaction data to help guide their behaviors. In order for health care providers to focus properly on the aspects of a health care episode that influence patient satisfaction to the greatest degree, they should be aware of which factors are most important. Budinger, et al. (1993) demonstrated that physicians are not fully aware of the most important factors in determining patient satisfaction among outpatients. It is not yet clear whether or not physicians or other health care providers are aware of the factors that are most important in determining satisfaction among inpatients.

## STATEMENT OF THE PROBLEM

The research problem for this study was to determine whether inpatient health care providers of various professions are able to assess accurately the importance of various factors that determine inpatient satisfaction.

## LITERATURE REVIEW

### General Patient Satisfaction Research

Several authors have performed comprehensive reviews of the patient satisfaction literature (Aharony and Strasser 1993; and Southern Illinois University School of Medicine 1976). Others have taken a more analytical approach to the review of the literature by performing meta-analyses to quantify trends across several individual studies of patient satisfaction (Hall and Dornan 1988). Among the most consistently cited factors affecting

patient satisfaction are the technical quality of care and the humaneness of the health care provider (Hall and Dornan 1988).

The use of patient satisfaction ratings as a quality measure is quite appropriate, since the goal of personal health services is not only to rid the patient of disease or infirmity, but also to make the patient feel well. Obviously, the patient is the best judge of his own feeling of wellness. Additional evidence indicates, however, that patients are also fairly accurate judges of the technical quality of their own care (Davies and Ware 1988).

One of the more objective, and perhaps meaningful, measures of patient dissatisfaction with their care is changing of health care providers, or disenrollment from their prepaid health plans (Ware and Davies 1984; and Aharony and Strasser 1993). By observing disenrollment trends, patient satisfaction has served as an independent variable in several studies. Ware and Davies (1984) found that patients with lower patient satisfaction scores were significantly more likely to change health care providers, and more likely to disenroll from their prepaid health plans than patients with higher satisfaction scores. Another study by Marquis, et al. (1983) also found that lower patient satisfaction led to increased rates of changing medical care providers. In addition to quality concerns, patient satisfaction can have a profound impact on the financial status of health care organizations, particularly if large numbers of patients disenroll or seek alternative providers due to dissatisfaction.

Aharony and Strasser's (1993) comprehensive review of the patient satisfaction literature indicated a lack of theoretical work in patient satisfaction. A theory that warrants initial investigation is a new two-factor theory of patient satisfaction similar to Herzberg's (1959) "motivator-

hygiene" theory of work behavior. It seems very possible that the factors which cause patients to be dissatisfied will differ from those which make patients feel satisfied. It is possible that certain aspects of care make the patients feel better than merely satisfied. These may be dimensions that patients consider as nice to have, but not essential. It is very likely that other factors which may be termed dissatisfiers will be those dimensions that relate to basic support functions such as safety, sleep, food and shelter during their hospitalization. It is possible that these dissatisfier dimensions must be present to an acceptable level in order for patients to feel adequately cared for (or "not dissatisfied"). This perspective would support the concept that disenrollment from health plans and changing of health care providers is driven by the magnitude of the "negatives" or dissatisfiers in their current arrangement.

Using a multiple regression analysis, Weiss (1988) discovered that variance in patient satisfaction was accounted for more by three predisposing factors than by the standard demographic variables of age, gender, race, education, or income. Those three influential variables were "confidence in the... medical care system, having a regular source of care, and being satisfied with life in general." Using a multiple linear regression approach, Hayes, et al. (1990) found that the factor accounting for the greatest proportion of variance in predicting patient ratings of overall quality of inpatient care was their nursing and daily care activities dimension. Hayes' study was unique in its methodological soundness and its use of a very large, 1387 subject sample. Another factor found to be an important determinant of patient satisfaction ratings is the physicians' level of training (Tucker and Tucker 1985). Patients of faculty physicians reported greater satisfaction

with their access to care than did patients of resident physicians. The residents' patients, however, rated the personal relations of their physician higher than the faculty's patients rated them.

The Joint Commission on the Accreditation of Health Care Organizations (JCAHO) has begun to emphasize the importance of looking at health care delivery organizations from a product line orientation. In order to evaluate quality of care from the patient's perspective, health care organizations should assess care as the patient encounters the system, in a cross-departmental, cross-profession, and cross-specialty orientation. Puta (1989) reported that cross-disciplinary, collaborative practice arrangements have been associated with improved patient care quality and improved patient satisfaction. It appears that a necessary step in the evolution of the study of health care quality and patient satisfaction is to develop patient satisfaction instruments and protocols that cross traditional, functional boundaries in health care organizations.

The study of inpatient satisfaction is not nearly as developed as the study of outpatient, or general health plan satisfaction. Consistently across the literature, nursing care appears to be one of the most important determinants of inpatient satisfaction (Aharony and Strasser 1993; and Ferrans, et al. 1987). Aharony and Strasser (1993) also reported that satisfaction with nursing care accounted for approximately twice the amount of variance in overall patient satisfaction as did satisfaction with physician care.

Sutherland, et al. (1989) used female cancer patients as subjects in a paired-comparison ranking of three patient satisfaction items. They found that continuity of medical supervision was the most important factor in

determining overall satisfaction. The second most important factor was staff attitude, while control over treatment decisions was the lowest ranked item.

It is important to determine what makes patients satisfied or dissatisfied with their care in order for health care providers to be cognizant of those activities that are most influential in satisfying patients. There are very few published studies describing patients' assessments of what factors are important in determining their satisfaction.

#### Administration of Patient Satisfaction Instruments

Many authors have studied the methodology of gathering patient satisfaction data. This research is useful to others conducting actual patient satisfaction research. Hopkins (1992) demonstrated the need to follow up with patients who fail to return satisfaction questionnaires, as those who do not return the questionnaires tend to be the patients who are least satisfied with their care. John (1992) discovered that scientific surveys which cite their university affiliation are more likely to be completed and returned than those citing solely a hospital affiliation. Hays, et al. (1990) found significant negative correlations between patient satisfaction ratings and the number of days the patients took to return their surveys. This indicates that patients may hesitate to provide negative evaluations of their care. It also may indicate that the patients' cognitive evaluations of their inpatient experience become more critical over time. Ware and Berwick (1990) reported that survey response or return rates improved by about ten percent when a pen was included with the questionnaires they distributed through the mail. On the basis of an extensive review of patient satisfaction measurement

literature, Bowling (1992) emphasized that questions on patient satisfaction instruments must be unambiguous.

### Importance of Various Patient Satisfaction Domains

In a study using six common dimensions of care as actual instrument items, Attkison, et al. (1984) discovered that patients are able to distinguish between "satisfaction ratings" of satisfaction instrument items and actual "importance rankings" for those same items. The statistical variance between rated items increased after subjects were forced to rank-order the relative importance of those items. This study used a card-sorting methodology. The subjects' rankings of the relative importance of the factors were as follows (from most to least important): 1) Nurses and doctors, 2) Service results, 3) Services offered, 4) Assistants and helpers, 5) Location and appointments, and 6) Building, office, & waiting time. Atkinson's results may indicate that if patients assign relative rankings to the importance of items before rating them, they will give more thought to the rating, thus reducing the problems of "acquiescence response set". This refers to the tendency of patients to agree with positively worded statements of opinion on questionnaires regardless of their content (Ware 1978). Obviously, acquiescence response set should be guarded against in questionnaire formation.

Using a modified Q-sort methodology, Allanach and Golden (1988) found that patients rated the importance of the technical quality of nursing care as the most important of the nursing care domains. The "amount of care/amount of time spent" item was, however, rated as the most important single behavior item. In another Q-sort methodology study, Larson (1987)

reported that the two items patients rated as the most important nurse caring behaviors were (in order) "listening to the patient" and the technical quality item "knows how to give shots, start IVs, manage equipment."

There are two primary methods that researchers may use to discern which factors in the health care experience are the most important determinants of patient satisfaction. One method has involved performing regression analyses to assess the amount of total variance on questions of the overall or global construct of patient satisfaction accounted for by the variance in responses on individual items or specific domains within various patient satisfaction instruments. The second primary method is to ask patients to either rank-order or to rate the importance, or relative importance, of individual items or domains in a health care experience on their satisfaction.

#### Physician versus Patient Ratings of Patient Satisfaction

There have been very few studies comparing patient and health care provider assessments of the quality of care, or patient satisfaction. These studies have been conducted with outpatients, and most have indicated that physicians and other health care providers tended to rate the quality of health care lower than patients did. Kurata, et al. (1992) found that health care providers were less satisfied with overall patient care than their outpatients, however their findings were not statistically significant. Orden, et al. (1978) stated that physicians were significantly more critical of all dimensions of care than patients from the same medical facility. In another study Rashid, et al. (1989) found that physicians and patients significantly disagreed about physicians' abilities on several communication-type items.

On several items, physicians were significantly more critical of their own communication with patients than the actual patients were. This study did not, however, report any satisfaction domains or constructs, nor were reliabilities or validities reported. Hilton, et al. (1984) also found that physicians' ratings of patient satisfaction were significantly lower than the actual ratings by their outpatients.

Piper (1989) found that physicians' estimates of the "biggest problems" in one military hospital's outpatient clinics were significantly different than the ratings of the patients. Most physicians responded that quality of care was the biggest problem, whereas, most patients stated that waiting times were the biggest problem. Piper also found that physicians rated the patients' ideal waiting time significantly longer than the patients' actual ratings.

Another related study (Merkel 1984) indicated that physicians' ratings of patient satisfaction were not significantly related to patients' actual ratings except on the dimensions of technical quality of care and humaneness of care. This study was methodologically flawed in that the physician sample included only ten physicians and the measures of internal consistency (Cronbach's Alpha) were as low as 0.43.

In general, the studies reviewed above tend to indicate that physicians are less satisfied with their care than patients' actual ratings, and they believe that patients are less satisfied with their care than patients actually are. It is not clear, however, if physicians are aware of what factors are important to the patients' actual evaluations.

Physician versus Patient Ratings of the Importance  
of Various Domains on Patient Satisfaction

In a recent study Budinger, Cook, O'Connor and Finstuen (1993) reported that physicians rated several dimensions of the health care experience as significantly less important than outpatients did. Patients and physicians significantly differed in their importance ratings of the dimensions of technical quality, outcomes of care, access to care, and communication. This study also revealed that outpatients rated the importance of technical quality of care first, while physicians rated this as the fourth most important of the six dimensions. The physicians rated interpersonal care as the most important factor in determining patient satisfaction, while the patients rated this factor fifth in importance.

The striking findings of Budinger, et al. (1993) warrant further investigation to determine if the same differences exist between physicians and inpatients. Also, the question arises as to whether other health care providers such as nurses and allied health professionals are able to accurately predict inpatients' ratings of the importance of various factors on patient satisfaction.

PURPOSE

In order to determine whether health care providers in a major teaching medical center and their inpatients differ in their ratings of the importance of various factors on patient satisfaction the following operational definitions and hypotheses were formed.

The dependent variables were the ratings of dimensions of inpatient satisfaction on the Survey of Health Care Preferences (versions 2.1 and 2.2)

and the responses to two qualitative questions about the most important satisfiers and dissatisfiers of inpatients. The independent variables included patient versus health care provider status, amount of time spent as an inpatient over the past year, age, gender, military versus civilian status, education level of patients, specific medical profession and specialty, as well as years of practice in that specialty.

### RESEARCH HYPOTHESES

The research hypotheses were as follows:

1. Health care providers and patients will differ in their ratings of the importance of various dimensions on patient satisfaction.

a. Health care providers will rate the importance of the Hospital Facility Convenience factor lower than patients.

$H_0: \bar{X}_{\text{patients}} \text{ is not } > \bar{X}_{\text{health care providers}}$

$H_a: \bar{X}_{\text{patients}} > \bar{X}_{\text{health care providers}}$

b. Health care providers will rate the importance of the State-of-the-Art Technical quality factor lower than patients.

$H_0: \bar{X}_{\text{patients}} \text{ is not } > \bar{X}_{\text{health care providers}}$

$H_a: \bar{X}_{\text{patients}} > \bar{X}_{\text{health care providers}}$

c. Health care providers will rate the importance of the Technical Communication & Support factor lower than patients.

$H_0: \bar{X}_{\text{patients}} \text{ is not } > \bar{X}_{\text{health care providers}}$

$H_a: \bar{X}_{\text{patients}} > \bar{X}_{\text{health care providers}}$

d. Health care providers will rate the importance of the Informing Communication factor lower than patients.

$H_0: \bar{X}_{\text{patients}} \text{ is not } > \bar{X}_{\text{health care providers}}$

$H_a: \bar{X}_{\text{patients}} > \bar{X}_{\text{health care providers}}$

e. Health care providers will rate the importance of the Choice and Control factor lower than patients.

$H_0: \bar{X}_{\text{patients}} \text{ is not } > \bar{X}_{\text{health care providers}}$

$H_a: \bar{X}_{\text{patients}} > \bar{X}_{\text{health care providers}}$

f. Health care providers will rate the importance of the Interpersonal Care & Service Orientation factor lower than patients.

$H_0: \bar{X}_{\text{patients}} \text{ is not } > \bar{X}_{\text{health care providers}}$

$H_a: \bar{X}_{\text{patients}} > \bar{X}_{\text{health care providers}}$

g. Health care providers will rate the importance of the Living Arrangements & Comfort factor lower than patients.

$H_0: \bar{X}_{\text{patients}} \text{ is not } > \bar{X}_{\text{health care providers}}$

$H_a: \bar{X}_{\text{patients}} > \bar{X}_{\text{health care providers}}$

2. Health care providers of various professions and specialties will differ from other professions and specialties in their ratings of the importance of various factors on patient satisfaction.

$$H_0: \bar{X} \text{ health professions} = \bar{X} \text{ other health professions}$$

$$H_a: \bar{X} \text{ health professions} \neq \bar{X} \text{ other health professions}$$

3. Health care providers with more years of practice will rate the importance of the State-of-the-Art Technical Quality factor higher than providers with fewer years of practice.

$$H_0: \bar{X} \text{ senior health care providers is not } > \bar{X} \text{ junior health care providers}$$

$$H_a: \bar{X} \text{ senior health care providers } > \bar{X} \text{ junior health care providers}$$

4. Patients' qualitative responses of what satisfies them when they seek health care will be different from their qualitative responses of what dissatisfies them when they are hospitalized.

## **CHAPTER 2**

### **METHOD**

The design for this study, using the taxonomy of Campbell and Stanley (1963), was a pre-experimental six-group static comparison design.

### **SUBJECTS**

#### **Inpatient Subjects**

Four-hundred-twenty-nine subjects participated in the study with an overall participation rate of 79 percent. One-hundred-thirty-seven inpatients receiving care at the Brooke Army Medical Center, a 450-bed tertiary care military hospital, were the inpatient subjects for this study. The experimenter administered the instrument to every inpatient over 18 years of age, who was not in a pediatric unit, critical care unit, emergency room, labor and delivery unit, or bone marrow transplant unit. The experimenter also consulted with ward nurses to exclude patients who, in their professional judgment, were either too physically, neurologically, psychologically, or chemically impaired to complete the questionnaire. Only patients fluent in English were included in the sample. The response rate for patients was 90.1 percent. Of the 152 inpatients in the medical center who were present on the date each nursing unit was surveyed, and who fit the aforementioned screening criteria, 15 elected not to participate, thus resulting in 137 complete surveys. The average daily census during the survey

administration period was 311, thus approximately 159 patients were excluded using the screening criteria.

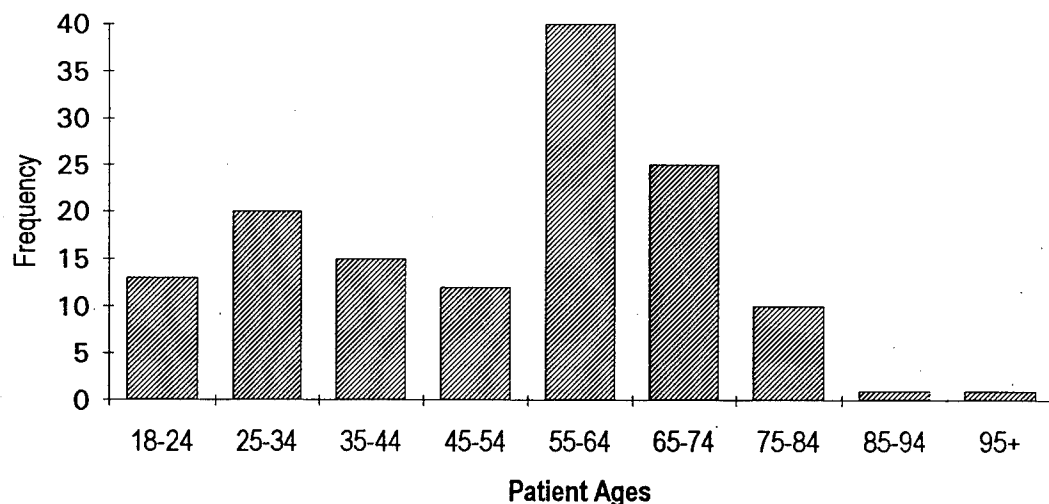
**Table 1. Patient Demographic Descriptive Statistics**

| Variable             |                  | n  | %    | Mean  | S.D.  |
|----------------------|------------------|----|------|-------|-------|
| Gender               | Male             | 81 | 59   |       |       |
|                      | Female           | 56 | 41   |       |       |
| Age                  |                  |    |      | 52.18 | 21.45 |
| Inpatient Days       | Current Stay     |    |      | 11.73 | 21.45 |
|                      | Past Year        |    |      | 21.16 | 28.91 |
| Education            | Less than HS     | 5  | 3.6  |       |       |
|                      | HS Grad.         | 34 | 24.8 |       |       |
|                      | Some College     | 60 | 43.8 |       |       |
|                      | 4 yr. College    | 21 | 15.3 |       |       |
|                      | Any Grad. School | 17 | 12.4 |       |       |
| Beneficiary Category | Active Military  | 28 | 20.5 |       |       |
|                      | Reserve          | 1  | 0.7  |       |       |
|                      | Retired Military | 65 | 47.4 |       |       |
|                      | Family Members   | 41 | 29.9 |       |       |
|                      | Others           | 2  | 1.5  |       |       |

The demographic descriptive statistics for the patient sample are displayed in Table 1. The mean age was 52.18 years, however, the

distribution was bimodal as shown in Figure 1. Fifty-nine percent of patients were males. Military retirees comprised 47 percent of the sample; 30 percent were family members of armed forces members or retirees; and 19 percent of the sample were active duty members of the armed forces. The mean number of days that the patients had been inpatients over the past twelve months was 21.16. The mean number of days the patients had been inpatients during their current stay was 11.3. The modal education level of patients was "some college" at 39 percent. Twenty-eight percent of patients were either 4-year college graduates or they had completed some graduate school. Patient education levels are displayed in Figure 2.

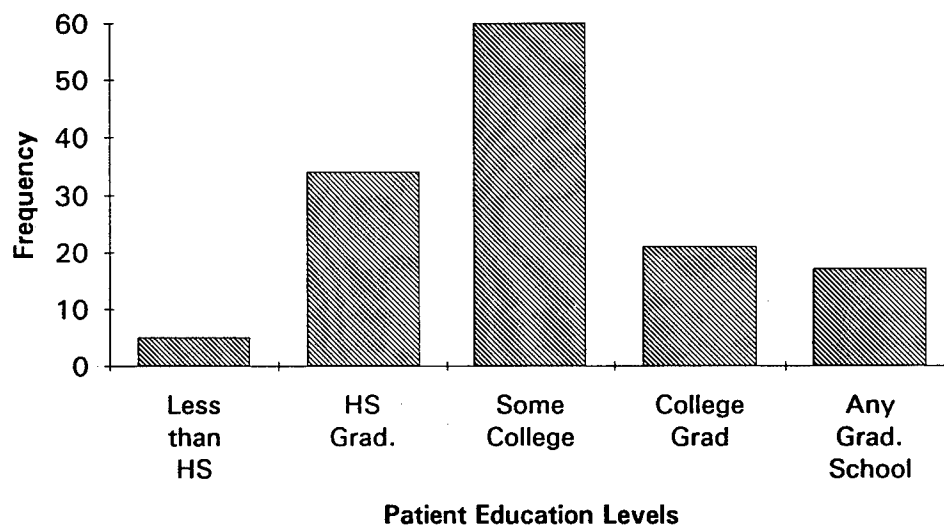
**Figure 1. Patient Age Distribution**



The patients provided informed consent prior to participating in the study. The patient data was gathered from patients who had not yet been discharged in order to ask them the research questions while their experiences as inpatients were still recent in their memory. This same recall benefit may also be seen as a detractor in that the patients may have over

rated the importance of one factor over another if that factor was noticeably dissatisfactory or pleasant during their current stay. The expected benefit of the former outweighed the disadvantage of the latter factor. In order to maximize patient participation, the experimenter made up to three attempts to visit each patient in his hospital bed during the day each nursing unit was being surveyed. The sequence for surveying the various nursing units was random.

**Figure 2. Patient Education Levels**



### **Health Care Provider Subjects**

The 292 health care provider sample consisted of seventy-eight physicians, forty allied health professionals, fifty-nine registered nurses, sixty-nine licensed vocational nurses or licensed practical nurses (LVN/LPNs), and forty-five medical assistants, or technicians. One health care provider did not indicate his specific profession. The demographic descriptive statistics for the health care providers are displayed in Table 2.

The participation rate for health care providers was 74.23 percent. Two health care providers refused to participate. One health care provider's survey was discarded because it had more than ten unanswered items. All health care provider subjects worked full-time in the Brooke Army Medical Center, located in San Antonio, Texas, the same facility in which the patients were studied. Eighty percent of the health care provider subjects were active duty military, while 20 percent were civilian employees. The health care personnel in the non-direct inpatient care positions as well as emergency department personnel were not solicited for participation as their patients were not included in the patient sample. The health care provider subjects also provided informed consent prior to participating in this study.

In order to group the health care providers for analysis, several professions were combined. In this study the group referred to as medical assistants included nursing assistants (without a nursing license), medical assistants, and technicians. The allied health care providers included physical therapists, occupational therapists, hospital social workers, physician's assistants, and nurse practitioners. A detailed review of the few (4) physician's assistants' and nurse practitioners' data indicated that their responses were more similar to the physician group than the allied health care provider group. There was, however, no significant difference between the four physician extenders and the other allied health care providers. The only other incident of profession grouping included the physicians. Physicians who had completed their residencies did not significantly differ from those who had not yet completed residencies, thus they were combined as well.

**Table 2. Health Care Provider Descriptive Statistics**

|                                        |                             | <b>n</b> | <b>%</b> | <b><math>\bar{X}</math></b> | <b>S.D.</b> |
|----------------------------------------|-----------------------------|----------|----------|-----------------------------|-------------|
| <b>Health Profession</b>               | Medical Assistants          | 45       | 15.4     |                             |             |
|                                        | Vocational Nurses           | 70       | 24.0     |                             |             |
|                                        | Registered Nurses           | 59       | 20.2     |                             |             |
|                                        | Allied Health Professionals | 40       | 13.7     |                             |             |
|                                        | Physicians                  | 78       | 26.7     |                             |             |
| <b>Age</b>                             |                             |          |          | 35.58                       | 8.75        |
| <b>Years in Profession</b>             |                             |          |          | 10.28                       | 8.75        |
| <b>Gender</b>                          | Male                        | 188      | 64.3     |                             |             |
|                                        | Female                      | 104      | 35.6     |                             |             |
| <b>Employee Status</b>                 | Military                    | 232      | 79.4     |                             |             |
|                                        | Civilian                    | 60       | 20.5     |                             |             |
| <b>Inpatient nights over past year</b> |                             |          |          | 1.90                        | 9.01        |
| <b>Physician Specialty</b>             | Surgical                    | 24       | 33.8     |                             |             |
|                                        | Medical                     | 37       | 52.1     |                             |             |
|                                        | OB/GYN                      | 6        | 8.4      |                             |             |
|                                        | Other                       | 4        | 5.6      |                             |             |

Health care provider subjects were selected using a stratified random sample by profession from the medical center's military and civilian personnel rosters. Because of the different number of health care providers in each of the professions, they were randomly sampled using different ratios. There were so few allied health professionals, that some professions

(i.e., physical therapy, social work, and occupational therapy) were included at a sampling ratio of 100 percent, whereas other professions were sampled at a much lower ratio (i.e., technicians sampled at 20 percent). The professions and their actual sampling ratios are displayed in Table 3. The experimenter administered the survey instruments at the workplaces of the health care providers and at various centralized sessions at three separate classrooms in the medical center.

**Table 3. Health Care Profession Stratified Random Sampling Rates**

| <b>Profession</b>                   | <b>Random Sampling Rate<br/>(1/X)</b> | <b>Participation Rate<br/>(n)</b> |
|-------------------------------------|---------------------------------------|-----------------------------------|
| <b>Medical Assistants</b>           | <b>5</b>                              | <b>45</b>                         |
| <b>Vocational Nurses</b>            | <b>3</b>                              | <b>70</b>                         |
| <b>Registered Nurses</b>            | <b>4</b>                              | <b>59</b>                         |
| <b>Allied Health Care Providers</b> | <b>1</b>                              | <b>40</b>                         |
| <b>Physicians</b>                   | <b>3</b>                              | <b>78</b>                         |

## INSTRUMENTS

A thorough search of the literature using the HEALTH and CINAHL databases revealed that no single patient satisfaction instrument was appropriate for use in the present study. A comprehensive review of inpatient satisfaction instruments by McDaniel and Nash (1990) was particularly helpful in identifying various questionnaires for use in developing the present instrument. Using the base format from Version 1 of the Survey of Health Care Preferences (Budinger, et al. 1993), several relevant items from sixteen in- and outpatient patient satisfaction instruments were adapted to accommodate the importance rating scale (Davies and Ware 1988; Meterko and Rubin 1990; Rubin, et al. 1990; Hays,

et al. 1990; Abramowitz, et al. 1987; Doering 1983; Press, Ganey 1992; Ware and Snyder 1975; Speedling, et al. 1983; Ferrans, et al. 1987; Sutherland, et al. 1989; Ervin, et al. 1992; Hopkins 1992; Ware, et al. 1975; La Monica, et al. 1986; and Hospital Corporation of America 1992). The importance rating scale is a five-point bipolar adjective scale, anchored at both ends (from "not important" to "extremely important").

Two forms of the instrument were created with slight wording differences for patients and health care providers. The instructions and the forty-four primary questions of the instruments were altered on the two forms in order to address the patients in the second person (referring to "you" and "your") and the health care providers in the third person (referring to "your patients" and "your patients'" and "they" and "their"). Additionally, the instrument included two separate open ended questions about what factors are the most important in determining the patients' satisfaction and dissatisfaction when hospitalized. The instrument has a title sheet citing the Baylor University affiliation since John (1992) found increased patient response rates to surveys that listed the university affiliation compared to surveys listing only the hospital affiliation.

The measurement instruments (Appendices 1 and 2) are entitled the Survey of Health Care Preferences Versions 2.1 (inpatient) and 2.2 (health care provider). The patient version of the instrument has been factor analyzed using the varimax method of orthogonal rotation. The item loadings ranged from .45 to .78. The researcher established a minimum Eigenvalue criterion of 1.0. The actual Eigenvalues for all seven factors ranged between 13.50 and 1.43. The dimensions and the item factor loadings are displayed in Table 4. Four questionnaire items were discarded because

they did not achieve the loading criterion of greater than .45. The health care providers' responses were grouped into the factors identified in the analysis of version 2.1 (inpatient) since the patients are the comparison standard of this study.

In order to accommodate patients with visual impairments, the experimenter orally administered the questionnaire to thirty-nine inpatients who communicated that they desired to participate, but were unable to read the instrument. Analysis of the responses to the oral form of the questionnaire indicated that these patients rated the importance of the Technical Communication & Support, Interpersonal Care & Service Orientation, and Living Arrangements & Comfort dimensions significantly higher than patients who used the written form of the instrument. It is unclear whether this observed difference is attributable to the oral administration of the questionnaire, or if patients with visual impairments rate the importance of those three factors higher than patients without visual impairments.

Table 4. INPATIENT SATISFACTION DIMENSION FACTOR LOADINGS

| PRIMARY INPATIENT SATISFACTION DIMENSIONS                                                              | Factor Loading |
|--------------------------------------------------------------------------------------------------------|----------------|
| <b>HOSPITAL FACILITY CONVENIENCE</b>                                                                   |                |
| Convenience of the location of the health care facility.                                               | .692           |
| The parking arrangements (convenience and numbers of available spaces).                                | .661           |
| The layout and condition of the actual hospital facility.                                              | .560           |
| <b>STATE-OF-THE-ART TECHNICAL QUALITY</b>                                                              |                |
| Completeness and quality of medical equipment and facilities.                                          | .592           |
| The doctors keeping up with the most current information about new medical discoveries and inventions. | .570           |
| The health care provider checking with others when in doubt.                                           | .563           |
| The variety of medical specialists, treatments, tests, or medicines offered for your care.             | .547           |
| The success and speed of the results.                                                                  | .537           |
| Doctors thoroughly examining and questioning you before they decide what, if anything, is wrong.       | .490           |

Table 4--Continued.

| PRIMARY INPATIENT SATISFACTION DIMENSIONS                                                                                                 |  | Factor Loading |
|-------------------------------------------------------------------------------------------------------------------------------------------|--|----------------|
| <b>TECHNICAL COMMUNICATION &amp; SUPPORT</b>                                                                                              |  |                |
| Explanations of medical procedures and tests and what to expect.                                                                          |  | .775           |
| Attention to what you have to say.                                                                                                        |  | .684           |
| Attention of the staff to your condition (how they check and keep track of how you are doing) and responsiveness in answering your calls. |  | .573           |
| The positive attitude, or mood of the staff towards you.                                                                                  |  | .537           |
| Advice you get about ways to avoid illness and stay healthy.                                                                              |  | .516           |
| The technical quality of the care.                                                                                                        |  | .506           |
| Assisting you with everyday activities (eating, bathing, dressing, using the bathroom, getting out of bed) if you need it.                |  | .501           |
| Personal interest in you and your medical problems.                                                                                       |  | .496           |
| <b>INFORMING COMMUNICATION</b>                                                                                                            |  |                |
| Willingness of the hospital staff to give you information in response to your questions.                                                  |  | .668           |
| The amount of information you are given about your illness and treatment.                                                                 |  | .665           |
| The positive attitude or mood of the staff towards their hospital, unit, or job.                                                          |  | .544           |
| The skill, experience and competence of the nurses (giving medicine and handling IVs).                                                    |  | .542           |
| <b>CHOICE AND CONTROL</b>                                                                                                                 |  |                |
| The staff's respect for your regular sleep schedule.                                                                                      |  | .736           |
| Ease of seeing the doctor of your choice.                                                                                                 |  | .641           |
| Respect shown to you, attention to your privacy.                                                                                          |  | .587           |
| Continuity of the staff: seeing the same doctors, nurses and others during your stay.                                                     |  | .475           |
| <b>INTERPERSONAL CARE &amp; SERVICE ORIENTATION</b>                                                                                       |  |                |
| Friendliness and courtesy shown to you by staff.                                                                                          |  | .694           |
| Knowing what your schedule will be for the present day and the next day.                                                                  |  | .658           |
| Reassurance and support offered to you by the staff.                                                                                      |  | .634           |
| The staff taking time to stop and chat with you occasionally.                                                                             |  | .612           |
| The outcomes of your medical care, how much you are helped.                                                                               |  | .588           |
| The overall sense of organization and continuity across the whole hospital.                                                               |  | .487           |
| Overall quality of care and services.                                                                                                     |  | .455           |
| Amount of time you have with doctors and staff during your stay.                                                                          |  | .451           |
| <b>LIVING ARRANGEMENTS AND COMFORT</b>                                                                                                    |  |                |
| Visitation arrangements: hours and facilities and hospital treatment of visitors.                                                         |  | .672           |
| The taste, temperature and quality of your meals.                                                                                         |  | .631           |
| The condition (cleanliness, comfort, lighting, noise level, and temperature) of your room.                                                |  | .619           |
| The cleanliness of the bathroom facilities.                                                                                               |  | .593           |
| The provisions for the safety and security of you and your personal belongings.                                                           |  | .547           |
| The appearance of the hospital.                                                                                                           |  | .526           |
| The variety of services and amenities, and furnishings (television, magazines, etc.) offered for your personal comfort.                   |  | .520           |

## PROCEDURES

### Pilot Study

The researcher conducted a pilot test of versions 2.1 and 2.2 of the Survey of Health Care Preferences using eight subjects. The instructions took approximately one minute to read and the instrument took approximately thirteen minutes to complete. Although no major modifications were required, the researcher became aware of the difficulties in administering the inpatient questionnaires. Questioning at the end of the pilot study revealed that neither patients nor providers had difficulty with the wording. The researcher also discovered that it is important to keep patient and provider questionnaires separated, as they may be mistakenly administered to the wrong subjects.

### Data Gathering Procedure

As an experimental control procedure, both subject groups were blinded from the actual purpose of the study. Subjects were told that the experimenter was conducting the study to determine what factors were most important in determining the patient's satisfaction when they are spending one or more nights as an inpatient. They were also informed that their responses would be treated as confidential and anonymous, and that they had the right not to participate.

### **Patient Subjects**

The experimenter personally approached the patients who met the aforementioned screening criteria in their hospital beds. The nursing units

of the medical center were randomly ordered to control for the impact of time on the subjects. The patient data were collected over an eleven-day period. After obtaining informed consent, the experimenter read the instructions to the patients, pointing out the Likert scale and the two qualitative questions. He asked the patients to complete the questionnaires, and then returned after approximately 15 minutes. In order to accommodate some patients with visual problems, the experimenter verbally administered the instrument to patients needing assistance.

### **Health Care Provider Subjects**

The health care provider subjects were randomly selected from all health care providers who spend at least one-quarter of their work hours providing direct inpatient care. The staff in a few specialties and work sections were not included because they had a primarily outpatient focus, they had a mental health focus, or their patients were pediatrics. Social workers were included in the study because of their significant discharge planning role in the medical center. The experimenter administered the health care provider instrument (version 2.2) at fifty-six centralized sessions over a ten-week period. These sessions were distributed across several hours in all work shifts, on several different days of the week. Several smaller sessions were conducted in individual clinics in conjunction with regularly scheduled staff meetings in order to make it easier for the health care providers to participate.

## **Methodological Controls**

This study included several measures to control against extraneous variance. The subjects were blinded from the actual purpose of the study. They were told that the study was being conducted to determine what factors they think are most important to their own (or patients') satisfaction when they are inpatients in a hospital. The experimenter did not make any statements about comparisons with the other groups. The instructions for both groups of subjects were read from a standardized protocol by the experimenter.

In order to prevent the confounding influence of military rank and authority, the experimenter wore a conservative civilian sport coat or suit and tie. In order to protect against reactive effects to the experimental situation and to safeguard the rights of the participants, no names or rosters of participants were kept after the study. This helped ensure the anonymity of the subjects and the confidentiality of their responses.

## **CHAPTER 3**

### **RESULTS**

#### **RELIABILITY**

The dimensions for each of the subject groups were analyzed separately for reliability using Cronbach's Alpha. The acceptance criterion for the Cronbach's Alpha was 0.6. All reliability coefficients were acceptable, ranging from .59 to .85. The Hospital Facility Convenience dimension, however, only marginally achieved the acceptance value. The actual coefficient values are displayed in Table 5.

**Table 5. Dimension Reliability**

| Dimension                          | Items<br>(n) | Reliability Coefficients<br>(Cronbach's Alpha) |                          |
|------------------------------------|--------------|------------------------------------------------|--------------------------|
|                                    |              | Patients                                       | Health Care<br>Providers |
| Hospital Facility Convenience      | 3            | .59                                            | .67                      |
| State-of-the-Art Technical Quality | 6            | .70                                            | .75                      |
| Technical Communication & Support  | 8            | .85                                            | .70                      |
| Informing Communication            | 4            | .70                                            | .64                      |
| Choice & Control                   | 4            | .75                                            | .63                      |
| Interpersonal Care & Service       | 8            | .84                                            | .77                      |
| Orientation                        |              |                                                |                          |
| Living Arrangements & Comfort      | 7            | .84                                            | .86                      |

#### **VALIDITY**

Construct validity was assessed using two methods. A factor analysis using the orthogonal (VARIMAX) rotation supported the validity of all seven

dimensions as evidenced by the factor loadings (displayed in Table 4). The construct validities for each of the seven dimensions using whole-part correlations ranged from .55 to .81 for patients and from .44 to .83 for health care providers. All of these correlations achieved statistical significance. The whole-part correlation values are displayed in Table 6.

**Table 6. Dimension Validities**

| Dimension                          | Items<br>(n) | Construct (Whole-Part) Validities <sup>a</sup> |                                        |
|------------------------------------|--------------|------------------------------------------------|----------------------------------------|
|                                    |              | Patients<br>(low-high)                         | Health Care<br>Providers<br>(low-high) |
| Hospital Facility Convenience      | 3            | .71-.79                                        | .72-.84                                |
| State-of-the-Art Technical Quality | 6            | .55-.72                                        | .59-.72                                |
| Technical Communication & Support  | 8            | .60-.79                                        | .44-.63                                |
| Informing Communication            | 4            | .65-.81                                        | .61-.76                                |
| Choice & Control                   | 4            | .67-.81                                        | .57-.76                                |
| Interpersonal Care & Service       | 8            | .58-.79                                        | .47-.75                                |
| Orientation                        |              |                                                |                                        |
| Living Arrangements & Comfort      | 7            | .64-.76                                        | .66-.79                                |

<sup>a</sup> All probabilities <.000

## DIMENSIONS OF PATIENT SATISFACTION

The primary analytical focus of this study was the comparison of the patients' and health care providers' responses to the seven quantitative dimensions and the two qualitative questions. In order to test the hypotheses of differences between patients and health care providers on the quantitative dimensions, analyses were conducted at two levels. First, using one-tail t-tests for each scale, the patients' importance ratings for the seven dimensions were compared to all health care providers in the aggregate (as a single group). In order to control for the possibility of unequal population variances, Levene's Test for Equality of Variances (Norusis 1993) was

performed. When the Levene test indicated that the variances were significantly different, the separate-variance t-test was used. If the variances were not significantly different, the pooled-variance t-test was used. The degrees of freedom used for the pooled variance t-test were the sum of both subject groups minus two. For the separate-variance t-test the degrees of freedom were computed by the SPSS program as a function of the sample size of the two groups. Notation in Table 7 indicates which t-test was used for each comparison.

**Table 7. Descriptive Statistics and Group Comparisons for Dimension Ratings<sup>a</sup>**

| Dimension                                | Patients  |      | Health Care Providers |      | $t^b$ (d.f.)                        |
|------------------------------------------|-----------|------|-----------------------|------|-------------------------------------|
|                                          | $\bar{X}$ | S.D. | $\bar{X}$             | S.D. |                                     |
| Hospital Facility Convenience            | 3.725     | 0.81 | 3.743                 | 0.60 | 0.24 <sup>1</sup> (427), n.s.       |
| State-of-the-Art Technical Quality       | 4.650     | 0.36 | 4.356                 | 0.47 | 7.13 <sup>2</sup> (344), $p < .000$ |
| Technical Communication & Support        | 4.360     | 0.51 | 4.286                 | 0.39 | 1.05 <sup>2</sup> (214), n.s.       |
| Informing Communication                  | 4.464     | 0.45 | 4.343                 | 0.45 | 2.64 <sup>1</sup> (427), $p = .005$ |
| Choice & Control                         | 4.047     | 0.66 | 3.930                 | 0.55 | 1.81 <sup>1</sup> (228), $p = .033$ |
| Interpersonal Care & Service Orientation | 4.130     | 0.54 | 4.085                 | 0.46 | 0.84 <sup>2</sup> (231), n.s.       |
| Living Arrangements & Comfort            | 3.984     | 0.61 | 3.740                 | 0.60 | 3.93 <sup>1</sup> (427), $p < .000$ |

<sup>a</sup> Five point scale ratings ranged from 1 = not important to 5 = extremely important.

<sup>b</sup> One-tail t-tests for equal variances are coded as <sup>1</sup>; t-tests for unequal variances are coded as <sup>2</sup>.

Next the responses of each of the five health profession groups were compared to those of patients, and to each other using a one-way analysis of variance (ANOVA). When significant F-test values were found, a-posteriori tests of mean differences were performed using the Tukey's honestly significant difference (HSD) test. Because all groups did not have equal

sample sizes, harmonic means were used to compare each pair in the Tukey's HSD tests. Additional analyses were conducted to assess the impact of the various background variables on each of the subject groups' responses.

Patients' importance ratings were significantly higher than the combined health care providers group's on four of the seven dimensions. Table 7 displays the results of the main comparisons between patients' and health care providers' importance ratings. The relative rankings of all dimensions by patients and by each of the five health care professions are displayed in Table 8.

**Table 8. Relative Rankings of Dimensions<sup>a</sup> by Profession**

| Rank | Patient | Med. Asst. | LVN/LPN | RN/BSN/<br>MSN | Allied<br>HP | Physician |
|------|---------|------------|---------|----------------|--------------|-----------|
| 1    | STA*    | STA        | INF     | INF            | STA          | TCS*      |
| 2    | INF*    | INF        | STA*    | TCS            | INF          | INF*      |
| 3    | TCS*    | TCS        | TCS     | STA*           | TCS          | STA*      |
| 4    | INT*    | HFC        | INT     | INT            | INT          | INT*      |
| 5    | CHO*    | INT        | CHO     | CHO            | CHO          | CHO*      |
| 6    | LIV*    | LIV        | LIV     | LIV            | LIV          | HFC       |
| 7    | HFC     | CHO        | HFC     | HFC            | HFC          | LIV*      |

\* Statistically significant differences between profession mean and patient mean on the indicated dimension with a one-way ANOVA using Tukey's HSD test at  $p \leq .05$ .

<sup>a</sup> Dimension codes: STA=State-of-the-Art Technical Quality, INF=Informing Communication, TCS=Technical Communication & Support, INT=Interpersonal Care & Service Orientation, CHO=Choice & Control, LIV=Living Arrangements & Comfort, HFC=Hospital Facility Convenience.

### **Hospital Facility Convenience**

Health care providers in the aggregate ( $\bar{X} = 3.74$ ) and patients ( $\bar{X} = 3.72$ ) did not differ significantly in their importance ratings of the Hospital Facility Convenience dimension, with  $t(427)=0.24$ . Patients rated this factor

as the least important of the seven dimensions, while health care providers rated it as the sixth most important dimension.

A one-way analysis of variance (ANOVA) indicated that physicians rated the importance of the Hospital Facility Convenience dimension ( $\bar{X} = 3.49$ ) significantly lower than vocational nurses ( $\bar{X} = 3.93$ ) and medical assistants ( $\bar{X} = 4.01$ ), with  $F(5,423)=4.12, p=.001$ . There were no other significant differences among the health care providers on this dimension.

An unexpected finding was that patients with more nights in the hospital on their current stay rated the importance of Hospital Facility Convenience significantly lower than patients with fewer nights in the hospital on their current stay, with  $r=-.19, p=.03$ . Additionally, older patients were significantly more likely to rate the importance of Hospital Facility Convenience higher than younger patients, with  $r=.24, p=.004$ . A one-way ANOVA demonstrated that patients who are military retirees rated the importance of Hospital Facility Convenience ( $\bar{X} = 3.89$ ) significantly higher than the active duty patients ( $\bar{X} = 3.31$ ), with  $F(4,132)=3.34, p=.012$ .

### **State-of-the-Art Technical Quality**

Patients rated the importance of the State-of-the-Art Technical Quality dimension ( $\bar{X} = 4.65$ ) significantly higher than health care providers in the aggregate ( $\bar{X} = 4.36$ ), with  $t(344)=7.13, p<.000$ . Of all seven dimensions, patients rated State-of-the-Art Technical Quality as the most important factor in determining their satisfaction when they stay one or more nights as an inpatient in a hospital. The health care providers in the aggregate also ranked this as their most important dimension, however, the actual rankings by the different specialties varied greatly. Physicians and registered nurses

ranked State-of-the-Art Technical Quality as the third most important factor, while vocational nurses ranked this factor second in importance. Medical assistants and allied health care providers, like patients, rated this factor as most important.

There were no significant findings when analyzing demographic or background variables with patient ratings of the State-of-the-Art Technical Quality dimension. Using a one-way ANOVA and Tukey's HSD Test, patients rated the importance of the State-of-the-Art Technical Quality dimension ( $\bar{X} = 4.65$ ) significantly higher than physicians ( $\bar{X} = 4.08$ ), registered nurses ( $\bar{X} = 4.37$ ) and vocational nurses ( $\bar{X} = 4.47$ ). Additionally, physicians ( $\bar{X} = 4.08$ ) rated the importance of this factor in satisfying patients significantly lower than health care providers of all other professions, with  $F(5,423)=19.57, p<.000$ . There were no significant differences noted between physician specialties, however, this is likely due to the small number of physicians within each specialty. Among the aggregate health care providers, females rated the importance of State-of-the-Art Technical Quality ( $\bar{X} = 4.45$ ) significantly higher than males ( $\bar{X} = 4.31$ ), with  $t(282)=2.30, p=.022$ . Another finding was that military health care providers rated the importance of State-of-the-Art Technical Quality ( $\bar{X} = 4.32$ ) significantly lower than civilian health care providers ( $\bar{X} = 4.49$ ), with  $t(107)=2.73, p=.008$ .

### **Technical Communication & Support**

Health care providers in the aggregate and patients did not significantly differ in their importance ratings of the Technical Communication & Support dimension, with  $t(214)=1.5$ . When examining

specific health care professions, a one-way ANOVA indicated that patients rated the importance of the Technical Communication & Support dimension ( $\bar{X} = 4.36$ ) significantly higher than did physicians ( $\bar{X} = 4.12$ ). Physicians rated this factor's importance significantly lower than did registered nurses ( $\bar{X} = 4.39$ ) and vocational nurses ( $\bar{X} = 4.37$ ), with  $F(5,423)=4.42, p=.001$ .

Patients, medical assistants, vocational nurses, and allied health care providers ranked the dimension of Technical Communication & Support as the third most important in determining patient satisfaction. Physicians ranked this dimension as the most important of the seven factors. Registered nurses ranked Technical Communication & Support as the second most important factor.

Patient ratings of the Technical Communication & Support dimension varied by gender with female patients rating the importance of this factor ( $\bar{X} = 4.48$ ) significantly higher than male patients ( $\bar{X} = 4.26$ ), with  $t(133)=2.59, p=.011$ . The degrees of freedom for the gender variable are based on 135 subjects because two patients did not report their gender. Beneficiary status also influenced patient ratings of the importance of the Technical Communication & Support dimension. A one-way ANOVA with Tukey's HSD test indicated that active duty military patients rated the importance of this dimension ( $\bar{X} = 4.04$ ) significantly lower than military retiree ( $\bar{X} = 4.39$ ) and family member beneficiaries ( $\bar{X} = 4.51$ ), with  $F(4,132)=4.15, p=.003$ .

Older health care providers' ratings of the importance of Technical Communication & Support were significantly higher than younger health care providers', with  $r=.17, p=.004$ . The health care providers with more years of practice in their profession also rated the importance of this factor

significantly higher than the less experienced health care providers, with  $r=.14$ ,  $p=.014$ . Female health care providers rated the importance of the Technical Communication & Support dimension ( $\bar{X} = 4.37$ ) significantly higher than their male colleagues ( $\bar{X} = 4.25$ ), with  $t(282)=2.49$ ,  $p=.013$ . Civilian health care providers rated the importance of Technical Communication & Support ( $\bar{X} = 4.40$ ) significantly higher than their military counterparts ( $\bar{X} = 4.26$ ), with  $t(278)=2.5$ ,  $p=.013$ .

Patients who, because of their visual impairment, completed the oral form of the survey rated the importance of the Technical Communication & Support dimension ( $\bar{X} = 4.54$ ) significantly higher than patients who participated using the written form of the questionnaire ( $\bar{X} = 2.29$ ), with  $t(135)=2.68$ ,  $p=.008$ . This was one of three dimensions on which there was a significant difference between the responses to the oral and written forms of the instrument.

### **Informing Communication**

Patients rated the importance of the Informing Communication dimension ( $\bar{X} = 4.46$ ) significantly higher than health care providers in the aggregate ( $\bar{X} = 4.34$ ), with  $t(427)=2.64$ ,  $p=.005$ . When looking at the separate health care professions using a one-way ANOVA with the Tukey's HSD tests, patients rated the importance of this dimension significantly higher than physicians ( $\bar{X} = 4.08$ ). Additionally, medical assistants rated the importance of Informing Communication ( $\bar{X} = 4.29$ ) significantly lower than vocational nurses ( $\bar{X} = 4.52$ ). Physicians also rated the importance of this dimension significantly lower than registered nurses ( $\bar{X} = 4.48$ ),

vocational nurses, and allied health care providers ( $\bar{X} = 4.38$ ), with  $F(5,423)=4.12, p=.001$ .

Patients ranked the Informing Communication dimension as the second most important factor in determining their satisfaction. Allied health care providers, medical assistants, and physicians also ranked this dimension as the second most important factor in satisfying their inpatients. Vocational nurses and registered nurses, however, ranked the Informing Communication dimension as the most important determinant of patient satisfaction.

Among patients, females rated the importance of Informing Communication ( $\bar{X} = 4.59$ ) significantly higher than males ( $\bar{X} = 4.38$ ), with  $t(133)=2.87, p=.005$ . This same effect also was found between genders of health care providers, with females rating the importance of this dimension ( $\bar{X} = 4.50$ ) significantly higher than their male colleagues ( $\bar{X} = 4.26$ ), with  $t(282)=4.47, p<.000$ . Civilian health care providers rated the importance of Informing Communication ( $\bar{X} = 4.49$ ) significantly higher than their military counterparts ( $\bar{X} = 4.30$ ), with  $t(278)=2.93, p=.004$ . Another covariant with this dimension was that the more experienced health care providers rated the importance of Informing Communication significantly higher than less experienced health care providers, with  $r=.14, p=.015$ .

### Choice & Control

Patients' ratings of the importance of the Choice & Control dimension ( $\bar{X} = 4.05$ ) were significantly higher than the ratings of the combined profession health care provider group ( $\bar{X} = 3.93$ ), with  $t(228)=1.81, p=.033$ . A one-way ANOVA with Tukey's HSD tests indicated that patients rated the

importance of the Choice & Control scale significantly higher than physicians ( $\bar{X} = 3.80$ ). Physicians also rated the importance of this factor significantly lower than registered nurses ( $\bar{X} = 4.12$ ), with  $F(5,423)=3.19, p=.007$ .

The rank ordering comparison displayed in Table 8 reveals that patients and all health profession groups except medical assistants ranked the Choice & Control dimension as fifth in importance. Medical assistants ranked it as the seventh, or least important, factor in satisfying inpatients.

The importance of the Choice & Control dimension was rated significantly higher by patients with more nights in the hospital over the past twelve months, with  $r=.17, p=.053$ . This was one of two dimensions in which there was a significant correlation with the number of nights the patients had spent in the hospital over the past year.

Among health care providers, older providers rated the importance of Choice & Control significantly higher than younger providers, with  $r=.24, p<.000$ . Health care providers with more years in their profession also rated the importance of this factor significantly higher than their junior colleagues, with  $r=.17, p=.004$ . Military health care providers rated the importance of the Choice & Control dimension ( $\bar{X} = 3.88$ ) significantly lower than their civilian counterparts ( $\bar{X} = 4.13$ ), with  $t(112)=3.64, p<.000$ .

There were no significant differences between patients who took the oral form of the instruments and patients who took the written form on the Choice & Control dimension. Although the difference between these patients was not of a great enough magnitude to show a significant difference, it was strong enough that when the subjects who took the oral form were removed, the difference between patients and the aggregate health care provider group was reduced below the level required for statistical significance.

### **Interpersonal Care & Service Orientation**

Health care providers and patients did not significantly differ in their ratings of the importance of the Interpersonal Care & Service Orientation dimension, with  $t(231)=.84$ , n.s. Differences between the specific health professions were investigated using a one-way ANOVA with Tukey's HSD test. Patients rated the importance of the Interpersonal Care & Service Orientation dimension ( $\bar{X} = 4.13$ ) significantly higher than physicians ( $\bar{X} = 3.94$ ). Both registered nurses ( $\bar{X} = 4.23$ ) and vocational nurses ( $\bar{X} = 4.21$ ) rated the importance of the Interpersonal Care & Service Orientation dimension significantly higher than physicians and medical assistants ( $\bar{X} = 3.91$ ), with  $F(5,423)=5.16$ ,  $p<.000$ .

The Interpersonal Care & Service Orientation dimension was ranked fourth in importance by the patients and all health care provider groups except the medical assistants who ranked it fifth. Among patients, there was a significant positive correlation between age and importance ratings for the Interpersonal Care & Service Orientation dimension ( $r=.29$ ,  $p=.001$ ). Additionally, a one-way ANOVA revealed that patients who were military retirees ( $\bar{X} = 4.21$ ) and family members ( $\bar{X} = 4.28$ ) rated the importance of this dimension significantly higher than patients who were active duty service members ( $\bar{X} = 3.78$ ), with  $F(4,132)=.685$ ,  $p<.000$ .

Civilian health care providers rated the importance of Interpersonal Care & Service Orientation ( $\bar{X} = 4.25$ ) significantly higher than military health care providers ( $\bar{X} = 4.04$ ), with  $t(278)=3.14$ ,  $p=.002$ . As was the case with patients, older health care providers rated the importance of this dimension significantly higher than their younger colleagues, with  $r=.18$ ,  $p=.002$ . The same trend was observed regarding number of years of practice

in their health profession, with the more senior providers rating the importance of the Interpersonal Care & Service Orientation factor significantly higher than their less experienced colleagues, with  $r=.18$ ,  $p=.002$ . Female health care providers rated the importance of the Interpersonal Care & Service Orientation dimension ( $\bar{X} = 4.22$ ) significantly higher than male providers ( $\bar{X} = 4.01$ ), with  $t(282)=3.77$ ,  $p<.000$ .

This dimension was one of the three in which responses to the oral and written forms differed. Patients who took the oral form of the questionnaire rated the importance of the Interpersonal Care & Service Orientation dimension ( $\bar{X} = 4.33$ ) significantly higher than patients who completed the written form of the instrument ( $\bar{X} = 4.05$ ), with  $t(135)=2.83$ ,  $p=.005$ .

### **Living Arrangements & Comfort**

Patients rated the importance of the Living Arrangements & Comfort Scale ( $\bar{X} = 3.98$ ) significantly higher than the aggregate health care provider group did ( $\bar{X} = 3.74$ ), with  $t(427)=3.93$ ,  $p<.000$ . A one-way ANOVA was performed to assess differences between the health professions. Patients rated the importance of this factor significantly higher than physicians ( $\bar{X} = 3.39$ ). Physicians also rated this factor significantly lower than all other health care profession groups, with  $F(5,423)=11.87$ ,  $p<.000$ . The Living Arrangements & Comfort scale was ranked sixth in importance by patients and by all health care providers except physicians who rated it as the seventh, or least important factor.

Patients with more nights in the hospital over the past year rated the importance of the Living Arrangements & Comfort factor significantly higher than patients with fewer inpatient nights, with  $r=.29$ ,  $p<.000$ . A similar

relationship was identified in that patients with more nights in the hospital on their current stay rated the importance of this factor higher than the patients with shorter current stays, with  $r=.17$ ,  $p=.054$ . There was also a significant positive correlation between patient age and importance ratings of Living Arrangements & Comfort scale, with  $r=.17$ ,  $p=.051$ .

Among health care providers, older providers rated the importance of Living Arrangements & Comfort significantly higher than their younger colleagues, with  $r=.19$ ,  $p=.001$ . A similar relationship was observed with seniority in their current professions. More experienced health care providers rated the importance of this factor significantly higher than less experienced providers, with  $r=.20$ ,  $p=.001$ . Active military health care providers rated the importance of the Living Arrangements & Comfort dimension ( $\bar{X} = 3.68$ ) significantly lower than their civilian co-workers ( $\bar{X} = 3.96$ ), with  $t(278)=3.27$ ,  $p=.001$ .

The Living Arrangements & Comfort scale was rated differently by patients using different forms of the survey instrument. Patients who responded to the oral form of the questionnaire rated the importance of the Living Arrangements & Comfort dimension ( $\bar{X} = 4.28$ ) significantly higher than the patients responding to the written form ( $\bar{X} = 3.86$ ), with  $t(101)=4.44$ ,  $p<.000$ .

#### QUALITATIVELY MOST IMPORTANT SATISFIERS AND DISSATISFIERS

Patients and health care providers were asked to write responses to open ended questions about the most important satisfiers and dissatisfiers of inpatients. The wording of the satisfier question for patients was "What is

the most important factor in determining your satisfaction with health services when you are hospitalized?" Health care providers were asked "What is the most important factor in determining your patients' satisfaction with your health services when they are hospitalized?" The dissatisfier question for patients was "What annoys you the most, or makes you dissatisfied with the health services when you are hospitalized?" Health care providers were asked "What annoys patients the most, or makes them least satisfied with the health services when they are hospitalized?"

The analysis of the qualitative responses was performed in three ways. After the answers were coded into the nine most prevalent themes, the patients' and health care providers' responses were compared. Next the qualitative satisfiers were compared to the qualitative dissatisfiers. Finally, the qualitative responses were compared to the seven quantitative dimensions of inpatient satisfaction.

The qualitative data were initially read in order to develop the nine primary themes or categories for coding. Next the data were grouped into their appropriate categories, or themes. In order to minimize subjectivity and systematically treat all responses the same, the researcher developed a three-tier categorization decision rule. First, responses were coded into a category if there was a single clear theme. Second, if there were multiple statements, the first theme or category listed was used. Finally, if there was no clear theme, or if the response could clearly be split between two or more categories, the response was discarded into the tenth group, the "other" category.

The qualitative question designed to discover what factor is the most important satisfier of patients asked the subjects "What is the most

important factor in determining your (patients') satisfaction with health services when you (they) are hospitalized?" The wording of this question was apparently confusing to 32 (11 percent) of the 292 health care providers who responded to the question as if they were being asked "How do you determine if your patients are satisfied...when they are hospitalized?" The question would have been better phrased "What is the most important factor in satisfying you (your patients) when you (they) are hospitalized?" Even with the confusing wording, the question yielded 241 usable responses from the health care providers. Nineteen health care providers did not respond to this question. On the dissatisfier question, there was apparently no confusion as to what the subjects were asked. The question was "What annoys you (your patients) the most, or makes you (them) least satisfied with health services when you (they) are hospitalized?" Of the 137 patients, 134 gave qualitative satisfier responses and 126 gave qualitative dissatisfier responses.

The nine primary themes of most important satisfier and dissatisfiers and the percentage of patients and health care providers whose responses were categorized into that theme are listed in Table 9. The items that were not readily classifiable into the top nine primary themes were categorized as "other."

The first theme, Technical Quality of Care included responses such as "proper treatment or patient care," "confidence in the treatment," and "competence." Statements including the words "care provided" were categorized in this theme, whereas responses using the word "caring" were interpreted to fall into the Interpersonal Treatment category.

The statements categorized as Communication by the Staff dealt with keeping the patient informed. They included themes such as clear, honest

frequent communication of the diagnosis and the treatment plan, including what to expect.

The Interpersonal Treatment theme included comments about caring, courtesy, compassion, staff attitudes, treating patients as individuals, respect, and bedside manner (a term used only by the health care providers). This category also included comments about the staff talking about (or physically over) the patients as if the patient was not there, and the providers "acting like they are doing you a favor by treating you."

The themes categorized as Service Orientation & Responsiveness included statements about responsiveness, waiting times, choices, surprise tests, and staff shortages. This theme included the responses that referred to waiting too long for referrals, even though they arguably also could fit into the Organization & Continuity category.

Responses that were categorized into the theme of Outcomes included statements about the quick and effective resolution of the health problem. The words "cure" and "curing" were common in these responses.

The theme of Listening to the Patient included discussion between the patient and the provider, being ignored, and getting questions answered. All responses of communication that included the concept of the health care provider listening were categorized in this theme.

The theme of Environment & Physical Comfort included the responses related to environmental noise, temperature, lights, privacy, food, and being awakened for vital signs or medicines. One patient laughingly stated that being awoken for his sleeping pill dissatisfied him the most. Contrary to popular belief, only two patients indicated that the hospital food was either their greatest satisfier or dissatisfier.

Responses coded under the theme of Appearance & Cleanliness referred to the visible cleanliness and appearance of the hospital. Comments about the physical plant were generally categorized into this theme, too.

The Organization & Continuity category included such topics as efficiency. Also included was the concept of the patient having to repeat the same information to different health care providers several times, rather than the health care providers talking to each other or reading the medical record or chart.

Responses categorized as "Other" were those themes that did not clearly fit into the nine primary categories, or they were too ambiguous. None of the themes categorized into in the "Other" category were listed by more than four subjects. Some of them could easily have been shared by two or more of the primary categories. These responses included themes of patient participation, lack of control, too many tests, price, time with the doctor, long stays, unsafe environment, television and telephone service, patient needs, and grand rounds.

The first analysis was to determine if the factor that patients stated was most important in determining their satisfaction was the same factor that (perhaps when absent) dissatisfies, or annoys, them the most. Thirteen of the 125 patients who responded to both qualitative questions listed the same factor as their most important satisfier and their greatest dissatisfier. In order to test the null hypothesis that patients would list the same factors as satisfiers and dissatisfiers a binomial test was performed with the expected proportion of .50 compared to the observed proportion of .90. The Z-score probability for the observed proportion was  $p < .000$ , thus there was a

significant difference. Patients did not tend to list the same factors as their most important satisfier and their most important dissatisfier.

**Table 9. Qualitative Satisfier and Dissatisfier Responses**

| Theme                                | Patients  |              | Health Care Providers |              |
|--------------------------------------|-----------|--------------|-----------------------|--------------|
|                                      | Satisfier | Dissatisfier | Satisfier*            | Dissatisfier |
| Technical Quality of Care            | 31%       | 5%           | 23%                   | 3%           |
| Communication by the Staff           | 16%       | 6%           | 14%                   | 19%          |
| Interpersonal Treatment              | 13%       | 10%          | 27%                   | 16%          |
| Service Orientation & Responsiveness | 10%       | 25%          | 6%                    | 24%          |
| Outcomes                             | 10%       | 0%           | 9%                    | 0%           |
| Listening to the Patient             | 7%        | 6%           | 9%                    | 13%          |
| Environment & Physical Comfort       | 3%        | 30%          | 4%                    | 8%           |
| Appearance & Cleanliness             | 3%        | 5%           | 1%                    | 2%           |
| Organization & Continuity            | 1%        | 2%           | 2%                    | 9%           |
| Other                                | 7%        | 11%          | 6%                    | 6%           |

\* 32 Health care provider satisfier responses were unusable due to misinterpretation of the question.

### **Qualitative Most Important Satisfiers**

There were several significant relationships between the patients' qualitative themes of their most important satisfiers and dissatisfiers and

their ratings of the importance of the seven primary dimensions of inpatient satisfaction.

### Technical Quality

Patients' responses to the qualitative question of what is the most important factor in determining their satisfaction when hospitalized indicated that the Technical Quality of care theme was the most important satisfier. Thirty-one percent of patients qualitatively responded that Technical Quality was their most important satisfier. There were no significant relationships between patients whose most important satisfier was Technical Quality and any of the seven primary inpatient satisfaction domains. These patients did, however, have significantly fewer nights in the hospital as inpatients the past year ( $\bar{X} = 13.84$ ) than the other patients who did not list Technical Quality as their most important satisfier ( $\bar{X} = 24.29$ ) with  $t(121)=2.38, p=.019$ .

### Communication by the Staff

Patients' qualitative responses indicated that Communication by the Staff was their second most important satisfier. Sixteen percent of patients rated this theme as their most important satisfier. Patients whose qualitative response was that Communication by the Staff was their most important satisfier rated the importance of the Hospital Facility Convenience Dimension ( $\bar{X} = 3.01$ ) significantly lower than the other patients ( $\bar{X} = 3.85$ ), with  $t(24)=3.77, p=.001$ . These patients also rated the importance of the Interpersonal Care & Service Orientation dimension ( $\bar{X} = 3.92$ ) significantly lower than the other patients ( $\bar{X} = 4.17$ ), with  $t(135)=1.94, p=.054$ . Patients

who listed Communication by the Staff as their most important satisfier also rated the importance of the Choice & Control dimension ( $\bar{X} = 3.79$ ) significantly lower than patients who did not respond that staff communication was their most important satisfier ( $\bar{X} = 4.09$ ), with  $t(135)=2.00$ ,  $p=.047$ . These patients also rated the importance of the Living Arrangements & Comfort dimension ( $\bar{X} = 3.74$ ) significantly lower than the other patients ( $\bar{X} = 4.03$ ), with  $t(135)=2.02$ ,  $p=.046$ . There was a significant positive relationship between patients' greatest satisfier being Communication by the Staff theme and their greatest dissatisfier being Organization & Continuity, with  $r=.21$ ,  $p=.012$ .

#### Interpersonal Treatment

Patients' qualitative responses indicated that Interpersonal Treatment is their third greatest satisfier when hospitalized. There were no significant relationships discovered between qualitative responses of Interpersonal Treatment as the most important satisfier and any of the seven primary dimensions of inpatient satisfaction. The patients rendering those responses also did not significantly differ from the other patients on the background variables.

#### Service Orientation & Responsiveness

Patients whose qualitative response was that the Service Orientation & Responsiveness was their most important satisfier rated the importance of the Hospital Facility Convenience dimension ( $\bar{X} = 4.21$ ) significantly higher than other patients ( $\bar{X} = 3.67$ ), with  $t(135)=2.29$ ,  $p=.024$ . They also rated the importance of the Choice and Control dimension ( $\bar{X} = 4.46$ ) significantly

higher than other patients ( $\bar{X} = 4.00$ ), with  $t(135)=2.43$ ,  $p=.016$ . These patients rated the importance of the Informing Communication dimension ( $\bar{X} = 4.69$ ) significantly higher than the other patients ( $\bar{X} = 4.44$ ), with  $t(135)=2.04$ ,  $p=.044$ .

### Outcomes

Only ten percent of patients indicated that the Outcomes or results of their care was their most important satisfier when hospitalized. There were no relationships between qualitative responses of Outcomes and any of the seven primary inpatient satisfaction dimensions. Patients listing Outcomes as their most important satisfier did not differ from other patients on the background variables.

### Listening to the Patient

Inpatient subjects who responded that Listening to the Patient was their most important satisfier did not significantly differ from other patients on the seven primary satisfaction dimensions. These patients had spent significantly more nights in the hospital during the past twelve months ( $\bar{X} = 43.44$ ) than the patients citing other qualitative satisfiers ( $\bar{X} = 19.60$ ), with  $t(135)=2.43$ ,  $p=.016$ . There was a significant positive relationship between rating Listening to the Patient as the greatest satisfier and Listening to the Patient as the greatest dissatisfier, with  $r=.31$ ,  $p<.000$ .

### Appearance & Cleanliness

Only 3 percent of patients rated the Appearance & Cleanliness of the hospital as their most important satisfier. There were no relationships

between patients responding that Appearance & Cleanliness was their most important satisfier and any of the seven primary satisfaction dimensions. Additionally, these patients did not significantly differ from the other patients on background variables. There was a significant positive relationship between patients rating Appearance & Cleanliness as their most important satisfier and Technical quality as their greatest dissatisfier, with  $r=.17$ ,  $p=.041$ .

#### Environment & Physical Comfort

Only 3 percent of inpatients responded that Environment & Physical Comfort was their most important satisfier. Patients whose greatest satisfier was Environment & Physical Comfort did not significantly differ from the other patients on the seven primary inpatient satisfaction dimensions. These patients were significantly more likely to be males ( $\bar{X} = 1.00$ ) than patients who did not list this theme as their qualitative satisfier ( $\bar{X} = .58$ ), with  $t(132)=9.88$ ,  $p<.000$ . There is a positive relationship between patients responding that Environment & Physical Comfort was both their greatest satisfier and their greatest dissatisfier, with  $r=.18$ ,  $p=.032$ .

#### Organization & Continuity

Organization & Continuity was the least frequently mentioned satisfier of all the themes. Inpatient subjects who responded that Organization & Continuity was their most important satisfier did not significantly differ from the other patients on either the seven primary satisfaction dimensions or the background variables. There was a significant positive correlation between patients rating Organization & Continuity as

their greatest satisfier and rating interpersonal treatment as their greatest dissatisfier, with  $r=.26$ ,  $p=.002$ .

### **Qualitative Most Important Dissatisfiers**

#### **Technical Quality**

Only five percent of inpatients stated that their most important dissatisfier was the Technical Quality of their care. Qualitative responses of Technical Quality as the most important dissatisfier were not significantly related to any of the seven primary satisfaction dimensions or the background variables.

#### **Communication by the Staff**

Patients whose greatest dissatisfiers focused on Communication by the Staff rated the importance of the Hospital Facility Convenience dimension significantly lower ( $\bar{X} = 3.00$ ) than other patients ( $\bar{X} = 3.76$ ), with  $t(135)=2.48$ ,  $p=.014$ . These patients also rated the importance of the Choice and Control dimension significantly lower ( $\bar{X} = 3.57$ ) than other patients ( $\bar{X} = 4.07$ ), with  $t(135)=1.99$ ,  $p=.049$ . Additionally, they rated the importance of the Living Arrangements & Comfort dimension ( $\bar{X} = 3.46$ ) significantly lower than other patients ( $\bar{X} = 4.01$ ), with  $t(135)=2.35$ ,  $p=.02$ . There was a significant positive correlation between patient ratings of Communication by the Staff as the greatest satisfier and Organization & Continuity as the greatest dissatisfier, with  $r=.21$ ,  $p=.012$ .

### Interpersonal Treatment

Patients' qualitative responses indicated that their third most important dissatisfier was the Interpersonal Treatment theme. Inpatients who rated Interpersonal Treatment as their most important dissatisfier did not significantly differ from the other patients on the seven primary dimensions of inpatient satisfaction.

### Service Orientation & Responsiveness

Service Orientation & Responsiveness was qualitatively rated as the second most important dissatisfier of inpatients. Twenty-five percent of patients listed this as the factor that annoyed them the most or made them dissatisfied when hospitalized. Patients who qualitatively rated Service Orientation & Responsiveness as their most important dissatisfier rated the importance of the Informing Communication ( $\bar{X} = 4.33$ ) dimension significantly lower than the other patients ( $\bar{X} = 4.50$ ), with  $t(135)=1.98$ ,  $p=.049$ . These patients also rated the importance of the Choice & Control dimension ( $\bar{X} = 3.80$ ) significantly lower than other patients ( $\bar{X} = 4.12$ ), with  $t(135)=2.44$ ,  $p=.016$ . These patients had spent significantly fewer days in the hospital over the preceding twelve months ( $\bar{X} = 13.87$ ) than patients whose most important dissatisfier was not Service Orientation & Responsiveness ( $\bar{X} = 23.30$ ), with  $t(106)=2.30$ ,  $p=.023$ .

### Outcomes

No patients responded that the Outcomes of their care was their greatest dissatisfier, thus no analyses were performed.

### Listening to the Patient

Inpatients who rated Listening to the Patient as their most important dissatisfier did not differ significantly from the other patients on the seven primary dimensions. These patients did, however, rate this same theme as their most important satisfier significantly more frequently than other patients did, with  $r=.31$ ,  $p<.000$ .

### Appearance & Cleanliness

Patients who rated Appearance & Cleanliness as their most important dissatisfier did not significantly differ from other patients in their ratings of the seven primary inpatient satisfaction dimensions or in their responses on the background variables.

### Environment & Physical Comfort

The theme of Environment & Physical Comfort was the most important dissatisfier. Thirty percent of patients responded that the Environment & Physical Comfort annoyed them the most, or made them dissatisfied with health services when they are hospitalized. Patients who rated this theme as their most important dissatisfier rated the importance of the Living Arrangements & Comfort dimension ( $\bar{X} = 4.20$ ) significantly higher than other patients ( $\bar{X} = 3.90$ ), with  $t(135)=2.67$ ,  $p=.008$ . Additionally, patients whose education level was "less than high school" ( $\bar{X} = .80$ ) were significantly more likely to rate physical comfort as their greatest dissatisfier than patients whose education levels were either "some college" ( $\bar{X} = .23$ ) or "4-year college graduate" ( $\bar{X} = .10$ ), with  $F(4,132)=3.78$ ,  $p=.006$ .

### Organization & Continuity

Patients whose most important dissatisfier was Organization & Continuity did not significantly differ from other patients in their ratings of the seven primary inpatient satisfaction dimensions. Patients who rated this theme as their greatest dissatisfier were significantly more likely to be females ( $\bar{X} = 1.00$ ) than males ( $\bar{X} = .58$ ), with  $t(133)=9.85$ ,  $p<.000$ .

### QUALITATIVE VALIDATION OF QUANTITATIVE SATISFACTION DIMENSIONS

In order to further assess the validity of the primary inpatient satisfaction dimensions, the relationships between the qualitative questions and quantitative dimensions were investigated. Four of the seven quantitative inpatient satisfaction dimensions were supported by qualitative responses.

Two of the qualitative categories were grouped together for analysis in order to make them more comparable to the seven quantitative dimensions. The Service Orientation & Responsiveness category was combined with the Organization & Continuity category. These themes had a small degree of overlap during the coding process. Patients whose greatest satisfier fell within this new hybrid category rated the importance of the Choice & Control dimension ( $\bar{X} = 4.42$ ) significantly higher than the other patients ( $\bar{X} = 4.00$ ), with  $t(135)=2.33$ ,  $p=.022$ . These patients also rated the importance of the Informing Communication dimension ( $\bar{X} = 4.70$ ) significantly higher than other patients ( $\bar{X} = 4.44$ ), with  $t(135)=2.17$ ,  $p=.032$ . The strong

relationships between these qualitative satisfiers and the quantitative dimensions support the validity of the constructs both are measuring.

The Environment & Physical Comfort category of qualitative responses was combined with the Appearance & Cleanliness category. Patients whose greatest satisfier fit within this hybrid category rated the importance of the Living Arrangements & Comfort dimension ( $\bar{X} = 4.20$ ) significantly higher than other patients ( $\bar{X} = 3.88$ ), with  $t(113)=3.29$ ,  $p=.001$ . This finding lends great support to the construct validity of the Living Arrangements & Comfort dimension.

One relationship was not as intuitively clear as the preceding three. The importance of the Hospital Facility Convenience dimension was rated significantly higher by patients whose qualitatively most important satisfier was Service Orientation & Responsiveness ( $\bar{X} = 4.21$ ) than by other patients ( $\bar{X} = 3.67$ ), with  $t(135)=2.29$ ,  $p=.024$ .

#### ADDITIONAL BACKGROUND VARIABLE ANALYSES

Several background variables were included in the analyses of patient and health care provider responses to the primary patient satisfaction domains and the qualitative satisfier and dissatisfier themes. For both patients and providers those variables included age, gender, and number of nights as an inpatient over the past twelve months. Patients were also asked how many nights they had spent on their current inpatient episode, their education level, and their beneficiary category (active duty, retiree, etc.). Health care providers were asked their profession, their number of years in their profession, whether they were military or civilian providers, and if they were physicians, what their specialty was. The most significant findings

regarding these background variables are reported above as they related to the primary dimensions and qualitative responses.

The only other background variable finding of note regarded the health profession variable. Among the health care providers, the Allied Health Professional's rankings of all seven dimensions of inpatient satisfaction were the same as those of the patients. Additionally, there were no significant differences between the allied health professionals' and the patients' dimension ratings.

## **CHAPTER 4**

### **DISCUSSION**

Health care providers use the science of medical research to determine the best way to physically treat their patients. Patients seek care from their health care providers rather than engaging in self-care when they feel that their malady exceeds their level of medical expertise. The patient often has several possible alternatives or substitutes for therapeutic intervention, however, in the market of all health care alternatives, most patients go to their health care provider because he has the special knowledge, skills and equipment necessary to resolve the majority of medical problems in the most expeditious manner. The combination of knowledge, skills and equipment is what differentiates treatment rendered by a health care provider from the self-care solution. As such, it can be assumed that a dominant expectation of patients is not that they will receive treatment that they could provide to themselves, but that they will receive the specialized state-of-the-art treatment that they can only receive at their clinic or hospital.

Among other findings, this study demonstrated that what the patients really want is for health care providers to treat them to the best of their abilities, not just to treat them kindly or "nicely" (though patient relations staffs often emphasize the importance of this). The patients in this study indicated that treating them "nicely" can probably, at best, help to keep from dissatisfying them. This study broadens the body of knowledge about what

the most important components of patient satisfaction are, and whether or not health care providers are aware of the importance of those components.

## COMPARISONS OF PATIENTS' AND HEALTH CARE PROVIDERS' DIMENSION RATINGS

The first hypothesis was composed of seven sub-hypotheses stating that patients will rate the importance of each of the seven dimensions of inpatient satisfaction higher than health care providers in the aggregate. The null hypothesis was rejected in four of the seven dimensions (Table 10). Patients rated the importance of the State-of-the-Art Technical Quality, Informing Communication, Choice & Control, and Living Arrangements & Comfort dimensions significantly higher than the aggregate health care professions group.

The analyses of the health care profession comparisons will be discussed within each of the dimensions to follow. One item of special attention, however, is the fact that the Allied Health Professionals rankings of all seven dimensions of inpatient satisfaction were the same as those of the patients. Also, there were no significant differences between the allied health professionals' and the patients' dimension ratings. These findings suggest that of all health care professions, the allied health professionals have the greatest congruity between the factors they think are most important in determining patient satisfaction and the actual factors that patients report as being important.

**Table 10. Research Hypotheses**

| Research Hypothesis<br>$H_a$                                                                                                                        | Finding                                                                                     | Accept / Reject<br>$H_0$ |
|-----------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|--------------------------|
| 1a. Health care providers will rate importance of Hospital Facility Convenience lower than patients                                                 | $\bar{X}$ patients is not $>$ $\bar{X}$ health care providers                               | Accept $H_0$             |
| 1b. Health care providers will rate importance of State-of-the-Art Technical Quality lower than patients                                            | $\bar{X}$ patients $>$ $\bar{X}$ health care providers                                      | Reject $H_0$             |
| 1c. Health care providers will rate importance of Technical Communication & Support lower than patients                                             | $\bar{X}$ patients is not $>$ $\bar{X}$ health care providers                               | Accept $H_0$             |
| 1d. Health care providers will rate importance of Informing Communication lower than patients                                                       | $\bar{X}$ patients $>$ $\bar{X}$ health care providers                                      | Reject $H_0$             |
| 1e. Health care providers will rate importance of Choice & Control lower than patients                                                              | $\bar{X}$ patients $>$ $\bar{X}$ health care providers                                      | Reject $H_0$             |
| 1f. Health care providers will rate importance of Interpersonal Care & Service Orientation lower than patients                                      | $\bar{X}$ patients is not $>$ $\bar{X}$ health care providers                               | Accept $H_0$             |
| 1g. Health care providers will rate importance of Living Arrangements & Comfort lower than patients                                                 | $\bar{X}$ patients $>$ $\bar{X}$ health care providers                                      | Reject $H_0$             |
| 2. Health care providers' importance ratings will differ between professions and specialties                                                        | $\bar{X}$ health care professions $\neq$<br>$\bar{X}$ other health care professions         | Reject $H_0$             |
| 3. Senior health care providers will rate the importance of the State-of-the-Art Technical Quality factor higher than junior health care providers. | $\bar{X}$ senior health care providers is not $>$<br>$\bar{X}$ junior health care providers | Accept $H_0$             |
| 4. Patient satisfiers will be different than patient dissatisfiers.                                                                                 | patient satisfiers $\neq$ patient dissatisfiers                                             | Reject $H_0$             |

## **Hospital Facility Convenience**

Patients rated Hospital Facility Convenience as the least important of the seven dimensions. Patients and health care providers did not significantly differ in their ratings of the importance of the Hospital Facility Convenience dimension. There were, however, significant differences in the ratings between the professions. As was the case on many of the dimensions, physicians' ratings of the importance of the Hospital Facility Convenience dimension were significantly lower than other health care providers. Specifically, the vocational nurses' and the medical assistants' ratings were significantly higher than the physicians' ratings. They were even slightly higher than the patients' ratings of the importance of this dimension. This finding partially confirmed the second research hypothesis, that health care providers of different professions will differ in their importance ratings. Perhaps this disparity in importance ratings can be explained by the level of education of the different health care professions, in that medical assistants and vocational nurses have the least formal education. Thus, they might possess more of a laymen's perspective, similar to the average patient's perspective. Given that perspective, and since they are not ill themselves and in need of specialized care, they may be biased towards rating higher those items that impact upon them personally. Examples of the items within this dimension include the parking arrangements and the layout and condition of the actual hospital facility.

An unexpected finding was that the patients with fewer nights in the hospital on their current stay rated the importance of the Hospital Facility Convenience dimension significantly higher than patients staying more nights. This correlation might be attributed to the idea that the evaluations

of patients who have been admitted more recently are affected by the recency of their experiences getting into and around the hospital. The patients who have spent more time in the hospital have had more experiences with other (perhaps more substantive) facets of their hospital, and thus, these additional experiences may have had a greater impact upon their evaluations of the relative importance of those dimensions.

Older patients rated the importance of the Hospital Facility Convenience dimension significantly higher than younger patients. This finding may be attributable to the fact that older patients often have more physical limitations and thus are more negatively impacted if their movement in and around the hospital is difficult. Younger people may be more resilient and able to withstand the rigors of a long walk from the parking lot, or a long drive to the hospital from their homes. A similar finding was observed comparing military retirees to the other patients. Retiree patients tend to be older than the other beneficiary classes, thus they likely are impacted by the same factors that affect older patients of all beneficiary groups.

### **State-of-the-Art Technical Quality**

The most remarkable finding of this study was that patients rated the importance of the State-of-the-Art Technical Quality dimension significantly higher than health care providers. This was the highest rated of all the dimensions by both the patients and the aggregate health care providers group. The relative rankings of this dimension varied among the health professions. Physicians, registered nurses and vocational nurses each rated the importance of State-of-the-Art Technical Quality significantly lower than

patients. Physicians ranked this dimension third in importance, after the Technical Communication & Support and Informing Communication dimensions. Registered nurses also ranked State-of-the-Art Technical Quality third behind the Informing Communication and Technical Communication & Support dimensions. Vocational nurses ranked this dimension second, behind the Informing Communication dimension.

It is probable that the patients rated this dimension highest because it is the one dimension that distinguishes care at a hospital from other healing alternatives, including self-care. A few patients remarked to the experimenter "I don't come to the hospital to be entertained (or to look at the furnishings). I come here to get healed." Health care providers rarely are told that patients' satisfaction is dependent upon their delivering the best technical quality care that is available. They do, however, hear about patients being dissatisfied with waiting times, rude attitudes, or faulty communication. Thus, providers may be lulled into believing that those peripheral factors are most important to patients' satisfaction. These results indicate that health care professionals may be focusing on the wrong aspects of the health care experience in their attempts to improve patient satisfaction.

The importance of the State-of-the-Art Technical Quality Dimension was rated significantly higher by female health care providers than male providers. A gender difference on this dimension was not observed among the patients. Additionally, civilian health care providers rated the importance of this dimension significantly higher than their military co-workers. Civilians rated the importance of all dimensions except Hospital

Facility Convenience significantly higher than the military health care providers.

The third research hypothesis was not accepted because the more experienced health care providers did not differ from their less experienced colleagues in their ratings of the importance of State-of-the-Art Technical Quality dimension. This result differs from that which Budinger et al. (1993) found. This divergence likely occurred because the items that made up the Technical Quality dimension in Budinger, et al. (1993) are different from the items in the State-of-the-Art Technical Quality dimension of the present study.

### **Technical Communication & Support**

Patients and health care providers in the aggregate did not significantly differ in their importance ratings of the Technical Communication & Support dimension. Physicians did, however, rate the importance of this dimension significantly lower than did patients, vocational nurses, and registered nurses. The two nursing profession groups rated the importance of this dimension slightly higher than it was rated by patients.

Patients ranked Technical Communication & Support as their third most important dimension. Medical assistants, vocational nurses, and allied health professionals also ranked this dimension third. Registered nurses ranked this dimension as the second most important dimension, while physicians ranked it as the most important dimension in satisfying inpatients.

The content of many of the items in the Technical Communication & Support dimension refer to listening to the patient, staff responsiveness, the

positive attitude of the staff towards the patient, and explanation of the medical procedures. This dimension is similar to a good customer service orientation in any business. These likely are seen by the patients as the expected minimum qualities whenever they receive service from any business or organization. This is supported by the observation that qualitative themes of Service Orientation & Responsiveness were the second greatest dissatisfier of the patients in this study.

Female patients and health care providers each rated the importance of this dimension significantly higher than their male counterparts. Patients who are military retirees and military family members rated the importance of this dimension significantly higher than patients who are active military members.

Among health care providers, older providers and those with more years of experience practicing their health profession rated the importance of Technical Communication & Support significantly higher than their younger and less experienced colleagues.

The Technical Communication & Support dimension is one of three dimensions which the patients who took the oral form of the instrument rated as significantly more important than the patients who took the written form. Although it is unclear, it is probable that the visually impaired patients place a higher degree of importance on certain dimensions more than others. This can be inferred through one item within the Technical Communication & Support dimension which refers to "Assisting you with everyday activities (eating, bathing...) if you need it." Another possibility is that patients acted in a reactive fashion to having the experimenter listen to them speak their responses. The patients could possibly have responded in a

way that they thought would be more acceptable to the experimenter. One way to assess the true cause of this variance would be to administer the oral form to a control group of patients without visual impairments. Comparison of this control group's responses to the responses of the visually impaired groups' would help to determine whether patient reactivity or visual impairment caused the observed differences.

### **Informing Communication**

Patients rated the importance of the Informing Communication dimension significantly higher than the aggregate health care provider group. Both groups ranked this dimension second in importance, however, there was variance between the health professions. Vocational and registered nurses ranked this dimension as the most important of all dimensions, while patients and all other health professions ranked this dimension second in importance for satisfying inpatients. Patients rated the importance of this dimension significantly higher than physicians.

Physicians also rated the importance of the Informing Communication dimension significantly lower than it was rated by allied health professionals, vocational nurses, and registered nurses. Vocational nurses, who rated the importance of this dimension higher than any of the other professions (and the patients), rated it significantly higher than medical assistants rated it.

Vocational and registered nurses rated this dimension as most important, even higher than patients rated it. Perhaps this is because the items that compose the Informing Communication dimension may be perceived as more within the nurses' span of control than other professions.

This dimension included items which factor loaded together. Some of the items refer to responding to patient questions, and giving patients' information about their illness and treatment. It also included two (seemingly) less related items, one about the positive attitude of the staff towards their hospital, unit, or job, and one about the skill, experience and competence of the nurses. Nurses may have experienced that when they perform the activities that comprise the Informing Communication dimension, they appear to satisfy the patients. They also may be told in their professional training that these are the factors that make patients satisfied.

As was observed with the Technical Communication & Support dimension, female patients and health care providers rated the importance of the Informing Communication dimension significantly higher than their male counterparts. There was covariance between gender and the registered nurse profession, with females composing 72 percent of that profession in this sample. Another significant finding was that health care providers with more years of experience rated the importance of Informing Communication higher than less experienced health care providers.

### **Choice & Control**

Patients rated the importance of the Choice & Control dimension significantly higher than it was rated by the aggregate health care provider group. Physicians' ratings of this dimension were significantly lower than patients' and registered nurses'. Patients and all health care professions except medical assistants ranked this as the fifth most important dimension in satisfying inpatients. Medical assistants ranked the Choice & Control dimension as the least important of the seven dimensions. It is unclear why

medical assistants rated this dimension lower than the others. This dimension's items refer to the staffs' respect for patients' regular sleep schedule, ease of seeing the doctor of the patients' choice, respect shown to the patient and attention to their privacy, and continuity of the staff during a hospital stay.

Among patients, the Choice & Control dimension was one of only two dimensions that were significantly positively correlated with the number of nights patients had spent in the hospital over the past twelve months. Perhaps these are the things that dominate the attention of patients when they have grown accustomed to variations in other dimensions over a lengthy hospital stay. The predictability of staff, sleep schedule, and privacy may, over time, become more important to patients.

The more experienced and older health care providers rated the importance of this dimension significantly higher than their younger, less experienced colleagues. As with the patients, this may be a dimension that health care providers begin to appreciate more as they grow accustomed to variances among the other factors.

### **Interpersonal Care & Service Orientation**

Patients and health care providers in the aggregate did not significantly differ in their importance rating of the Interpersonal Care & Service Orientation, but individual health professions differed in their ratings of this dimension. Patients rated the importance of this dimension significantly higher than physicians. Additionally, registered nurses and vocational nurses rated the importance of the Interpersonal Care & Service Orientation dimension significantly higher than physicians and medical

assistants. Patients and the aggregate health care provider group ranked this dimension fourth in importance. All health professions ranked this dimension fourth except medical assistants who ranked it fifth.

Among patients, older patients rated the importance of the Interpersonal Care & Service Orientation dimension significantly higher than younger patients. Patients taking the oral form of the instrument also rated the importance of this dimension significantly higher than patients taking the written form. Covarying with these observations was that patients who are military retirees or family members rated the importance of this dimension significantly higher than active duty military patients. These findings suggest that older, more dependent patients may place greater value on the personal interactions and the service attitude of the staff than younger, less dependent patients.

Older health care providers and those with more years of practice in their current profession rated the importance of this dimension significantly higher than their junior colleagues. Given that this age trend exists in both patients and health care providers, it is likely that senior health care providers may have greater empathic abilities with older patients. Female health care providers also rated the importance of the Interpersonal Care & Service Orientation dimension significantly higher than their male counterparts.

### **Living Arrangements & Comfort**

Patients rated the importance of the Living Arrangements & Comfort dimension significantly higher than the aggregate health care provider group did. This dimension was rated as significantly less important by physicians

than patients and all other health care professional groups. Patients and all health care provider groups except the physicians ranked this dimension as the next to least (sixth) important dimension. Physicians ranked this dimension as the least important in satisfying inpatients. The older and more experienced health care providers rated this dimension as more important than their younger, less experienced colleagues.

The Living Arrangements & Comfort dimension is composed of such items as visitation arrangements, food, cleanliness, noise, lighting, appearance, and amenities. These items may seem to be least manipulable by physicians, thus they may not attend to these factors, or disregard their impact upon inpatient satisfaction.

Patients with more nights in the hospital, both on their current stay, and over the past twelve months, rated the importance of the Living Arrangements & Comfort dimension significantly higher than patients with fewer nights in the hospital. Older patients also rated the importance of this dimension significantly higher than younger patients. Patients who responded to the oral form of the instrument rated this dimension as significantly more important than the patients who answered the written form.

#### QUALITATIVE SATISFIER AND DISSATISFIER ANALYSIS

One shortcoming of patient satisfaction research has been a lack of attention to patient responses to qualitative questions (Aharony and Strasser 1993). These data are analytically unwieldy in that there is no standard, or best way, to categorize and compare the written responses. These data are

also more time consuming to decipher and code for subsequent quantitative analysis. Although they are cumbersome to analyze, qualitative responses may provide the most direct avenue for the researcher to learn what the subjects free thoughts are regarding a given topic. The bounded form of a multiple choice, or Likert scale format constricts subjects to a finite qualitative range of attributes or responses, and a restricted magnitude range of affective evaluation or characterization of those responses. The unbounded form of open-ended qualitative questions allow the subjects to communicate the qualities and often the magnitude of their personal responses.

In the present study the analysis of the qualitative responses was performed in three ways. After the answers were coded into the nine most prevalent themes, the patients' and health care providers' responses were compared. Next the qualitative satisfiers were compared to the qualitative dissatisfiers. Finally, the qualitative responses were compared to the seven quantitative dimensions of inpatient satisfaction.

The qualitative data were initially read in order to develop the nine primary themes or categories for coding. Unless one allows for an infinite number of categories, it is difficult, if not impossible, to develop separate data into categories that have no overlap. In order to make the data usable, the number of categories for qualitative responses must be small enough to reduce the data into analyzable information. If, for instance, thirty categories were used, the data would be too cumbersome to explain, and each category would be too small to generalize from. Thus, there is unavoidable subjectivity in the analysis of these data.

One of the most subjective parts of qualitative analysis is the coding process. In order to minimize subjectivity and systematically treat all responses the same, the researcher developed a three-tier categorization decision rule. First, responses were coded into a category if there was a single clear theme. Second, if there were multiple statements, the first theme or category listed was used. Finally, if there was no clear theme, or if the response could clearly be split between two or more categories, the response was discarded into the "other" category.

As stated in Chapter 3, the qualitative question designed to discover what factor is the most important satisfier of patients asked the subjects "What is the most important factor in determining your (patients') satisfaction with health services when you (they) are hospitalized?" The wording of this question was apparently confusing to 32 of the 292 health care providers who responded to the question as if they were being asked "How do you determine if your patients are satisfied...when they are hospitalized?" The question would have been better phrased "What is the most important factor in satisfying you (your patients) when you (they) are hospitalized?"

On the dissatisfier question, there was apparently no confusion as to what the subjects were asked. The question was "What annoys you (your patients) the most, or makes you (them) least satisfied with health services when you (they) are hospitalized?" The only thing that may have possibly confounded this question would be the inclusion of the term "annoys you" because it may have skewed some of the responses towards things that are marginally dissatisfying (such as being bothered by environmental concerns)

as opposed to things that would seem to be grossly dissatisfying (like malpractice or a bad outcome).

### Comparison of Patient Satisfiers and Dissatisfiers

The fourth research hypothesis was confirmed, in that patients' satisfiers were significantly different from their dissatisfiers. Of the 125 patients who responded to both qualitative questions, only thirteen had the same theme for both their most important satisfier and their most important dissatisfier.

Patients' most frequently listed "most important" qualitative satisfier was the Technical Quality of Care theme, whereas their most frequently cited dissatisfier was the Physical Comfort theme. Almost twice as many patients' satisfiers were the Technical Quality of Care theme as compared to the second most frequent response, Communication by the Staff. The Technical Quality of Care theme included statements about "proper treatment or patient care," or "confidence in the treatment" or "care provided." Statements about "competence" were also coded into this category. The patients' greatest dissatisfier, the Environment & Physical Comfort theme, included responses that focused on environmental noise, temperature, lights, privacy, food, the variety of comfort amenities and services, hospital appearance, and being awakened for vital signs or medicine. This finding supports the concept of a two-factor theory of patient satisfaction and dissatisfaction.

These results indicate that the factors that satisfy and dissatisfy patients are not necessarily the same. It is possible that the peripheral elements such as excessive noise, lights, and an ugly physical plant may only serve to dissatisfy patients. Improving these attributes likely would not

satisfy patients, but only remove the dissatisfier and merely bring the patient to a neutral state. These findings also suggest that patients would become satisfied through their perception or belief that they are receiving high quality technical care, and knowledge that they were being physically treated with the best trained staff, using the most modern procedures and equipment available.

Although not a primary focus of this analysis, it is notable that the health care providers' responses also supported the concept of a two-factor theory. Health care providers' most important satisfier of inpatients had the Interpersonal Treatment theme (followed closely by Technical Quality). Their most important dissatisfiers fell in to the theme of Service Orientation (followed by Communication by the Staff). The Interpersonal Treatment theme included the concepts of caring, courtesy, compassion, staff attitudes, treating patients as individuals, and bedside manner. The Service Orientation theme included responses that dealt with responsiveness, waiting times, choices, surprise tests, and staff shortages.

### Validation of Quantitative Inpatient

#### Satisfaction Dimensions

The qualitative responses about satisfiers and dissatisfiers added validity to the quantitative inpatient satisfaction dimensions of Choice & Control, Informing Communication, and Living Arrangements and Comfort. Each of these dimensions have substantial overlap with certain categories of qualitative satisfiers and dissatisfiers.

The fact that patients rating the dimension of Choice & Control highly also listed Service Orientation & Responsiveness or Organization &

Continuity as their most important satisfier suggests that the constructs may be similar. The Choice & Control dimension has items that refer to respect for the patient's regular sleep schedule, ease of seeing the doctor of their choice, respect for the patient and their privacy, and the continuity of staff during their hospitalization.

When patients' whose most important qualitative dissatisfiers were either the Environment & Physical Comfort or Appearance & Cleanliness, they tended to rate the importance of the Living Arrangements & Comfort dimension significantly higher than other patients. This finding adds substantial construct validity to this dimension. Those patients who are most likely to be dissatisfied by the comfort or environmental conditions rated the importance of the Living Arrangements & Comfort high. This finding indicates that patients were responding similarly to both types of questions.

### Comparison of Patient and Health Care Provider

#### Qualitative Satisfiers and Dissatisfiers

The first hypothesis and its sub-hypotheses that patients and health care providers would rate the importance of the various quantitative dimensions differently were largely confirmed. This same relationship was observed with the qualitative questions. The patients and health care providers each had satisfiers that were different from their dissatisfiers, but the responses between the two groups were different as well.

The patients' most important satisfier was the Technical Quality of Care, whereas health care providers rated Interpersonal Treatment as the most important satisfier of inpatients. Health care providers may have rated

interpersonal treatment as the most important satisfier because of training they receive on patient relations. They may not believe that patients have the ability to appreciate the technical quality of care. Although health care providers ranked Technical Quality second, it was only four percent behind Interpersonal Treatment.

Patients' top dissatisfiers were in the Environment & Physical Comfort category, whereas the health care providers reported that the greatest dissatisfier of inpatients was Service Orientation & Responsiveness. This difference may be attributable to health care providers growing accustomed to, or looking beyond the environment of their workplace. They may not recognize the discomfort that patients experience in their living environment because the health care providers may not necessarily look at the hospital ward or room as the temporary living place of the patient. Rather, they may view it more as their workplace.

### CRITIQUE OF THE STUDY

This study's findings have several limitations. The sample of patients and health care providers came from a single health care facility within the Department of Defense health care system. The patients may have different expectations and priorities than patients in the population at-large. The health care providers, both military and civilian, are employed by this single military hospital. As such, their perspectives may be more heavily biased based on their own experiences at that single facility.

Another threat to the external validity of the study may be attributable to the fact that the surveys were administered to inpatients during their hospitalization. The patients may not have considered the

importance of discharge procedures and their transition to the continuum of care that extends beyond the hospital. These patients may have placed more significance on those elements of their hospitalization that were most recent in their memories.

Conversely, perhaps administration of the survey to patients currently admitted to the hospital provided more benefits than detractors, since patients were more likely to remember the small details that would have been more easily forgotten once discharged. The in-hospital survey provided easier access to inpatients when they had idle time, or had few things better to do than complete the instrument. The convenience of having the experimenter visit patients at their bedsides led to the remarkably high participation rate of 90 percent. The high participation rate is extremely important in the conduct of patient satisfaction research because those patients who do not respond tend to be the least satisfied (Rubin 1990 and Hopkins 1992).

Other limitations of this study's findings relate to the selection of the inpatient subjects. The patients in the sample generally were not those with the hospital's highest acuity because the study's methodology screened out patients in the critical care units. Thus, results may not necessarily be generalized to patients with problems such as those screened out because of their physical, neurological, or chemical impairments. These findings are also not generalizable to pediatric patients, nor non-English speaking patients.

Regarding the survey procedure, patients who answered the oral form of the instrument responded differently than patients who responded to the written form. It is unclear whether this difference was due to the instrument

form, or to the characteristics inherent to the visually impaired population. The researcher could have administered the oral instrument to a small control group of non-visually impaired patients to control for patient reactivity to the instrument.

The volume of comparisons due to the complexity of this study involved several dozen statistical analyses. As is the case with inferential statistics, the potential for type I error is increased because of sheer volume of tests of probability. At the .05 level of significance, there is a five percent probability that the observed results could be due to chance alone. Although most probability levels were more stringent than the .05 level, it is possible that this study contains some false-positive results.

Another weakness of this study was the wording of the qualitative questions. Thirty-two health care providers misinterpreted the question asking what factor is most important in satisfying patients. Eleven percent of the health care provider sample answered how they determine if their patients are satisfied. Furthermore, the dissatisfier question may have biased the responses towards more surface-type topics instead of core problems (such as poor quality of care) because the word "annoys" was used within the question. Pilot studies in future inpatient satisfaction studies should test several alternative semantic structures in order to ensure that the precise intent of the questions are understood by the readers.

The factor analysis of the patients' ratings of the 44 qualitative inpatient satisfaction items created the seven factors used as inpatient satisfaction dimensions. The factor analysis tool grouped the items in dimensions identified as varying in similarly. At face value, some of the items within certain dimensions do not appear to fit within the construct of

the others. These apparent inconsistencies make it difficult in a few cases to place an accurate title on some of the dimensions. The researcher had to use his best judgment to appropriately label the dimensions based on the majority of the items, and based on more highly weighting the items within the dimension with the highest factor loadings. Future versions of the questionnaire could be pilot tested removing some of the items that do not have face validity within the dimensions of versions 2.1 and 2.2 of the Survey of Health Care Preferences.

#### RELEVANCE OF THE FINDINGS WITHIN THE STUDY OF PATIENT SATISFACTION

The findings of this study are generally congruent with the research by Budinger et al. (1993) indicating that outpatients and physicians differ in their perceptions of the importance of various factors in determining patient satisfaction. The same type of disparity was observed in the inpatient setting. Patients' and health care providers significantly differed in their importance ratings of four of the seven primary dimensions of inpatient satisfaction. Health care providers in both treatment settings were not fully aware of the factors that are most important in determining patient satisfaction.

Technical quality of care was the central theme in both the patients' most important qualitative satisfier and quantitative satisfaction dimension. This finding supports the observations by Budinger, et al. (1993) that the most important determinant of outpatient satisfaction was the technical quality of care. This study further clarifies Merkel's (1984) finding that physician and patient assessments of the technical quality of care provided in

a health care visit were significantly correlated. While the patient and health care provider may rate similarly rate technical quality of the care, patients seem to place much greater importance on this factor than the physicians would think they do.

The lack of a clear standard for inpatient satisfaction surveys, led to the development of the Survey of Health Care Preferences Versions 2.1 and 2.2. These instruments contain a variety of base items from sixteen questionnaires. Additionally, this instrument was created focusing on the inpatient experience in a cross-profession and cross-departmental fashion. This survey was designed considering Puta's (1989) report that cross-disciplinary, collaborative practice arrangements were associated with improved patient care quality and patient satisfaction. The patient does not receive treatment by a single department; thus it may be myopic and contrived to measure patient satisfaction solely focusing on a single clinic, or nursing unit within a large health care organization. Patient satisfaction is a function of the patient's treatment across traditional functional boundaries in health care organizations.

Patient satisfaction research has not involved much analysis of qualitative input from patients (Aharony & Strasser 1993). Qualitative data, although more difficult to analyze, can give health care organizations and providers extremely detailed insight about the perspectives of patients. This study demonstrated that there was general agreement between importance ratings of the quantitative dimensions and many of the qualitative statements about the most important satisfiers and dissatisfiers.

Previous research (Budinger, et al. 1993) demonstrated the divergence between physician and patient perceptions of the importance of various

dimensions on outpatient satisfaction. In that study, outpatients rated the importance of technical quality first, while physicians rated it as the fourth most important of the six dimensions. Physicians rated the interpersonal care dimension as the most important determinant of outpatient satisfaction, while the patients rated this dimension as the fifth in importance. A similar divergence between physicians' and inpatients' perceptions was observed in this study. Physicians rated the importance of six of the seven dimensions significantly lower than inpatients. Inpatients rated the importance of the State-of-the-Art Technical Quality dimension as the highest of the seven dimensions, while the physicians rated it as the third most important factor. Physicians rated Technical Communication & Support as the most important dimension in satisfying inpatients, while patients rated this dimension as the second most important.

This study revealed that other professions varied greatly in their awareness of the actual importance of several dimensions in the determination of inpatient satisfaction. Allied health professionals including social workers, physical therapists, occupational therapists, and four physician's assistants or nurse practitioners were exactly the same as inpatients in their relative importance rankings of the seven inpatient satisfaction domains. These professionals' responses did not significantly differ from the patients' on any dimension. Medical assistants also did not significantly differ from the inpatients in their actual quantitative ratings of the seven dimensions. They did, however, relatively rank three of the least important dimensions differently than inpatients.

Few if any published studies have compared nurses' and patients' ratings of the importance of various factors in satisfying inpatients. In the

present study, registered nurses and vocational nurses, like physicians underrated the importance of the State-of-the-Art Technical Quality dimension as compared to inpatients. While this dimension was most important to the patients, registered nurses ranked it third and vocational nurses ranked it second. These ratings by the nurses were significantly lower than the patients' ratings. Registered nurses rated the Informing Communication dimension as the most important factor, and Technical Communication & Support was rated second. Vocational nurses also rated the importance of Informing Communication first. These differences in ratings between both nurse professions and patients were statistically significant. The nursing professions' high ratings of the communication dimensions may be attributable to several factors. Communicating is an integral part of the nursing profession. The nurses may have experienced that when they perform the activities that comprise the communication-based dimensions, they appear to satisfy the patients. They may also be told in their professional training that these are the nursing behaviors that make patients satisfied.

### **Towards a Two-Factor Theory**

This study indicated support for further development of a two-factor theory of patient satisfaction. These findings indicate that the factors which satisfy patients are likely different from the factors that dissatisfy patients. Where technical quality of care appears to be the most prominent satisfier of 31 percent of patients, only 6 percent of patients indicated that it is a dissatisfier. Conversely, 30 percent of patients indicated that their most prominent dissatisfiers were the physical comfort, or environmental factors,

and only 3 percent of patients listed this topic as their most important satisfier. Only 10 percent of patients listed the same factors as both their greatest satisfier and their greatest dissatisfier.

In the job satisfaction literature, Herzberg (1959) demonstrated that certain facets of the work environment served as satisfiers which he called "motivators," and others were dissatisfiers which he termed "hygiene factors." Motivators included such things as intrinsic pleasures and affiliation. Hygiene factors, or dissatisfiers, included such things as pay and work hours. He theorized that these hygiene factors could only serve to dissatisfy workers if they were not present at an adequate level, but they could not create job satisfaction. Only the motivators could create a level of satisfaction above the neutral state in workers.

Inpatients indicated that their greatest satisfiers are different from their dissatisfiers. Perhaps there are two components of patient satisfaction. This concept of a two-factor theory warrants more detailed investigation in order for it to be a credible model of patient satisfaction.

## **CHAPTER 5**

### **CONCLUSIONS & RECOMMENDATIONS**

The research problem for this study was to determine whether inpatient health care providers of various professions were able to accurately assess the importance of various factors that determine inpatient satisfaction. The results of this study indicate that health care providers in most specialties were not able to accurately assess the importance of all factors in determining inpatient satisfaction.

Physicians, registered nurses and vocational nurses significantly underrated the importance of the dimension of State-of-the-Art Technical Quality in satisfying inpatients. There were other variations within the specialties. Only allied health professionals rated the importance of all dimensions essentially the same as the inpatients. The aggregate health care provider group also responded differently than patients to the qualitative (open ended) questions about patients' most important satisfiers and dissatisfiers.

The themes of responses that patients called their most important satisfiers were significantly different from the themes of their most important dissatisfiers. The patients' most important satisfiers were in the category of Technical Quality of Care. Their most important dissatisfiers related to their Physical Comfort and Environment, including such things as

excessive noise and lights. This finding supports the theory that patients are satisfied and dissatisfied by different factors.

Health care providers indicated that the greatest satisfier of inpatients was their Interpersonal Treatment, while their patients' greatest dissatisfier was the Service Orientation and Responsiveness of the staff. Thus on both the qualitative and quantitative questions, health care providers were unable to accurately assess the importance of various factors on patient satisfaction.

### RECOMMENDATIONS

These findings should not be viewed as a mandate for health care providers to stop performing those activities that they think satisfy patients. They should, however, consider how they can increase their emphasis on the facets of the inpatient experience that are the greatest satisfiers of their patients.

Given that the greatest satisfiers dealt with the State-of-the-Art Technical Quality of care, health care providers should draw patients' attention to how they are receiving the highest quality of care available. Health care providers may enhance patient satisfaction through nurturing the patients' perceptions that they are delivering state-of-the-art care. Health care providers may do this by telling their patients what things they most recently learned about the patients' malady. Further, patients should be told when the health care provider is conferring with other providers or specialists for "expert consultation." Patients indicated that they appreciate knowing that they are being supported by a variety of state-of-the-art

equipment by well-trained health care providers who are educated on all of the latest medical discoveries and procedures.

It is clear that those technical quality of care items that serve as satisfiers are the primary reason they come to the hospital. Patients can receive good communication and interpersonal care in any service industry, but the things that differentiate the hospital or the clinic from any other community resource are the trained and knowledgeable professionals, their medical equipment, and their skilled procedures. If patients know that they are receiving those things, these findings indicate that they will be satisfied as long as they are not being annoyed by dissatisfiers that are not common to just hospitals. Dissatisfiers such as being unable to sleep because of excessive noise and lights or being treated by a rude or unprofessional staff can only serve to negatively influence the patient's stay. A lack of noise, or a professional, respectful staff alone probably would not satisfy the patients. These elements likely would just keep patients from being dissatisfied, or just give them a neutral view of their stay. Health care providers may avoid patient dissatisfaction by being sensitive to the role that the patients' environment plays in annoying them. Patients may not necessarily complain to the staff about noise and lights that interfere with their sleep, however, these results indicate that those are among their greatest dissatisfiers. Health care providers should periodically refresh their outlook on their workplace. They should attempt to view it as the temporary home of their patients that it is.

The findings of this study can possibly be generalized to the observation that low patient satisfaction leads to increased switching of health plans or providers (Ware and Davies 1984, and Marquis, et al. 1983).

The present study suggests that disenrollment from health plans and the changing of health care providers is driven by the magnitude of the "negatives" or dissatisfiers in their current arrangement.

#### UTILITY OF THE STUDY

This study's results may be useful for several purposes. The four primary uses are as follows: First, this research adds to the body of knowledge describing patient satisfaction, particularly regarding patient-provided importance ratings of various factors on patient satisfaction. This study demonstrates that health care providers of various disciplines have limited knowledge about what factors are most important in the satisfaction of their inpatients. Thus, the second application of this study's results is in education of health care providers and in improvement of patient relations training or retraining programs in health care organizations. The third potential utility of these results evolves from modifying the Survey of Health Care Preferences (by relabeling its column headers) for use as an importance-weighted patient satisfaction survey applicable to a multidisciplinary inpatient care setting. Finally, this study has provided evidence supporting the further development of a new theoretical model of patient satisfaction.

#### FUTURE RESEARCH

Future research should investigate the possibility of a two-factor theory of inpatient satisfaction. Additionally, the study of patient satisfaction can be enhanced by research into how health care providers can increase patient perceptions that they are receiving state-of-the-art, high quality care. Replications of this study should use different treatment

settings, but with professions similar to those in this study. Research should also be conducted to determine if there is a difference between the oral and written forms of the Survey of Health Care Preferences controlling for patient visual impairment. The practice of health care administration can also benefit through efforts to improve the cross-disciplinary, cross-departmental patient satisfaction surveys, perhaps by converting the Survey of Health Care Preferences.

U.S. Army-Baylor University

Confidential and Anonymous

Survey of

Health Care Preferences

Version 2.1

## CONFIDENTIAL & ANONYMOUS

### SURVEY OF HEALTH CARE PREFERENCES (2.1)

Please take this time to fill out the following survey. Take as long as you need to complete the survey and answer all questions. Circle the number that represents your selection. Once you have completed the survey, please return it to the person who handed it to you. Your participation is strictly voluntary, and your identity is completely anonymous.

#### READ THIS PARAGRAPH CAREFULLY

**This survey is designed to determine what elements are most important to your satisfaction when you stay one or more nights as an inpatient in your hospital. Please indicate how important each of the elements listed below are to your satisfaction as an inpatient.**

|                                                                                                           | Not<br>Important | Slightly<br>Important | Somewhat<br>Important | Very<br>Important | Extremely<br>Important |
|-----------------------------------------------------------------------------------------------------------|------------------|-----------------------|-----------------------|-------------------|------------------------|
| 1. Convenience of the location of the health care facility.                                               | 1                | 2                     | 3                     | 4                 | 5                      |
| 2. The parking arrangements (convenience and numbers of available spaces).                                | 1                | 2                     | 3                     | 4                 | 5                      |
| 3. Completeness and quality of medical equipment and facilities.                                          | 1                | 2                     | 3                     | 4                 | 5                      |
| 4. The layout and condition of the actual hospital facility.                                              | 1                | 2                     | 3                     | 4                 | 5                      |
| 5. The variety of medical specialists, treatments, tests, or medicines offered for your care.             | 1                | 2                     | 3                     | 4                 | 5                      |
| 6. The technical quality of the care.                                                                     | 1                | 2                     | 3                     | 4                 | 5                      |
| 7. The doctors keeping up with the most current information about new medical discoveries and inventions. | 1                | 2                     | 3                     | 4                 | 5                      |
| 8. Doctors thoroughly examining and questioning you before they decide what, if anything, is wrong.       | 1                | 2                     | 3                     | 4                 | 5                      |
| 9. The health care provider checking with others when in doubt.                                           | 1                | 2                     | 3                     | 4                 | 5                      |
| 10. Skill, experience, and training of doctor.                                                            | 1                | 2                     | 3                     | 4                 | 5                      |

|                                                                                                                                               | Not<br>Important | Slightly<br>Important | Somewhat<br>Important | Very<br>Important | Extremely<br>Important |
|-----------------------------------------------------------------------------------------------------------------------------------------------|------------------|-----------------------|-----------------------|-------------------|------------------------|
| 11. The skill, experience and competence of the nurses (giving medicine and handling IVs).                                                    | 1                | 2                     | 3                     | 4                 | 5                      |
| 12. Attention of the staff to your condition (how they check and keep track of how you are doing) and responsiveness in answering your calls. | 1                | 2                     | 3                     | 4                 | 5                      |
| 13. Assisting you with everyday activities (eating, bathing, dressing, using the bathroom, getting out of bed) if you need it.                | 1                | 2                     | 3                     | 4                 | 5                      |
| 14. Explanations of medical procedures and tests and what to expect.                                                                          | 1                | 2                     | 3                     | 4                 | 5                      |
| 15. Attention to what you have to say.                                                                                                        | 1                | 2                     | 3                     | 4                 | 5                      |
| 16. Advice you get about ways to avoid illness and stay healthy.                                                                              | 1                | 2                     | 3                     | 4                 | 5                      |
| 17. Willingness of the hospital staff to give you information in response to your questions.                                                  | 1                | 2                     | 3                     | 4                 | 5                      |
| 18. The amount of information you are given about your illness and treatment.                                                                 | 1                | 2                     | 3                     | 4                 | 5                      |
| 19. The overall sense of organization and continuity across the whole hospital.                                                               | 1                | 2                     | 3                     | 4                 | 5                      |
| 20. Coordination and teamwork of the whole hospital staff (doctors, nurses, etc.) taking care of you.                                         | 1                | 2                     | 3                     | 4                 | 5                      |
| 21. Continuity of the staff: seeing the same doctors, nurses and others during your stay.                                                     | 1                | 2                     | 3                     | 4                 | 5                      |
| 22. The hospital staff's coordination for your care after you leave the hospital.                                                             | 1                | 2                     | 3                     | 4                 | 5                      |
| 23. The positive attitude or mood of the staff towards their hospital, unit, or job.                                                          | 1                | 2                     | 3                     | 4                 | 5                      |
| 24. Knowing what your schedule will be for the present day and the next day.                                                                  | 1                | 2                     | 3                     | 4                 | 5                      |

|                                                                                                                                                        | Not<br>Important | Slightly<br>Important | Somewhat<br>Important | Very<br>Important | Extremely<br>Important |
|--------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|-----------------------|-----------------------|-------------------|------------------------|
| 25. The doctors telling you what other treatments and procedures are available for your condition. Allowing you to say "yes" or "no" to the treatment. | 1                | 2                     | 3                     | 4                 | 5                      |
| 26. The staff's respect for your regular sleep schedule.                                                                                               | 1                | 2                     | 3                     | 4                 | 5                      |
| 27. Ease of seeing the doctor of your choice.                                                                                                          | 1                | 2                     | 3                     | 4                 | 5                      |
| 28. Personal interest in you and your medical problems.                                                                                                | 1                | 2                     | 3                     | 4                 | 5                      |
| 29. Respect shown to you, attention to your privacy.                                                                                                   | 1                | 2                     | 3                     | 4                 | 5                      |
| 30. Reassurance and support offered to you by the staff.                                                                                               | 1                | 2                     | 3                     | 4                 | 5                      |
| 31. Friendliness and courtesy shown to you by staff.                                                                                                   | 1                | 2                     | 3                     | 4                 | 5                      |
| 32. Amount of time you have with doctors and staff during your stay.                                                                                   | 1                | 2                     | 3                     | 4                 | 5                      |
| 33. The positive attitude, or mood of the staff towards you.                                                                                           | 1                | 2                     | 3                     | 4                 | 5                      |
| 34. The staff taking time to stop and chat with you occasionally.                                                                                      | 1                | 2                     | 3                     | 4                 | 5                      |
| 35. The outcomes of your medical care, how much you are helped.                                                                                        | 1                | 2                     | 3                     | 4                 | 5                      |
| 36. Overall quality of care and services.                                                                                                              | 1                | 2                     | 3                     | 4                 | 5                      |
| 37. The success and speed of the results.                                                                                                              | 1                | 2                     | 3                     | 4                 | 5                      |
| 38. The provisions for the safety and security of you and your personal belongings.                                                                    | 1                | 2                     | 3                     | 4                 | 5                      |
| 39. The cleanliness of the bathroom facilities.                                                                                                        | 1                | 2                     | 3                     | 4                 | 5                      |

|                                                                                                                             | Not<br>Important | Slightly<br>Important | Somewhat<br>Important | Very<br>Important | Extremely<br>Important |
|-----------------------------------------------------------------------------------------------------------------------------|------------------|-----------------------|-----------------------|-------------------|------------------------|
| 40. The taste, temperature and quality of your meals.                                                                       | 1                | 2                     | 3                     | 4                 | 5                      |
| 41. The appearance of the hospital.                                                                                         | 1                | 2                     | 3                     | 4                 | 5                      |
| 42. The variety of services and amenities, and furnishings (magazines, television, etc.) offered for your personal comfort. | 1                | 2                     | 3                     | 4                 | 5                      |
| 43. The condition (cleanliness, comfort, lighting, noise level, and temperature) of your room.                              | 1                | 2                     | 3                     | 4                 | 5                      |
| 44. Visitation arrangements: hours and facilities and hospital treatment of visitors.                                       | 1                | 2                     | 3                     | 4                 | 5                      |

45. What is the most important factor in determining your satisfaction with your health services when you are hospitalized?

Write your answer in your own words: \_\_\_\_\_

46. What annoys you the most, or makes you dissatisfied with the health services when you are hospitalized

Write your answer in your own words: \_\_\_\_\_

### GENERAL INFORMATION

47. Approximately how many nights have you spent as an inpatient in a hospital over the past 12 months? \_\_\_\_\_ (fill in blank)

48. How many days have you been in the hospital during this stay? \_\_\_\_\_ (fill in blank)

(Circle One Category)

49. Gender: Male Female

(Circle One Category)

50. Category of Beneficiary: Active Duty Reserve Retired Family Member Other

51. Age: \_\_\_\_\_ (fill in blank)

52. What is the highest grade you completed in school?  
(Circle One Number)

|                                      |   |
|--------------------------------------|---|
| Less than high school graduate. .... | 2 |
| High school graduate. ....           | 3 |
| Some college. ....                   | 4 |
| 4-year college graduate. ....        | 5 |
| Any graduate work. ....              | 6 |

**THANK YOU FOR YOUR PARTICIPATION**

U.S. Army-Baylor University

Confidential and Anonymous  
Survey of  
Health Care Preferences

Version 2.1

## CONFIDENTIAL & ANONYMOUS

### SURVEY OF HEALTH CARE PREFERENCES (2.2)

Please take this time to fill out the following survey. Take as long as you need to complete the survey and answer all questions. Circle the number that represents your selection. Once you have completed the survey, please return it to the person who handed it to you. Your participation is strictly voluntary, and your identity is completely anonymous.

#### READ THIS PARAGRAPH CAREFULLY

**This survey is designed to determine what elements are most important to your patients' satisfaction when they stay one or more nights as an inpatient in your hospital. Please indicate how important each of the elements listed below are to your patient's satisfaction.**

|                                                                                                            | Not<br>Important | Slightly<br>Important | Somewhat<br>Important | Very<br>Important | Extremely<br>Important |
|------------------------------------------------------------------------------------------------------------|------------------|-----------------------|-----------------------|-------------------|------------------------|
| 1. Convenience of the location of the health care facility.                                                | 1                | 2                     | 3                     | 4                 | 5                      |
| 2. The parking arrangements (convenience and numbers of available spaces).                                 | 1                | 2                     | 3                     | 4                 | 5                      |
| 3. Completeness and quality of medical equipment and facilities.                                           | 1                | 2                     | 3                     | 4                 | 5                      |
| 4. The layout and condition of the actual hospital facility.                                               | 1                | 2                     | 3                     | 4                 | 5                      |
| 5. The variety of medical specialists, treatments, tests, or medicines offered for your patients' care.    | 1                | 2                     | 3                     | 4                 | 5                      |
| 6. The technical quality of the care.                                                                      | 1                | 2                     | 3                     | 4                 | 5                      |
| 7. The doctors keeping up with the most current information about new medical discoveries and inventions.  | 1                | 2                     | 3                     | 4                 | 5                      |
| 8. Doctors thoroughly examining and questioning your patients before deciding what, if anything, is wrong. | 1                | 2                     | 3                     | 4                 | 5                      |
| 9. The health care provider checking with others when in doubt.                                            | 1                | 2                     | 3                     | 4                 | 5                      |
| 10. Skill, experience, and training of doctor.                                                             | 1                | 2                     | 3                     | 4                 | 5                      |

|                                                                                                                                                                         | Not<br>Important | Slightly<br>Important | Somewhat<br>Important | Very<br>Important | Extremely<br>Important |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|-----------------------|-----------------------|-------------------|------------------------|
| 11. The skill, experience and competence of the nurses (giving medicine and handling IVs).                                                                              | 1                | 2                     | 3                     | 4                 | 5                      |
| 12. Attention of the staff to your patients' condition (how the staff checks and keep track of how patients are doing) and responsiveness in answering patients' calls. | 1                | 2                     | 3                     | 4                 | 5                      |
| 13. Assisting patients with everyday activities (eating, bathing, dressing, using the bathroom, getting out of bed) if they need it.                                    | 1                | 2                     | 3                     | 4                 | 5                      |
| 14. Explanations of medical procedures and tests and what to expect.                                                                                                    | 1                | 2                     | 3                     | 4                 | 5                      |
| 15. Attention to what patients have to say.                                                                                                                             | 1                | 2                     | 3                     | 4                 | 5                      |
| 16. Advice patients get about ways to avoid illness and stay healthy.                                                                                                   | 1                | 2                     | 3                     | 4                 | 5                      |
| 17. Willingness of the hospital staff to give patients information in response to their questions.                                                                      | 1                | 2                     | 3                     | 4                 | 5                      |
| 18. The amount of information patients are given about their illness and treatment.                                                                                     | 1                | 2                     | 3                     | 4                 | 5                      |
| 19. The overall sense of organization and continuity across the whole hospital.                                                                                         | 1                | 2                     | 3                     | 4                 | 5                      |
| 20. Coordination and teamwork of the whole hospital staff (doctors, nurses, etc.) taking care of patients.                                                              | 1                | 2                     | 3                     | 4                 | 5                      |
| 21. Continuity of the staff: seeing the same doctors, nurses and others during their stay.                                                                              | 1                | 2                     | 3                     | 4                 | 5                      |
| 22. The hospital staff's coordination for patients' care after they leave the hospital.                                                                                 | 1                | 2                     | 3                     | 4                 | 5                      |
| 23. The positive attitude or mood of the staff towards their hospital, unit, or job.                                                                                    | 1                | 2                     | 3                     | 4                 | 5                      |
| 24. Knowing what their schedule will be for the present day and the next day.                                                                                           | 1                | 2                     | 3                     | 4                 | 5                      |

|                                                                                                                                                                   | Not<br>Important | Slightly<br>Important | Somewhat<br>Important | Very<br>Important | Extremely<br>Important |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|-----------------------|-----------------------|-------------------|------------------------|
| 25. The doctors telling patients what other treatments and procedures are available for their condition. Allowing patients to say "yes" or "no" to the treatment. | 1                | 2                     | 3                     | 4                 | 5                      |
| 26. The staff's respect for the patients' regular sleep schedule.                                                                                                 | 1                | 2                     | 3                     | 4                 | 5                      |
| 27. Ease of seeing the doctor of their choice.                                                                                                                    | 1                | 2                     | 3                     | 4                 | 5                      |
| 28. Personal interest in patients and their medical problems.                                                                                                     | 1                | 2                     | 3                     | 4                 | 5                      |
| 29. Respect shown to patients, attention to their privacy.                                                                                                        | 1                | 2                     | 3                     | 4                 | 5                      |
| 30. Reassurance and support offered to patients by the staff.                                                                                                     | 1                | 2                     | 3                     | 4                 | 5                      |
| 31. Friendliness and courtesy shown to patients by staff.                                                                                                         | 1                | 2                     | 3                     | 4                 | 5                      |
| 32. Amount of time patients have with doctors and staff during their stay.                                                                                        | 1                | 2                     | 3                     | 4                 | 5                      |
| 33. The positive attitude, or mood of the staff towards patients.                                                                                                 | 1                | 2                     | 3                     | 4                 | 5                      |
| 34. The staff taking time to stop and chat with patients occasionally.                                                                                            | 1                | 2                     | 3                     | 4                 | 5                      |
| 35. The outcomes of the medical care, how much the patient is helped.                                                                                             | 1                | 2                     | 3                     | 4                 | 5                      |
| 36. Overall quality of care and services.                                                                                                                         | 1                | 2                     | 3                     | 4                 | 5                      |
| 37. The success and speed of the results.                                                                                                                         | 1                | 2                     | 3                     | 4                 | 5                      |
| 38. The provisions for the safety and security of the patients and their personal belongings.                                                                     | 1                | 2                     | 3                     | 4                 | 5                      |
| 39. The cleanliness of the bathroom facilities.                                                                                                                   | 1                | 2                     | 3                     | 4                 | 5                      |
| 40. The taste, temperature and quality of patients' meals.                                                                                                        | 1                | 2                     | 3                     | 4                 | 5                      |

|                                                                                                                                  | Not<br>Important | Slightly<br>Important | Somewhat<br>Important | Very<br>Important | Extremely<br>Important |
|----------------------------------------------------------------------------------------------------------------------------------|------------------|-----------------------|-----------------------|-------------------|------------------------|
| 41. The appearance of the hospital.                                                                                              | 1                | 2                     | 3                     | 4                 | 5                      |
| 42. The variety of services and amenities, and furnishings (magazines, television, etc.) offered for patients' personal comfort. | 1                | 2                     | 3                     | 4                 | 5                      |
| 43. The condition (cleanliness, comfort, lighting, noise level, and temperature) of patients' rooms.                             | 1                | 2                     | 3                     | 4                 | 5                      |
| 44. Visitation arrangements: hours and facilities and hospital treatment of visitors.                                            | 1                | 2                     | 3                     | 4                 | 5                      |

45. What is the most important factor in determining your patients' satisfaction with your health services when they are hospitalized?

Write your answer in your own words: \_\_\_\_\_

46. What annoys patients the most, or makes them least satisfied with the health services when they are hospitalized

Write your answer in your own words: \_\_\_\_\_

#### GENERAL INFORMATION

47. Approximately how many nights have you spent as an inpatient in a hospital over the past 12 months? \_\_\_\_\_ (fill in blank)

48. Gender: (Circle One Category)  
Male                      Female

49. Category of Health Care Provider: (Circle One Category)

|                                                                                 |   |
|---------------------------------------------------------------------------------|---|
| Medical Assistant/Technician . . . . .                                          | 1 |
| LPN/LVN . . . . .                                                               | 2 |
| RN/BSN/MSN . . . . .                                                            | 3 |
| Allied Health Professional<br>(i.e., Physical Therapist, Audiologist, etc.) . . | 4 |
| P.A./N.P. . . . .                                                               | 5 |
| Physician (not completed residency) . . . . .                                   | 6 |
| Physician (completed residency, or more) . . . . .                              | 7 |

50. If you are a residency trained physician or P.A./N.P., or are in a residency, what is your specialty?

Please write your answer: \_\_\_\_\_

51. Age: \_\_\_\_\_ (fill in blank)

52. How long have you practiced your current health profession? \_\_\_\_\_ years & \_\_\_\_\_ months

53. Please circle whether you are either:

|                 |                 |
|-----------------|-----------------|
| Military Health | Civilian Health |
| Care Provider   | Care Provider   |

**THANK YOU FOR YOUR PARTICIPATION**

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