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The Influence of Health Care Service Quality on Patient Satisfaction

Mary Ann Hackmeister

THE INFLUENCE OF HEALTH CARE SERVICE QUALITY ON PATIENT SATISFACTION

Mary Ann Hackmeister, B.A.

An Abstract Presented to the Faculty of the
Graduate School of Lindenwood University
in Partial Fulfillment of the Requirements for the
Degree of Master of Business Administration

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ABSTRACT

This thesis will concentrate on the delivery of health care services and the influence the level of service quality has on patient satisfaction.

The health care industry continually experiences changes, but the changes that have occurred over the past five to ten years have occurred quite rapidly. These changes have altered the way that patients view delivery of health care services. Those within the industry itself, including physicians, administrators, and staff members, have been faced with many challenges.

From a competitive standpoint alone, today's health care environment is drastically different from the previous decade. Declining revenues for the health care industry as a whole translates into competition for patients and health care dollars.

The purpose of this study is to determine the effect that service quality places upon a patient's satisfaction level. It will be used to ascertain areas in which service quality delivery can be enhanced in order to increase patient satisfaction.

This study concentrated on the primary care medicine areas: Pediatric Medicine, Family Medicine, and Internal Medicine. Six physician practices based in various geographic locations in the metropolitan area participated in the study.

One hundred surveys were distributed to each of the practice locations for patients to complete. One hundred twenty-two surveys were returned of which 99 were usable and included within the study.

Participants completed a survey questionnaire which covered the constructs of service quality and patient satisfaction. Twelve dimensions within each construct were investigated. Analysis of the data took place looking at the correlation between constructs.

Results of the data analysis supported the hypothesis that the level of service quality delivery influences a comparable level of patient satisfaction.

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COMMITTEE IN CHARGE OF CANDIDACY:

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Adjunct Assistant Professor Laura DeRigne

Adjunct Assistant Professor Jan R. Kniffen

Dedication

To my husband, Mike, and our four children, Mike, Jr., Joe, Katie, and Brian. They gave up outings, pitched in their time, and prodded me when I procrastinated. Their support and sacrifice during the course of my studies was the driving force that enabled me to achieve my academic goals and demonstrated their love for our family and for one another.

To my mother and father, Roger and Mary Doyle, who encouraged my sister, brothers, and myself to attain whatever goals we set our eyes on. They taught by example and loved unconditionally.

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Acknowledgement

I wish to thank all the physician practices who agreed to take part in this study. Their enthusiastic interest and active study participation illustrates their dedication to serving their patients.

The help I received from Jocelyn and Ralph in the St. Charles Post Office regarding the mailing of the surveys was greatly appreciated. Their service quality, generous enthusiasm, and sincere graciousness will always be remembered.

The members of my thesis committee, Daniel W. Kemper, Laura DeRigne, and Jan Kniffen, gave me their time and genuine interest. This project would not have been fulfilled were it not for the Committee members continued guidance and dedication to excellence.

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Table of Contents

List of Tables

List of Figures

Chapter I

INTRODUCTION

Changing Health Care Environment

The evolutionary process occurs with everything whether it is living creatures, family life, or the dynamics of an industry. Health care's evolution has been occurring quite rapidly over the past several years. The beginnings of this change were underway slightly more than a decade ago with the introduction of physician provider organizations and access to specialist medical care through gatekeeping. While some attribute the changes within the industry to the current presidential administration, these changes were well underway when the idea of health care reform "was but a twinkle in the political vision of the Clintons" (Weaver 10).

The current dynamics of the health care industry have been termed cataclysmic by some and forward thinking by others. Health care organizations now deal with cost-containment in the face of declining reimbursement and increasing competition (Hogan-Henthorne, Henthorne, and Alcorn 52; Weaver 10).

The changes have necessitated the formation of partnerships and alliances. Solo practitioners are joining larger practice groups, hospitals are aligning with

other hospitals, and health care systems are merging to form large, integrated health-care delivery systems. Of all the partnerships created, none is more important than the partnership providers, hospital or practice-based, form with the patients. Those health care providers who are successful will have their customers (patients) at the core of their delivery systems (Weaver 10).

Previously, patients chose a doctor and remained a patient of that doctor for many years, if not for the remainder of their life or until the doctor retired. Loyalty to their physician was important. So important, that patients would remain with that physician even if the service during their visit to the office was less than optimal. Delivery of health care was designed "around the convenience and ego of providers" (Weaver 10).

Financial Aspects of the New Environment

One of the most difficult changes administrators face in the new health care evolution is the financial aspect. Thirty, twenty, and even ten years ago, physicians charged for services without having to assume much financial risk. Insurance plans reimbursed physicians for their services on a fee-for-service basis. That is, the fee charged for a service provided by a physician was typically the amount the physician received for payment.

A variety of insurance plans, called managed care plans, have now entered the health care picture. Managed care plans impact today's health care

environment by reimbursing providers on a capitated basis. Through capitated reimbursement, physicians are paid a previously specified amount per patient for each month that patient has designated that physician as their primary care physician. This per-member-per-month (PMPM) amount is paid regardless of whether the costs for caring for that patient exceed or fall below that set reimbursement.

Capitation places a primary care medical practice on a fixed income. Revenues are not dependent on the number of times a patient visits the office but on the number of patients who designate the physicians within that practice as their primary care provider (PCP). Under a capitated system, revenues actually will decrease as the number of office visits increase. For this reason, it is optimal to provide preventive medicine to keep the patients healthy. Preventive medicine is the basis of every health maintenance organization (HMO). The healthier a medical practice's patient base, the higher the revenues. The new health care system is rewarded for disease prevention and early detection (Weaver 10).

Sick patients cost money because resources, and therefore revenues, are expended each time an HMO patient comes to the office. A designated number of dollars are provided each month to maintain the health of a given patient. Should those dollars be exceeded to care for a patient, the excessive amount comes out of the practice revenues. No longer can a medical practice assume that revenues will continue to climb. It is necessary for medical practices to determine ways in

which they can best serve the patients while decreasing the cost of providing care (Weaver 11).

Competitive Aspects of the New Environment

Today's health care environment is drastically different from a competitive standpoint. With dwindling revenues in the health care industry, competition for patients and, thus, health care dollars is keen (Borchardt 74). Whereas private medical practice was the norm ten to twenty years ago, competition has forced providers to seek the safety of large numbers. Most medical practices today belong to a large health care system. Being part of a larger entity provides a greater revenue base from which to operate an individual practice. Group contracting with the managed care plans as a larger organization rather than a solo practice enables the practice to obtain higher per-member-per-month reimbursement from the managed care plans. It also allows a practice to obtain better pricing on purchased goods through group contracts with vendors (Weaver 10).

The present-day health care environment challenges health care administrators. The modern health care environment requires administrators to determine ways in which current patients can be retained as future customers. The health care administrator, along with those providing care, must determine how to most cost effectively manage medical care while retaining patient base and market

share (Borchardt 74). Researchers have demonstrated that it is more cost-effective to retain the patients already served than to seek out new patients. The typical cost of marketing a new product or service has been estimated to consume 60% of the total first-year budget, whereas once word-of-mouth referrals and reuse occurs, the marketing cost decreases to 15% of the total budget (Mack, File, Horwitz, and Prince 7; Fisk, Brown, Cannizzaro, and Naftal 6).

To a large health care system, patient retention within the practice setting can be particularly vital to the overall viability of the system. Patients not only switch doctors more frequently in the new health care environment than in the past, but they expect, and rightfully so, that they will receive quality in more than just medical care. They expect service quality as well such as courteousness and convenience (Brock 37). Patient retention then is "the process by which healthcare providers influence loyalty and maintain existing patients" (Bendall and Powers 50).

Patients as Customers

Competition in the health care industry has forced health care organizations to realize that they are not only health care providers but health care businesses as well. As health care businesses, each organization is interested in attracting new patients and retaining their current patient base. In order to do this,

they must look upon those they serve not as patients but as customers who have chosen that health care organization over any other health care organization.

Changing Role of Patients as Health Care Consumers

At the core of attracting new patients and retaining existing ones lies patient satisfaction. Therefore, patient satisfaction is vital to the "long-term success of health care providers" (Bendall and Powers 50). Patients must want to come to that particular health care provider. Even in the face of managed care plans in which only designated providers can serve a specific insured population, patients who are not satisfied with their providers can choose another provider within their particular managed care network.

William Borchardt, a Fellow in the American College of Medical Practice Executives, states: "Health care providers are now viewing themselves as businesses and see patients as their customers which has caused the focus of attention on customer satisfaction" (74).

Impact of Managed Care Plans

The importance of patient satisfaction becomes more evident as it continues to play a large role in the selection of managed care plans by employers. Employers look at plans' provider network data. One set of data used frequently is the Healthplan Employer Data Information Set (HEDIS). HEDIS includes

several areas of performance measurement: use of service, cost of care, and patient satisfaction. HEDIS provides standardization of the performance data providing employers an equitable criteria comparison of the managed care plans from which they may choose. "Consumers, payers, and business owners are all beginning to look for such data ... such data gives purchasers of health care something more than cost as they decide where to buy" (Moore 7). HEDIS data is being highly marketed by the National Committee on Quality Assurance (NCQA). NCQA coordinates the HEDIS data collection process and is the accreditation organization for managed care plans (NCQA 8; Turner & Pol 49).

Patient satisfaction data is important to managed care plans because competition in the health care industry is not limited to providers of health care. Managed care plans also compete with each other for health care dollars. The more members a plan can enroll, the higher the plans' revenues from health insurance premiums. Therefore, the healthier that plan will be financially. Member satisfaction with a plan includes cost, benefits available through the plan, and satisfaction with the providers who participate in the plan. Members are more likely to use a plan who contracts with health care organizations providing good ratings in patient satisfaction. Therefore, the managed care plans and providers are interdependent on one another. Patient satisfaction lies at the core of this relationship. Patient satisfaction is considered "perhaps the most important dimension of HMO performance" (Dolinsky and Caputo 31).

Positive patient satisfaction data is important to providers in terms of their contracts with managed care plans. Some plans provide incentive bonuses to physicians who achieve good patient satisfaction ratings. The plans, in turn, need patient satisfaction data from physicians to assist them in their NCQA accreditation process. Additionally, should a plan need to reduce its physician network, those physicians who have shown that they provide satisfying health care are more likely to be signed up with a plan than those who do not demonstrate positive patient satisfaction data (Use the Patient Survey 8; Myers and Anwar 3; Use a Patient Survey 3; Penner 31; NCQA 8).

Market Share Retention and Customer Satisfaction

Patients who are satisfied with their experience are more likely to not only return to a provider themselves, but they are also more likely to encourage others to use the services of a provider. Likewise, dissatisfied patients do not want to return and discourage others from using a provider (Bendall and Powers 50).

Customer satisfaction, therefore, is essential not only to maintaining a substantial share of the health care market, but it is essential to the entire health care system to which a medical practice belongs. Typically, a patient (or customer) does not choose the health care system then select a provider within that system. Rather, by choosing a particular physician as their health care provider, the patient indirectly chooses the health care system to which that

particular provider belongs. A well-known business fact is that unsatisfied customers relate their tale of dissatisfaction more often and to more people than satisfied customers. A dissatisfied customer can have a domino effect on an entire health care system, therefore, ". . . an entire health care system may be jeopardized by a negative patient incident at any point in the health care delivery process" (Borchardt 72).

Those who serve in the health care industry must continually ask themselves how they can meet the needs of the health care customer. Health care administrators and providers must routinely ascertain the answer to this question. In order to meet the needs of those served, it is essential to determine what constitutes those needs. Identifying one's customer is the first step to identifying the needs of the customer.

Identifying Your Customer

The broad term *customer* refers to any individual or group with whom a medical practice or health care organization interacts. Several different types of customers fall under the customer umbrella: primary customers, secondary customers, internal customers, and external customers (Bradford 52).

Internal customers are those who are employed by the medical practice. This would include physicians, nurses, receptionists, clerks, and management

staff. For large medical groups with several offices, this would include all staff members at all locations.

External customers would be those customers not employed by the organization but with whom the health care organization shares a relationship. This population would consist of patients, patient's families, vendors, other physician offices, independent laboratories, pharmaceutical companies, and managed care companies (Bradford 53).

The external customers can be further subdivided into two additional categories: primary and secondary customers. Patients fall into the primary customer category. Secondary customers would be all other external customers (patient's families, vendors, managed care companies, etc.).

Dr. Vicky Bradford, a health care consultant who specializes in service quality, clearly delineates the importance of the primary customer:

> Although all customer populations are important, not all are equal in weight. There is one customer population without whom all others and even the practice itself would have no reason to exist. In any organization, the primary customers are those who fit the old traditional definition: those who use the service or buy the product. In the medical practice, the primary customers, then, are the patients. (54)

Because of the importance of the primary customer to the medical practice, it is the primary customer population upon whom this paper will focus.

Patient Satisfaction and Service Quality

Happy customers are repeat customers whether the business involved is retail, wholesale, or a service environment. The same holds true for customers of health care services. Customers who feel that their needs have been met are customers who will want to use that same provider of service in the future, as well as providing valuable word-of-mouth referrals to new users (Bendall and Powers 51; Fisk, Brown, Cannizzaro, and Naftal 6).

Determining what constitutes patient satisfaction is a complex issue. William Borchardt interpreted patient satisfaction quite succinctly: "As consumers, patients can and do make judgments about what service is needed, the merits of various competing providers of that service, the cost of the service, and whether the care provided caters to their preferences" (74).

Patient perception of the encounter experience drives the level of satisfaction. The key phrase is *patient perception*. "Researchers have critically observed that it is the *perceived* quality more than the reality of what is delivered to the customer that results in sustainable market share" (Underwood 10).

Health care services are difficult for patients to evaluate because they are intangible. Consumption of health care services occurs during service delivery. Whereas tangible goods can be researched prior to purchase to determine quality, service quality is dependent on customer experience during the delivery context of

the service "after the service has been purchased and consumed" (Peyrot, Cooper, and Schnapf 25).

Additionally, most patients do not have technical knowledge or expertise with which to evaluate the technical quality of the medical care. The evaluation of health care service quality is then dependent on factors that are non-technical. Such variables as time spent waiting for the physician and courtesy of staff are directly experienced and are easier to evaluate than technical aspects. These non-technical aspects result in patient satisfaction or dissatisfaction (Whipple and Edick 27; Peyrot, Cooper and Schnapf 11).

Prior to the health care encounter with the providers of the service, patients formulate expectations of the encounter's outcome. Thus, patients compare their pre-encounter expectations to their actual experience. If the encounter meets or exceeds those expectations, patients report a satisfactory experience (Borchardt 74; Whipple and Edick 27).

Health care providers must continually assess patient perceptions of their encounter experience. This is particularly important in today's health care environment. Patients are not hesitant to change physicians should they believe their expectations are not being met. The modern health care industry must recognize that consumers of health care services drive the industry. With patient satisfaction a critical element of maintaining market share, thus, directly effecting

revenues, organizations must determine how they can positively influence patient perceptions of the encounter.

Patient satisfaction is more than good business sense. There is valid research demonstrating that "Patient satisfaction is a valid and sensitive indicator of quality care. . . Sufficient studies exist that show patient and staff evaluations of the quality of care tend to coincide" (Borchardt 75; Mack, File, Horwitz, and Prince 8).

Measuring the levels of satisfaction enable staff members to address quality improvement issues. Developing measurable goals towards patient care will assist the staff in their efforts towards effecting clinical outcome which in turn effect positive patient satisfaction. Continuously seeking opportunities for improvement thus benefit the patient medically and emotionally (Fisk, Brown, Cannizzaro, and Naftal 8; Whipple and Edick 26; Myers and Anwar 3; Schweikhart and Strasser 49).

There are some very important points health care administrators must keep in mind as they guide their organizations:

> Providers who are best able to manage quality health care and sell quality as a difference probably will dominate the market. First, however, those providers must (1) define how service quality is perceived by customers and (2) determine how perceived service quality is influenced. (Borchardt 74)

Areas of Patient Satisfaction

In order to understand what is meant by the broad term *patient satisfaction*, it must be broken down into specific areas. The needs that are important to one patient may not be important to another (Nelson and Brown 49). Therefore, patient satisfaction does not encompass one specific area; rather, it envelopes several topics.

While one might believe that patients are more concerned with the medical expertise of the provider in determining the satisfaction of their encounter, studies have demonstrated that other elements are at the forefront of patient satisfaction. There are two basic needs which must be met: medical and psychosocial. Medical needs pertain to those "related to the content of medical expertise or what service is actually being delivered. Psychosocial needs relate to the mode of delivery or how the patient is treated" (Borchardt 76). The two needs have also been defined as instrumental performance--pertaining to the medical aspect--and expressive performance--pertaining to the psychological aspect (Mack, File, Horwitz, and Prince 8).

The areas of expressive performance satisfaction can be classified into three main categories: Staff Behavior (attitude of staff and physicians, courtesy, helpfulness); Patient Information (medical and logistical information provided to the patient during their encounter--clearly answering all questions, including reasons further tests need to be done and reasons no testing may be needed,

patient education information, access to the physician including convenience of office hours); and Atmospherics (physical location of the office, cleanliness of the office, and parking facilities) (Borchardt 75; Peyrot, Cooper, and Schnapf 25; Bradford 97).

Communication is one of the most important aspects of patient satisfaction, to the point that it can be the cornerstone of patient satisfaction (Bradford 107; Hogan-Henthorne, Henthorne, and Alcorn 53; Mack, File, Horwitz, and Prince 8). Most people interpret the act of communication as the conveyance of words. A definition of communication is: "Communication occurs when behavior is perceived and meaning is attached to it" (Bradford 108). The act of communication includes a complexity of verbal and non-verbal messages. Effective communication, therefore, is an art.

Health care providers, whether physicians or other medical team members, need to develop communication artistry. Speaking with patients includes the verbal process and the non-verbal process. Many types of information need to be presented to patients whether it is complex (such as medical test results) or fairly simple (such as where to go for testing). This information needs to be conveyed not just in fact, but in a manner that the patient will comprehend, and the information needs to be conveyed with warmth. Patients do not want to be rushed either by the physician providing information regarding their health or by the staff scheduling their appointment. While it is true that there may be many patients

who need attention in the course of one day's time, patients need to *feel* as if they are the only patient for whom care is provided. Empathy with the patient and information related to the health of the patient are two of the most important communication areas (Mack, File, Horwitz, and Prince 7; Brock 42; Bradford 109).

Definition of Service Quality

With the competitive nature of the health care industry, consistently striving to deliver higher service quality is one means for health care providers to differentiate their services from another provider (Whipple and Edick 26). Defining service quality lies in the ability of the provider to meet or exceed the expectations of the patient. Whereas the service itself is the product provided, the quality of that service exists in "the process of service delivery" (Whipple and Edick 27). Because each patient may have an individual expectation, perception and level of satisfaction, a definition of service quality is abstract and dependent upon the evaluator (27).

The service delivery process can be broken down into distinct components: Interpersonal interactions (courtesy of the staff when making appointments), Systems (policies and procedures such as ease of the registration process), Physical aspects (adequate parking spaces, cleanliness of the office). Should any of these individual steps fail to meet the patient's pre-encounter

expectation, the quality of the service may be assessed by the patient as being inadequate, thus, resulting in patient dissatisfaction (Peyrot, Cooper, and Schnapf 26; Bradford 9).

There exists a body of research that distinguishes between patient satisfaction and service quality. Researchers Steven Taylor and Joseph Cronin, each of whom serves as Associate Professors of Marketing at Illinois State University and Florida State University respectively, differentiate service quality and patient satisfaction as being two separate, but related, constructs. Satisfaction pertains to the short-term relationship of a specific transaction. Service quality derives from several transactions over a longer period of time, therefore, the customer has a broader base from which to develop an overall evaluation (34; Bradford 10).

Patient evaluations of service quality are dynamic and subject to change. Perceptions of service quality are influenced by the current level of service performance. Should the performance of service diminish, short-term satisfaction may diminish. With repeated episodes of decreased performance, long-term perception of service quality may decrease (Taylor and Cronin 36).

Definition of Total Service Quality

Dr. Vicky Bradford takes the separate constructs of satisfaction and service quality a step further. She uses the term service in regards to both patient

satisfaction for the transaction-specific episode and patient's positive long-term attitudes about the service quality provided over a longer period. The term *service quality* is used to refer to both. Total service quality, however, is used to "embrace a complete and comprehensive process of inquiry, analysis, and action . . . the proactive, complete, conscious process of delivering service quality to all internal and external customers" (13).

Areas of Investigation

As stated earlier in this paper, communication is one of the most powerful aspects which determines a patient's satisfaction with their encounter experience. While many aspects are important to patients, it is the interpersonal or psychosocial aspects of care which have been demonstrated to be the most important. Patients "associate quality with service delivery issues ... particularly an attitude of caring and concern on the doctor's part" (Borchardt 76).

Art of Caring and Delivery of Service

The attitude of caring has also been called an *art of caring* because it is an attitude of concern, compassion, and kindness the entire staff, not just the physician, exhibits towards the patient. It is important for providers as they deliver patient care to remember that patients evaluate their encounter not on the

technical expertise of the provider, but on their personal perception of how well they are treated as a person (Mack, File, Horwitz, and Prince 7).

Because interpersonal aspects of care are so important to patient satisfaction, these same aspects are highly related to a patient recommending a particular provider to a friend or family member. Patients will overlook superficial items in their encounter such as waiting area amenities, but they will not continue with a provider who lacks sensitivity and is impersonal towards them (Borchardt 75; Mack, File, Horwitz, and Prince 13). Administrators would be wise to spend money training staff on the importance of the personal side of the encounter with patients than on cosmetic aspects of the facility.

One study clearly demonstrated the importance of delivering medical care with the art of caring as patients reported that their intention to recommend or use a particular provider again was highly correlated to their satisfaction with the interpersonal aspects of the encounter (Mack, File, Horwitz and Prince 13). Dr. Jack Anderson, a Family Medicine physician and Senior Contributing Editor to Physician's Management, advises physicians that spending a few moments during the initial phase of an office visit to develop rapport demonstrates that physicians value their patients as humans. He also adds that "A pat on the back may not be all that scientific but it sure can be therapeutic. . . We have to show our patients we don't just analyze and treat. We also care" (80, 84).

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Some organizations have determined that the interpersonal aspect of the health care encounter is important enough to develop staff members designated as patient representatives. Patient representatives serve as patient advocates to identify and resolve patient problems, identify patient expectations of the encounter, serve as a liaison between medical personnel and the patient, and identify opportunities to enhance patient satisfaction (Hogan-Henthorne, Henthorne, and Alcorn 53).

Implementing Patient Satisfaction Ideals into Service Quality

Awareness of the importance of patient satisfaction and service quality are the beginning of service quality. Health care industry researchers Trevor Fisk, Carmhiel Brown, Kathleen Cannizzaro, and Barbara Naftal have identified a five-step method of achieving patient satisfaction through service quality:

1. Patient surveys that are accurate, repetitive, and useful and that highlight priorities.
2. Committed leaders who can mesh patient satisfaction issues with quality assurance mechanisms.
3. Attention to complaints and their relationship to satisfaction issues.
4. Guest relations efforts that are universal and focused on being responsive to prioritized patient needs and concerns.
5. Measurable goals for patient satisfaction and loyalty. (7)

Customer service commitment begins with the organization's leadership. Administrators must embrace and act upon the total service quality philosophy.

They must highly value the importance of all necessary steps to positively influence patient perceptions of satisfaction and service quality. These steps include data collection, action based on the data collected, and follow-up steps needed after initial data collection. The collection and manipulation of data should be the beginnings of active steps to continuously achieve higher quality (Schweikhart and Strasser 49; Fisk, Brown, Cannizzaro, and Naftal 10).

Development of Measurement Tools

"Knowledge of one's customer is a central principle of quality management and continuous improvement" (Strasser, Schweikhart, Welch, and Burge 34). Identification of patient satisfaction ideals is crucial. Current literature provides an overview of these areas. They may begin with global areas (communication, courtesy, atmospherics) and then be further broken down into specific processes (access to office by telephone, appointment scheduling, comfort of exam room, etc.) (Peyrot, Cooper, & Schnapf 26).

In order for patient satisfaction areas to become quality indicators, specific measurable attributes regarding patient satisfaction in terms of service delivery must be identified. These measurable attributes are based upon the processes specific to the organization. They can be as simple as the number of times a telephone rings before being answered, the length of waiting time, or the number of referral requests processed in a given day (Whipple and Edick 4).

Development of a measurement tool is the next step in the process. One very effective method to gauge the quality of service is a patient satisfaction survey. Once surveys are distributed then data collection begins. The value of patient satisfaction data only exists in its use to "improve quality and increase satisfaction levels" (Schweikhart and Strasser 49). Failure to use these data to increase satisfaction may actually create more public relations harm than if no data were requested and collected. Patients may perceive the act of requesting input and failing to act on that input as a superficial marketing gesture. In addition, employees may view it as a failure on the part of administrators to place patients at the heart of the service provided. Therefore, once the challenge of data collection is overcome, the next challenge is data use (Schweikhart and Strasser 50-51).

Data Understanding, Interpretation, and Use

Raw data can be compared to raw minerals. Both have intrinsic value but not until they are refined for use. Merely collating data is not enough. Numbers can be impressive but not valuable or useful in themselves unless the user understands them. In order to understand data, the user must understand the basic analytical process. Specifically, they must understand standard deviation, variance, and standard error of the mean (Schweikhart and Strasser 52).

Data interpretation is the "act of giving meaning to data" (Schweikhart and Strasser 52). Some organizations may have staff members who are very well-versed in statistical data analysis who will be able to interpret data. For those organizations who do not have staff with this type of knowledge, consideration should be given to consulting firms who can refine raw data into a valuable resource (53).

The value of the data exists in its ability to educate administrators regarding the level of satisfaction of processes and procedures. With this information, managers and administrators can more effectively manage the organization's resources. It enables administrators to prioritize projects based upon dissatisfaction levels. Those areas with the highest levels of dissatisfaction are those that should rank higher on the organization's to-do list. Data also highlights operational problem areas before those areas become a crisis. Additionally, once a continuous quality improvement (CQI) project is undertaken, data collected during the course of the project will allow project managers to evaluate various stages of the project. Results may influence managers to make modifications based upon satisfaction levels with various project processes (Fisk, Brown, Cannizzaro, and Naftal 10; Schweikhart and Strasser 57).

Initial data collection and interpretation provides baseline information of satisfaction and service quality levels. Repeating the data collection and interpretation process at specified intervals (quarterly, semi-annually, or annually)

provides insight as to trends and achievement towards identified quality improvement goals (Fisk, Brown, Cannizzaro, and Naftal 6; Schweikhart and Strasser 58).

Feedback from patients is priceless. It provides information to retain and attract patients, reduce stress for staff members by reducing the amount of time they must deal with unhappy patients, reduce the likelihood of malpractice suits, and also increases the clinician's ability to more accurately diagnose through increased information exchange between the patient and the clinician. Above all, asking patients how a provider or organization can better serve them and acting upon this information increases patient trust because it demonstrates that service quality revolves around patients (Schweikhart and Strasser 55; Underwood 25.)

Summary

As competition for health care dollars increases, providers must retain current patient base and attract new patients. The means to do this have been clearly demonstrated by keeping patients happy with their health care encounter experience.

William Borchardt provides a succinct statement of the importance of patient satisfaction to the survival of a health care practice:

> Continued financial security, if not survival itself, is becoming more and more dependent upon being competitive in the health care marketplace. . .Take a hard look at the practice from a

> patient's perspective. Look at the personal and human factors that are so important to patients but that might have been lost or forgotten. A medical practice that is warm and friendly, compassionate, reliable, open and readily accessible, usually does not require outside marketing assistance. This is where the private physician must maintain the competitive edge. . . (74)

Patients are consumers of the health care industry's product--service. Consumers drive every market no matter what the industry. Effective administrators must continuously identify what drives the health care customer towards a given organization or provider of health care services. Measurements of patient needs must also include objective measurements of an organization's ability to meet or exceed those needs (Whipple and Edick 30).

Today's health care is dynamic. An organization must analytically traverse the challenges through well-planned changes. The changes must be planned to not only meet today's challenges but must also incorporate anticipated challenges of three to five years in the future. Today's health care is accountable to those it serves and manages the resources to achieve long-term service excellence (Weaver 11). Process change simply for the sake of change is folly; whereas process improvement to accomplish strategic initiatives is gold.

Therefore, this paper will examine specifically what issues are important to patients and why in order to develop a means by which a practice can address those areas to maintain a competitive edge in the health care market while delivering service quality.

Chapter II

LITERATURE REVIEW

Many changes have occurred in the health care industry over the years, particularly within the last decade. Factors influencing these changes include managed care, cost containment, and declining revenues. Competition for the health care dollar increases steadily to keep pace with the changing industry. With the increased competition for patients and revenues, health care organizations and patients themselves are taking a different stance on how patients are viewed. Patients are seen not as a group who need the services of the provider, but as a group who are consumers of the health care organization's product--service (Borchardt 74; Hogan-Henthorne, Henthorne, and Alcorn 52; Weaver 10).

As health care consumers, patients continually expect more from their health care providers. Marketing to health care consumers has changed and increased with the competition. Service delivery is key to obtaining the health care dollar (Borchardt 74; Peyrot, Cooper, and Schnapf 25; Underwood 10).

With such a keen interest among the health care industry in how to improve service delivery, much research investigating patient satisfaction and

service quality has been undertaken within the last decade. This research includes a variety of perspectives in the patient satisfaction and service delivery equation.

Measuring Patient Satisfaction and Service Quality

Ultimately, the competition for the health care dollar hinges on the ability of the health care provider to meet or exceed patient expectations in terms of service quality and satisfaction. Not only is this vital for attracting new patients, but it is essential and critical for retaining the current patient base (Headley and Miller 32).

In 1988, a research team developed a measurement instrument to determine customer satisfaction and perceptions of service quality. The researchers named this instrument SERVQUAL, an acronym for service quality. They "suggest that the SERVQUAL scale is universal to all services" (33) regardless of the industry in which the services are provided.

A subsequent study published in 1990 by researchers Dean Headley, Professor of Marketing at Wichita State University, and Stephen Miller, Professor of Marketing at Oklahoma State University, investigated the reliability and validity of an adapted SERVQUAL measurement scale for its use in a medical services setting. The authors of this study suggest that while SERVQUAL may be adequate for measurement of service quality in a medical setting, the actual

survey instrument may need adaptation to the specific issues pertinent to the provider of services collecting the data (32).

The focus of this study, then, explores the reliability and validity of an adapted SERVQUAL instrument. Additionally, it investigates the relationship between a health care consumer's perceived quality of service and that person's behavioral intentions in terms of future use of the service (32).

Drs. Headley and Miller point out that due to the multidimensional aspect of service quality, various combinations of perceptions are likely and, therefore, may present multidiverse responses in terms of future behavioral intentions. This unique challenge to health care administrators emphasizes the strategic importance of understanding "the connection between perceptions of service quality and future consumer behavior" (33).

The data collection process for this study occurred in two phases. Two identical measurements were taken at different points in time. The first measurement was to determine the pre-encounter expectations of the patients. The second measurement was taken after the encounter experience to ascertain whether the patients pre-encounter expectations had been met or exceeded (34).

Both scales measured the same dimensions identified by the original SERVQUAL instrument (Tangibles, Reliability, Responsiveness, Assurance, and Empathy). The adaptation of the scale occurred not in dimensions measured but in the language used to query the respondent. For example, to measure the

dimension Empathy, one survey question was phrased, "Provider gives individual attention" (40). Measurement occurred using a seven-point Likert scale response format, as did the original SERVQUAL instrument (34).

The behavioral intent aspect measured the strength of the intent, also on a seven-point scale. The five behaviors measured were Repeat Purchase, Complimenting, Complaining, Switch Providers, and Opt Not to Use Any Service (34).

Headley and Miller randomly selected participants from 967 adult patients who had scheduled appointments in the near future. They mailed the pre-encounter questionnaire to the participants with a request to return it in a sealed envelope at the time of their appointment. For each pre-encounter survey returned, a post-encounter survey was given to the patient as they left their appointment. The pre- and post-encounter responses were matched through questionnaire tracking numbers (34).

Of the original 967 questionnaires mailed, 244 were returned, and of those 244 returned questionnaires, 159 usable pre- and post-encounter questionnaires were included in the study. The pre-encounter responses were paired with the post-encounter responses for each participant (34).

The first phase of the analysis determined internal reliability of the adapted SERVQUAL scale used in this study with the internal reliability of the original SERVQUAL scale. The results demonstrated that the internal reliability of the

adapted SERVQUAL scale used in this research study compares quite favorably with the internal reliability of the original SERVQUAL measurement scale both in "nature and magnitude" (35). Using Cronbach's alpha to measure reliability, the instrument used in this study measured .87, and the original SERVQUAL instrument internal reliability measured between .87 and .90.

The next phase of the study analyzed the relationship between perceived service quality and the strength of behavioral intent on future purchase decisions. The study found that a significant relationship exists between service quality perception and future consumer behaviors. Perceptions of higher quality result in favorable intentions such as repurchase and recommend each demonstrating a variance of five percent. Perceptions of lower quality will result in unfavorable intentions such as complaining to family and friends (3% variance) and seeking care elsewhere (2% variance) (36).

This finding implies that the higher the quality of service perceived by the patient, the more likely that the patient will have intent to return, and the lower the service quality perceptions, the less likely the patient will intend to return. The health care attributes found to be most significantly related to behavioral intentions were Reliability, Dependability, and Empathy . The attribute of Reliability was significant in four dimensions: Return to same physician, Recommend, Complain to family/friends, and Complain to clinic management. Dependability showed significance in the dimensions of Return to same physician,

Recommend, and Seek care elsewhere. Empathy also showed significance in three dimensions: Return to same physician, Compliment clinic management, and Seek care elsewhere (36).

The overall results of this study demonstrate that using SERVQUAL provides a reliable foundation for quality measurement in health care. Reliability results of this study demonstrate that it is as equally reliable in a medical setting as its original instrument was in a non-medical setting. The authors caution that while it was proven to be reliable, there must be careful attention to unique aspects of a given medical setting which would necessitate adapting the scale to those aspects (38).

Administrators would be wise to acknowledge that strategic decisions should be made with an understanding of the connection between perceived service quality and patient satisfaction, and the health care consumer's intentions on future use of the provider or facility. Drs. Headley and Miller offer sage advice for administrators:

> If resources for improving service quality are limited, ensuring that the promised service is performed accurately, dependably, and with caring, individualized attention offers the best return in customer satisfaction and bonding for repeat business. (39)

As quality and satisfaction become ever more important in attracting and retaining patients, health care administrators and providers need to focus on these two issues. Patient perceptions of who can provide the most quality with the

greatest satisfaction ultimately drive the health care dollar. It is vitally important, therefore, that administrators understand the features that determine how health care consumers evaluate the services they receive. By understanding the features and issues upon which quality and satisfaction are evaluated, administrators and providers can then implement a program to enhance and monitor performance in the areas identified (Bowers, Swan, and Koehler 49).

Marketing professors Michael Bowers, John Swan, and William Koehler investigated this issue. Two areas of patient satisfaction research have emerged and evolved over the years. The first area focused on identifying the areas determining patient satisfaction. The second focused on identifying the attributes that service consumers use in determining service quality and satisfaction. The instrument developed as a result of this research is the SERVQUAL instrument. Because SERVQUAL is not unique to health care, a determination needs to be made as to whether it qualifies as an accurate tool for the health care industry. The main focus of the study by researchers Bowers, Swan, and Koehler was to determine whether SERVQUAL and the earlier area of research adequately determine health care quality attributes (50).

This study differs from the research of Drs. Headley and Miller in that while their study sought reliability of an adapted SERVQUAL scale, Drs. Bowers, Swan, and Koehler are investigating whether the breadth of the SERVQUAL scale thoroughly and accurately measures patient satisfaction and service quality.

Further, they attempted to identify additional dimensions which may further illuminate patient satisfaction and service quality (50).

The five attributes identified in SERVQUAL are: Tangibles (location and appearance of the physical facilities, appearance of personnel) Reliability (dependability and accuracy of services), Responsiveness (willingness and promptness to help those served), Assurance (combination of staff's knowledge and courtesy), and Empathy (caring and attention given to customers). The results of previous tests to determine whether the SERVQUAL attributes accurately apply to the health care industry have been inconclusive. These studies have demonstrated that the attribute Tangibles does not have adequate reliability. Additionally, it was discovered that the dimension of Reliability did not significantly predict patient satisfaction (50).

These earlier studies only sought to determine patient perception of service quality based on the SERVQUAL attributes. They did not provide any indication as to whether patients used additional attributes in evaluating satisfaction and service quality (50).

One reason SERVQUAL may not be applicable to the health care industry is due to the fact that "the nature of health care services, in terms of a higher and more intensive provider-consumer interaction, is different from the services from which SERVQUAL was developed" (50). Therefore, the basis for this study was to determine if the SERVQUAL attributes are applicable to health care and

whether there are additional attributes which administrators and providers must take into account when attempting to provide patient satisfaction and service quality.

The researchers utilized two methods of data collection. First, they conducted a focus group analysis in order to identify new health care quality dimensions that patients may use in developing their perception of satisfaction and service quality. From the results of the focus group, they then developed a patient satisfaction survey which utilized attributes identified in previous studies, as well as incorporating the new attributes identified by the focus group analysis (52).

The focus group analysis revealed two major dimensions of patient satisfaction not identified in previous research. Those two dimensions are Caring and Outcomes. Caring "implies a personal, human involvement in the service situation" (52), and Outcomes refers to pain management and quality of life after a medical intervention.

With the additional attributes of Caring and Outcomes identified, the survey phase of the study measured twelve dimensions of patient satisfaction and service quality. These twelve dimensions were: Tangibles, Communication, Competence, Access, Courtesy, Understanding/Knowing the Customer, Responsiveness, Reliability, Security, Credibility, Outcomes, and Caring (53).

The research team mailed 644 surveys. Two hundred and ninety-eight usable surveys were returned for a response rate of 46.3%. One of the most interesting results of the study was that Caring, one of the newly identified attributes of health care service quality, significantly predicted satisfaction (β=.12, ρ=.03) while the other newly identified attribute of Outcomes did not (β=.07, ρ=.22) (53).

The other dimensions which were also significant predictors of service quality were: Communication (β=.16, ρ=.00), Reliability (β=.08, ρ=.05), Accessibility (β=.15, ρ=.00), Understanding/Knowing the Patient (β=.11, ρ=.04), and Responsiveness (β=.1, ρ=.02). Characteristics found not to significantly predict patient satisfaction were: Tangibles (β=.06, ρ=.17), Competence (β=.04 , ρ=.45), Courtesy (β=.05, ρ=.37), Security (β=.02, ρ=.61), and Credibility (β=.09, ρ=.13) (53).

The results of this study support the research rationale that while SERVQUAL may contain elements used by health care consumers to evaluate their satisfaction with the health care service encounter, those elements need to incorporate other dimensions as well. With the newly identified attribute of Caring being a significant predictor of satisfaction and service quality, it provides supporting evidence that one reason SERVQUAL is not adequate is due to the intense nature of the health care provider interaction with the consumer. Further, it supports the belief that health care consumers do not judge the technical quality

of the care they receive, but they do judge the humanistic quality of the care they receive (54).

Demographic Impact on Patient Satisfaction

In 1990, Assistant Professor Arthur Dolinsky of the College of Business at Faileight Dickinson University, and Assistant Professor Richard Caputo of the University of Pennsylvania School of Social Work, embarked on research looking into how specific attributes of health care coupled with patient demographics enter into the patient satisfaction equation (31).

Professors Dolinsky and Caputo wanted to determine what health care attributes contribute to patient satisfaction and how various demographics interplay with these attributes. They were particularly interested in comparing how attributes and demographics affect members of health maintenance organizations (HMO) versus non-HMO members. They used national samples from HMO's and a cross-section of the public who were not members of a health maintenance organization (32).

Reporting on demographic differences between the two samples, the researchers found that "HMO members tended to be younger, to have children, and to be more educated than non-members" (32). Another demographic revelation was the fact that HMO members were most represented in urban areas and least represented in the South.

The research surveyed respondents on specific attributes, but the main focus was to determine the overall satisfaction with their health care system. Attributes posed were: the ability to see the doctor whenever needed, the quality of the physician, the ability to see a specialist when needed, the length of time one must wait before an appointment is available, twenty-four hour access to a physician, and the amount of out-of-pocket costs to the respondent. Demographics that were profiled included gender, age, marital status, number of children, race, educational level, geographic location, and whether the respondent was an urban or non-urban resident (38).

The first stage of data analysis regressed factors on the set of health care attributes. The researchers sought to determine the influential impact of each attribute towards overall satisfaction. This function was performed for both HMO and non-HMO members. The importance of having this information lies in its ability to enable the organization to satisfy current members and attract new members (32).

The next analytical phase determined the extent to which demographic characteristics influenced the individual respondent's overall satisfaction with health care. "The conceptual framework for this analysis was that demographic characteristics influence overall satisfaction indirectly rather than directly" (32).

The results show that in both the HMO and non-HMO populations, the listed attributes significantly explain satisfaction with health care. For the HMO

model, the attributes explain 33% of the variance in health care satisfaction. The results of the non-HMO are comparable at 29% (33).

With both the HMO and non-HMO samples, the two items that most strongly determined satisfaction were cost of health care and availability of physician specialists (HMO coefficients = .206 and .203, respectively; non-HMO co-efficients = .189 and .172). Physician quality and 24-hour access to medical services follow closely behind cost and availability as satisfaction attributes (HMO co-efficients = .123 and .089; non-HMO co-efficients = .157 and .069) (33).

Results show differences between the two populations in two other areas. The HMO population identified the availability of doctors whenever needed (.141) as more important than the length of time before an appointment is available (.054); however, non-HMO population found the length of time between making an appointment and seeing the doctor (.113) as more important in determining satisfaction than the availability of doctors whenever needed (.073) (33).

Overall results demonstrated that both the non-HMO and HMO populations are satisfied with the health care received through their respective health care systems, as well as with the individual health care attributes (34).

When analyzing the effect demographics plays in the satisfaction equation, none was shown to have direct effects on satisfaction. Of the indirect effects for

the demographic characteristics, age demonstrated that it has more influence with more consistency than the other demographic characteristics . The HMO sample ranged from -.011 to -.184. The non-HMO sample ranged from -.052 to -.145 (35).

For the attributes in which age had an indirect effect on satisfaction, older respondents were more satisfied with their health care than younger respondents. Since expectation and perception play a large part in satisfaction with health care, Professors Caputo and Dolinsky theorized that older respondents grew up during a period of scarcer resources and "more limited medical services and technology" (35), therefore, have more limited expectations than younger respondents. Because the older respondents' expectations are modest, services provided over and above those expectations increases the level of satisfaction.

Overall results show that the attributes are very similar in importance for both the HMO and non-HMO populations. Of the attributes, the two most important are cost and ability to see a specialist. Age was the most consistently significant demographic characteristic for both populations with older respondents reporting greater overall satisfaction than younger respondents (36).

Dr. Venkatapparao Mummalaneni and Professor Pradeep Gopalakrishna continued the research into the role that sociodemographics play in the patient satisfaction equation. They questioned to what extent these factors influence overall patient satisfaction. They believe that sociodemographics indirectly

influence patient satisfaction while health care attributes of service play a direct role in the equation (16).

Just as the study by Dolinsky and Caputo demonstrated, gender is a known sociodemographic characteristic in which higher satisfaction is reported. Other studies have shown that a higher level of patient satisfaction is reported among female patients than male patients. Better communication between female patients and physicians could account for this difference (16).

Researchers Mummalaneni and Gopalakrishna examined two proposed models for patient satisfaction. While mediator and moderator variables are similar, they are distinct from one another. The mediational model proposes that sociodemographic characteristics mediate the relationship between health care attributes and patient satisfaction. That is, they act as a causal agent in the patient satisfaction equation. What is important to one person within a given sociodemographic category will be exactly the same as another person within the same sociodemographic category. Therefore, service delivery can be replicated by category, and the level of satisfaction for each patient will remain the same within that category (16).

The moderator model proposes that characteristics of the delivery system, along with sociodemographics, influence patient satisfaction with patient sociodemographics moderating levels of satisfaction. The moderator variable does not directly affect patient satisfaction but plays a role in altering it.

Sociodemographics serve as moderators of patient satisfaction in that one's life experiences vary from person to person. It is those life experiences which shape one's expectations of service and perceptions of service. Therefore, what is important to one group of people may not be important to another group. Service delivery could be exactly the same between the two groups but perception of the service may not. It is this perception of service that ultimately defines patient satisfaction (16).

This 1995 study included participants from five national geographic regions. Respondents ranged between 18 and 65 years of age. They belonged to fee-for-service plans and lived in both urban and rural areas. A total of 2340 usable surveys were received for a total response rate of 68% (17).

Six demographic variables were used: age, gender, occupation, employment status, education, and income. Health care attribute variables included: technical quality of care, art of medical care, cost of medical care, answers to medical questions, length of time waiting for medical appointments, reported continuity with medical care, and medical office facilities (17 and 19).

Results demonstrated that while health care attributes account for a wide variance in patient satisfaction (52.3% in the moderator model and 54.8% in the mediator model), sociodemographic variables do not. The only sociodemographic variable which appeared to impact satisfaction was income. The impact of

income on satisfaction is only significant if health care providers were to market their services towards income groups (18).

Therefore, this study clearly demonstrates the impact which health care attributes play in the satisfaction equation. The health care administrators and marketers would be wise to emphasize the importance of these attributes to all members of their organization (18).

Factors Influencing Patient Satisfaction

John Joby, Associate Professor of Marketing at Bentley College, investigated how a patient's past experience impacts their perception of current service. Joby theorized that patient evaluations of their experience are an amalgamation of three components: perception of service quality, satisfaction with the service provided, and behavioral intention. He further delineates the interrelationship of these components as:

> Patient satisfaction is a patient's (affective or emotional) response to his or her (cognitive or knowledge-based) evaluation of the health care provider's performance (perceived quality) during a health care consumption experience. Behavioral intention, as a predisposition to future behavior, is the (behavioral or cognitive) outcome of the (cognitive) evaluation and the (emotional) response to that evaluation. (56)

Because patient satisfaction is an attitude based upon evaluations of previous encounters with health care providers, each encounter has the potential to

significantly influence future satisfaction. Therefore, each encounter ultimately has the ability to impact the viability of the health care system as a whole (56).

Professor Joby hypothesized that the overall satisfaction level of a patient's previous health care encounters significantly influence each subsequent encounter in three areas: perception of service quality, satisfaction, and future behavioral intentions. In the same 1992 study, he also looked at how prior impressions with a specific provider influenced the patient's perceptions of quality with that provider, satisfaction with that provider, and intent to return to that provider (57).

The study questionnaire measured the following independent variables: competence, credibility, security, reliability, courtesy, communicativeness, understanding, availability, responsiveness, and physical environment. It used a five-point Likert response scale. Fifteen hundred surveys were distributed with 353 responses for an overall response rate of 24%. Sixty-four percent of respondents were female. The largest age group responding (20%) ranged from 26 years to 35 years (58).

The most important results showed that the patient's previous impressions of a particular provider significantly influenced their response to measures of quality, satisfaction, and intent to return. Furthermore, patients form these impressions either as a patient themselves, or as a friend or relative of a former patient of that provider. The significance of this finding is that although patients

might receive appropriate, competent medical care, a patient may still come away from a medical encounter experience with a negative impression due to the myriad of aspects which impact the patient's overall perception. If one aspect was perceived as negative, such as an extended wait to see the physician, the overall impression of the provider may be deemed as an unsatisfactory experience. This negative impression may prejudice the patient's future impressions of their experiences as being unsatisfactory (58).

The results also demonstrated that all previous provider experiences, whether or not particular to a specific provider, significantly influence a patient's evaluation of health care providers in general. These findings are significant as they emphasize the importance of each experience and encounter on overall satisfaction and intent to return (59).

Another study looking at factors influencing patient satisfaction was published in 1995 by a research team from Ohio State University. It compared the level of patients' satisfaction to that of their family members and friends. The purpose of the study was to determine indicators of patient satisfaction and also to identify indicators of satisfaction or dissatisfaction for family and friends of the patient. The study explored family and friend's satisfaction with service provided as they can often be very influential in a patient's choice of provider. Additionally, family and friends are potential customers of a provider and, as

such, failing to satisfy this group can result in lost revenue (Strasser, Schweikhart, Welch, and Burge 34).

Losing one potential customer has a potentially cumulative effect due to the nature of lost word-of-mouth referrals. Estimates of the lost revenue range from a conservative $6,000 to as high as $400,000 per patient (35).

This multi-site study was conducted over a six-year span. The research team distributed 47,241 patient satisfaction surveys with a 21% response rate. "In total, approximately 95% of the respondents were patients expressing their views of their experience while 5% were family members and friends" (35).

Three variables were analyzed across all eight sites: satisfaction with quality of physician care, satisfaction with quality of nursing care, and overall satisfaction with the encounter experience. Measurement was completed using a 10-point Likert scale (36).

The results indicated that at six of the eight sites patients were more satisfied than their family members and friends. The two sites in which levels of patient satisfaction and family member/friend satisfaction were consistent with one another were teaching hospitals. The team concluded that multiple reasons exist for their findings. These include "differential cognitive exposure, personal control, differential expectations, and perceptions of vulnerability" (37).

Because the patient is the focus and purpose of the hospital stay, the patient receives different stimuli than the other group. As patients, staff members

focus their treatment and helping efforts directly to them. Family members and friends do not experience this aspect. This is also true in terms of frequency of contact with medical personnel. The fact that at teaching hospital sites satisfaction levels were consistent between patients and family members/friends supports this theory. Because of the increased numbers of medical personnel at teaching hospitals (residents and medical and technical students), family member and friends had the opportunity to interact more with medical personnel (37).

The Ohio University team further concluded that personal control theory plays a part in the differences between the two groups. Personal control theory suggests that a relationship exists between a person's life or job experience and that "person's perception of psychological covariance between their actions and desired outcomes" (37). From a personal control standpoint, patients do have a greater degree of objective and psychological control than family members and friends. For example, patients have the ability to "elevate their healing knee to minimize swelling and thus contribute directly to their wellness" (38). Patients also have the ability to adopt a positive outcome mindset to contribute to their recovery while family members and friends are unable to directly contribute.

Because satisfaction levels are affected by expectations, the two groups may have differing expectations from the outset. Sick or injured patients may have fewer expectations than do the members of the other group, therefore, it may

be easier to exceed patient expectations and, consequently, incur higher levels of satisfaction (38).

Another possible explanation for the differing satisfaction levels between the two groups could exist in a patient's belief that should they need to use the services of that provider in the future, they would not wish to incur negative repercussions as a result of honestly expressing any dissatisfaction with services provided. Conversely, those who would have a fear of negative repercussions for their honesty would be less likely to participate in the survey (38).

The team concluded that, given the dynamics of the health care industry and current research in patient satisfaction, care should be taken to determine the needs of the other group. Family members and friends are chief influences of health care consumption decisions and potential customers themselves. Any negative experience for family members and friends can have a significant impact on the entire health care system (39).

Given the dynamics and volatility of the health care industry, competition among providers and health systems intensifies. Patients have more choices of providers and services than they did ten years ago. As competition increases, providers are continually adapting their services to meet the rising expectations of current patients and to attract new patients (Gilbert, Lumpkin, and Dant 46).

Faye Gilbert, James Lumpkin, and Rajiv Dant, Professors of Marketing at the University of Mississippi, University of Southwest Louisiana, and Boston

University, respectively, undertook a study in 1992 comparing three types of health care service providers: private physician practices, walk-in clinics, and emergency rooms. The researchers had four study objectives: 1) understand the customer's expectations for health care service performance; 2) determine if expectations for service provided by a private physician practice are higher than expectations for walk-in clinics and emergency rooms; 3) determine adequacy of performance in prior encounters for repeat customers; and 4) confirmation of patient expectations results in satisfaction and, therefore, increase the likelihood of the patient returning to that provider for future services (47).

General expectations typically serve as a basic reference point upon which evaluation of services begins. This reference point may change over a period of time depending upon changes within a particular industry. As health care continues to evolve, that reference point from which patients base their expectations may change. It is the belief of Professors Gilbert, Lumpkin, and Dant that the private physician practice serves as the reference point for patients' expectations regardless of where the patients receive their services (47).

Data was gathered through a telephone survey. Criteria for inclusion in the study was: 1) the patient must have seen a physician within the last six months; 2) they must be a regular customer of that physician (defined as having seen that physician at least once a year for the last three years); and 3) their last physician visit must have been for routine medical care (48).

Of the 2,146 telephone calls made, 274 people qualified for the study criteria. Of these 274 participants, 28.5% used a walk-in clinic, 48.2% used a private physician, and 23.4% used an emergency room. The study measured seven attributes. The attributes were grouped into affective and instrumental attributes. The five affective attributes were: 1) time spent with the physician; 2) the way the physician provided explanations to the patient; 3) friendliness of the physician; 4) friendliness of staff; and 5) amount of information provided to the patient. The instrumental attributes were cost and physician competence (48).

Results were calculated using MANOVA/MDA analysis (Wilk's lambda $\rho = .000$). The results regarding expectations of alternative providers was quite interesting. Expectations for the three types of service providers were clearly different. The results "suggest people are not neutral to alternatives; hence adaptation level is NOT in effect. The respondents differentiated attributes of the three providers" (48).

For patients of walk-in clinics, the most important reasons for their different expectations were staff friendliness and cost. Other identifiers of expectation levels for these patients was friendliness of the physician, amount of time spent with the patient, the way the physician provides explanations, and competence of the physician. These patients held the lowest expectations for satisfaction with emergency rooms. The attributes explained 62.7% of the variance (49).

Private physician patients indicated that the most important causes for different expectations were friendliness of the staff and physician, and the amount of time spent with the patient. Also important to this group were the way the physician provided explanations and friendliness of the staff. This group also had the lowest expectations for emergency rooms. The explained variance in expectations was 80.1% (49).

Patients of emergency rooms indicated that the most important causes for differences in expectations were physician friendliness, competence, amount of time spent with the customer, and amount of information provided. Other important indicators were the way the physician provided explanations and staff friendliness. The explained variance in expectations was 77.6% (49).

Findings of this study indicate that while alternative methods of health care service delivery are available, patients gravitate towards the type of provider to which they are accustomed. Additionally, while it was believed that private physician practices serve as the basic reference point for service expectations, walk-in clinics generate the highest expectations and provide service to match or exceed those expectations. Emergency rooms were found to have the lowest expectations for service and matched the respondents expectations. While private physicians performance appears to be below expectations, patients still reported satisfaction with their physician (50).

Additionally, it appears that walk-in clinics are setting the standard for patient expectations of satisfaction. The importance of this result is that it

> . . . reinforces the dramatic impact of adaptation levels on changing expectations. As walk-in clinics have marketed the benefits of the service and the environment has changed, the standard level of value expected from the industry has increased. (50)

The changing expectations of the customer emphasize the need to continually monitor the needs and expectations of those served. Strategic planning should incorporate information about those expectations (50).

The constructs of service quality and satisfaction are difficult to distinguish. This is particularly true in the health care setting. In recent years, administrators and providers are becoming more aware of the need to increase patient satisfaction levels. The challenge occurs in operationalizing the concept service quality into the concept satisfaction (Taylor and Cronin 34).

Researchers Steven Taylor and Joseph Cronin, Professors of Marketing at Illinois State University and Florida State University respectively, sought information on how to construct a decision making model that would provide marketers of health care services with a distinctive method for differentiating between satisfaction and service quality. Patient satisfaction typically is discussed in terms of short-term or encounter specific satisfaction while service quality typically is used to describe a long-term attitude developed as a result of multiple service encounters (34).

Published in 1994, the researchers developed the study hypothesis on the belief that satisfaction with the service encounter is dependent upon the patient's perception that the service received exceeded their expectations. Thus, their hypothesis was that "expectations negatively influence both disconfirmation and satisfaction processes in a direct causal fashion in a health services setting" (35).

Two small studies were actually conducted and reported on by the researchers as one large study. Study 2 was a duplicate of study 1 with the exception that it used a larger sampling of respondents. In total, 343 persons participated. Interviewers gathered data through face-to-face interviews in shopping malls. Both studies looked at five constructs: expectations, performance, disconfirmation, satisfaction, and service quality. The researchers captured data measurement using a seven-point Likert scale (36).

Researchers found some dissimilarities in results between the two studies. Study 1 demonstrated that perceptions of performance influence consumer disconfirmation and satisfaction but did not influence perceptions of service quality. Study 2 found a slightly different result. The second study found that performance perceptions not only influence the patient's perception of service quality, but also influence the patient's perception of disconfirmation and satisfaction (39).

The conflicting results of the two studies illustrates that health care consumers may not distinguish between the two constructs when responding to

satisfaction and service quality surveys. It further suggests that satisfaction and service quality are interdependent variables and supports the concept that satisfaction pertains to short-term attitude, while service quality pertains to long-term attitude that is dynamic based upon encounter-specific evaluations (39).

Additionally, researchers Cronin and Taylor emphasize the fact that the differences between study 1 and study 2 clearly illustrate the need for further research to understand and clarify the relationship between service quality, performance, satisfaction, expectations, and disconfirmation. They summarize by saying:

> This study adds to the discussion of the appropriate conceptualization and operationalization of service quality and satisfaction in health services settings by investigating the nature of the causal relationships between expectations, perceptions of performance, disconfirmation, satisfaction, and service quality. The results answer some questions, but, as is often the case with such research, raise more questions than are answered. Health services practitioners and researchers are cautioned to consider these questions in their continuing efforts to study the issues that affect the delivery of health services. (39)

Patient Perceptions of Service and Satisfaction in Ambulatory Care Settings

Researchers Mark Peyrot, Philip Cooper, and Donald Schnapf undertook a study which looked at patient satisfaction in terms of the non-technical aspects of the health care experience. The researchers grouped the areas of the encounter

into three general areas: staff behavior, atmospherics (e.g., appearance of the facility, convenience, and comfort), and patient information (24).

The 1994 study used a free-standing diagnostic facility providing outpatient services. The purpose of using a diagnostic facility for the study as opposed to using a physician office, is that the researchers wanted the survey respondents to provide information regarding their satisfaction solely about the service received. The researchers felt that if they used a physician office to obtain data, the respondents would interject into their responses the relationship they have developed with their physician (Peyrot, Cooper, and Schnapf 25).

Professors Peyrot, Cooper, and Schnapf hypothesized that a relationship exists between the patient's perception of the quality of service received and patient satisfaction. In turn, they also predicted that the higher the perceived quality of service, the "greater willingness to recommend the provider" (25).

Staff members at the diagnostic facility distributed 2200 questionnaires with a return envelope addressed to an independent evaluation organization. The response rate was greater than 60% with a total of 1366 questionnaires received.

Survey questionnaires were designed to "capture the patients' experience of the service" (25). In order to seize the data in a manner in which patients would more easily recall the specifics of the service, the questions were arranged according to a *service script*. That is, the same order in which the service transaction is operationalized: "1) pre-arrival, 2) waiting room, 3) dressing room,

4) examination area, and 5) leaving the office" (25). The survey also gathered data regarding the patient's general impressions of the service experience, such as courtesy of the staff, convenience of the office, and information received.

The study results demonstrated high levels of satisfaction with the service provided (Chi-Square=411.20, $\rho<.001$) along with high levels of willingness to recommend the provider (Chi-Square=322.41, $\rho<.0001$). "Among those who were 'very satisfied' with the service, 98% would recommend it, while only 37% of those less satisfied would recommend it" (27).

Furthermore, the factors hypothesized to be important to patient satisfaction and willingness to recommend the provider (staff behavior, atmospherics, and patient information) were all found to be significantly related to patient satisfaction and willingness to recommend (27).

The findings clearly indicate that health care administrators would be well-advised to actively manage non-medical attributes of their facilities. Service quality and satisfaction are shown to have a clear competitive advantage (29).

Various studies have explored the patient's perception of satisfaction with their health care provider. William Borchardt designed a research study looking at the patient's perception of quality of service received at a clinic affiliated with a large health care system. The main purpose of the study was not only to focus on the patient's perception of quality at a specific clinic, but since the clinic was affiliated with a large health care network, satisfaction or dissatisfaction with the

clinic may effect the overall viability of the health care system. Therefore, this 1994 study also investigated the patient's willingness to return to the provider or recommend the provider. Borchardt theorized that a correlation exists between the patient's perception of quality and willingness to recommend the provider (78).

A survey using seven characteristics identified in the literature as having significance regarding patient perceptions of quality was used to gather data. Surveys were handed out to patients along with a return envelope. Of 2,750 surveys distributed, 989 were returned for an overall response rate of 36%. The survey participants represented a wide cross-section of patients who received services from various medical specialties and clinics within the same health care delivery system. Seventeen sites with a total of 32 physicians were included in the study (79-80).

The respondents answered questions relating to physician courtesy, staff courtesy, how well patient questions were answered, access (this included physical access as well as telephone access), comfort of waiting room, privacy, and time spent waiting to see the physician (80-82).

Respondents can be broken down into the following categories: 70.6% female; 30.3% had been patients of a given physician and clinic for eleven or more years; 35.6% were older than 65 years; 23.7% ranged in age from 25-39 years; 58% lived five miles or less from the clinic; 8.7% lived more than 15 miles

from the clinic; 46% learned about the clinic through word-of-mouth referrals; 94% stated they would recommend the clinic and physician to friends and family; 73% had already recommended the clinic to someone else; and 96% had health care insurance (80).

The overall findings clearly show that a significant relationship exists between patient's perception of quality and willingness to recommend the provider. Each individual result of the seven variables tested illustrated that each significantly impacts the overall evaluation of the provider (82).

The findings clearly support the importance that patient perception plays in satisfaction and service quality. If the patient perceives a lack of service quality, then they will not perceive satisfaction. The study also supports the concept regarding "the art of medicine" (53). As stated previously, patients may not be able to determine quality of technical aspects of service, but they are able to determine quality in terms of the humanistic aspects of service.

Service Quality and Patient Satisfaction with Emergency Services

Another facet of ambulatory medical care includes care received through emergency medical services. Patient perception of satisfaction and service quality received through emergency medical services provides another important vantage point of ambulatory care setting services.

In a study published in 1993, Thomas Whipple, Professor of Marketing at Cleveland State University, and Vicki Edick, Corporate Information and Quality Officer with Lake Hospital System of Ohio, describe a program which monitors continuous quality improvement (CQI) at a multi-site health system. The intent was to monitor the progress of a five-year CQI program over a period of time. Previous research recommends tracking expectations and performance on a yearly basis. The reason for annual measurement is that service satisfaction is a dynamic process both in terms of assessing changing patient expectations and to determine achievement of process improvement goals (27).

Evaluation of service is an abstract process. A tangible product does not exist, therefore, one cannot examine the quality of the goods prior to purchasing. In order to evaluate service quality and determine satisfaction with the level of service quality received, one forms an idea as to the components of the service they are to receive, and this idea, or perception, of service is then compared to the actual service received. Should the service received exceed the anticipated level of service, the service provider receives high scores in service quality. Should the service received be less than the anticipated service level, the provider receives low scores in service quality (26).

This study focused on the emergency services provided by the various health system sites. The overall study consisted of two individual studies performed one year apart. Two basic objectives were at the heart of each study:

1) to identify major sources of patient dissatisfaction in order to initiate improvements; and 2) to enhance employee morale by identifying sources and levels of satisfaction. In addition to the two basic objectives, another pair of objectives was identified: "1) to determine how levels of satisfaction have changed and 2) to examine potential areas for improvement identified in past studies" (27).

The sample population consisted of those patients who had used the emergency services of one of the health system facilities during a two month period prior to each of the studies. Telephone interviews from 750 patients were conducted by professional field interviewing services. Interviewers asked the respondents what level of service performance they expected to receive. They were then asked to compare their expected level to their perceived level of service received. Both the expected level and the perceived level were paired together on a four-point rating scale consisting of identified ratings as: low, average, high, and very high (27).

The first study results showed that of the 52 pairs of attributes queried, 50 produced a positive gap. That is to say that 50 of the 52 pairs showed that the perceived service level was higher than the expected service level. Although two attributes demonstrated insignificant negative gaps (perceived service level was lower than expected service level), administrators within the health system believed that the reasons for the negative gaps was unreasonable. Patients

reported negative gaps due to the fact that they 1) had to wait one hour or more to receive services and 2) they were not kept informed as to a reason for the delay (27).

Given this information, process improvements were made at the facilities. Staff was encouraged to 1) focus on reducing waiting time, 2) keep patients informed as to the reason for a delay in treatment, and 3) keep accurate records and reasons causing the delays (28).

Results of the study performed the following year indicated that process improvement had effected patient satisfaction reports. Significantly positive gaps were reported in the two areas: time spent waiting for a doctor and that a reason for treatment delay was explained to the patient (28).

The results illustrate how process improvement can positively effect patient satisfaction. The implementation of process improvement relies heavily on changing behavior of staff who are accustomed to performing tasks based on existing methods. Effective leadership is fundamental to process improvement. New leadership within the emergency services departments at this health system provided the impetus for staff members to more effectively and openly communicate with patients. Effective communication is at the core of patient satisfaction as demonstrated by the study results: ". . . explaining the delay is more important to patient satisfaction than actually reducing the waiting time" (28).

A similar study by researchers Judith Mack, Karen File, Jeffrey Horwitz, and Alan Prince was published in 1995. Their study investigated the importance of an emergency department visit in terms of effecting the patient's future voluntary choice for health care services. This importance not only effects the patient's future emergency room choice, but could influence the patient to either recommend or discourage others in choosing the entire health care system. Presently, the majority of hospitals experience an affiliation with large, multi-site, multi-service health care systems. As stated previously in discussing another study, each encounter with any aspect of a health care system potentially impacts and influences future health care system choice for medical services (7; Borchardt 78).

A positive experience for the patient will more likely result in patients returning to the same health care system for future medical services. This issue is highly important in terms of health care system survival (7).

Care occurring in an emergency department has several unique aspects. Service needs are typically of an urgent nature. Because the need is urgent, patients have not voluntarily sought medical services. Patients usually do not have a choice as to the health care provider in the emergency department providing the services, unlike the options a patient has in choosing a primary care provider. Additionally, patients may not have the option of choosing to which emergency department they are taken. There may be guidelines for the

paramedics as to which hospital they can take patients. Emergency service triage may also play a role in determining which emergency department accepts the patient (7).

Researchers Mack, File, Horwitz, and Prince looked at several areas to determine satisfaction among emergency department users (patients). These areas included: medical care, interaction between the patient and medical personnel, satisfaction with physical surroundings, and patients' perception of urgency for their care (9).

The main focus of this study was to determine how urgency and patient satisfaction with emergency department services relates to future use and referrals. Because the authors were concerned regarding how a low response rate for a mail survey would bias the data, they employed telephone surveys using random digit dialing (10).

The population consisted of privately-insured respondents from five cities who had used emergency departments within the previous 12 months. Although a telephone survey immediately excludes those without a telephone, the authors did not believe this would significantly impact the results. Typically in today's society, those who do not have a telephone also do not have private insurance. The reason privately-insured patients were chosen is that they are less likely to use the emergency room for non-urgent care. Additionally, urban respondents were

chosen over rural respondents due to the greater choice in urban emergency departments (10).

A ten-point scale was used to measure responses. The extended scale allows the respondent to make fine distinctions regarding satisfaction. The low end of the scale (1) was used to report dissatisfaction, and the high end (10) was used to report satisfaction (10).

In order to test their hypothesis, the authors measured three areas: satisfaction, urgency, and future use and referral intentions. For the satisfaction component, measures taken included the patient's perception of the medical care or clinical outcome. Patients were also asked about their satisfaction with staff interaction and physical surroundings of the facility (10).

Urgency was measured by: 1) mode of patient transport to the facility; 2) patient perception of severity; and 3) status on admission. All three measures were kept in the study because a reliability analysis indicates that single indicators of urgency are faulty (10).

Therefore, this study looked at how patient satisfaction and urgency influence future use and referral. The relationship of the dependent variable (future use and referral) with the independent variables (patient satisfaction and urgency) were explored. Satisfaction is composed of three major dimensions of the encounter: medical care, quality of interactions with staff, and state of the hospital facility itself (10).

The relationship between satisfaction and urgency were then explored. The authors hypothesized that the more seriously ill a patient, the less the patient cares about physical surroundings, and the more a patient cares about the medical and interactive qualities of care. Perception of severity, admission status, and mode of transport in relation to satisfaction were studied (10).

The next phase looked at effect on satisfaction in regard to future use and referral. It was believed that patient perceptions of medical care and interaction with staff would strongly relate to intentions to recommend and use the facility. It was felt that satisfaction with the facility would not be as influential a factor (11).

When determining overall satisfaction, findings indicated that satisfaction with all three criteria (medical care, interaction, and facility) was low. Of the three specific areas measured, patients were least satisfied with staff interaction (3.91), followed by satisfaction with medical care (4.02), and then satisfaction with the facility (5.25) (11).

The researchers believe that the low measures for satisfaction with staff interaction and medical care are due to the subjective and complex nature of evaluating these areas. The greatest variations occurred with these two areas: satisfaction with medical care 2.59; satisfaction with staff interaction 2.32. Conversely, determining satisfaction with the physical facility is more easily identifiable (new or old, clean or dirty). The standard deviation for this measurement was 1.52 (11).

There was a high correlation between medical care and staff interaction (.76). There was also a high correlation between interaction and future use (.62) and referral (.49). This data supports other research regarding the relationship of communication and staff interaction with the likelihood of a patient to sue for malpractice (11).

Medical care showed a high correlation with future use and referral (.57 and .64). While satisfaction with the facility was correlated with future intention to use the facility, the correlation was modest. Future use and referral again showed a high correlation of .62 (11).

Of the three measures of urgency, only mode of transportation was significant for satisfaction with interaction (.03) and facility (.01); however, it was not significant for satisfaction with medical care (12).

The effect of urgency to influence future use and referral was reviewed. Again, of the three measures of urgency, only mode of transport was found to significantly impact future use intentions (.20). It did not influence referral. Perceptions of severity and admission status did not significantly influence intentions of future use (12).

Interestingly, urgency was found to have no significant impact regarding satisfaction with medical care. However, satisfaction with medical care greatly influenced future use of the facility's emergency department (.62). In fact, it was the most important criterion impacting future use (13).

Mode of transport was the only urgency measure which effected satisfaction with staff interaction. Communication of the staff with the patient influences the patient's perception of the medical outcome. Less desirable outcomes may be overlooked when the staff positively interacts with the patient. Positive interaction with the staff was highly correlated with the patient's intention to use (.62) and refer (.49)the emergency department again (12).

An interesting aspect of this study was that those who arrived by ambulance expressed lower satisfaction with the facility. The regression analysis of satisfaction with the facility was mixed. This issue was found to be significant regarding future referral of the facility; however, in terms of intentions to use the same emergency department again, the issue was insignificant. One suggestion for these results was that while the patient did not find the physical surroundings important to their personal experience with the facility, they may find that this is an important issue to those whom they might refer (13).

It appears that urgency and patient-perceived severity do not significantly influence a patient's decision to return for future visits or refer others to the facility. However, it is interesting that mode of transportation to the facility stood out as influencing the decision to use the facility again. Results of the three measures of urgency are ambiguous (14).

This study indicates that staff-patient interaction is at the core of patient satisfaction. The ability of physicians, nurses, and other hospital personnel to

effectively and compassionately communicate with patients is the key to the interactive process. Other research regarding the effectiveness of communication in preventing malpractice suits further demonstrates the influence of communication on patient satisfaction (14).

Physician Perception of Patient Satisfaction

Most studies of patient satisfaction investigate the issue from the patient's perspective. Research typically asks many questions as to how, what, and when patients determine satisfaction with services. In a health care encounter, patients interact with many players on the health care team. These players constitute those staff members serving in housekeeping, clerical, administrative, technical, and medical roles. In order to serve the multiplicity of patient needs, it is important to understand those needs. Physicians serve at the core of the health care team. They are the primary orchestrators of patient care services. As the primary care provider, physicians' perceptions of the various components of patient needs, hence patient satisfaction, are vitally important to the overall marketing effort (O'Connor, Shewchuk, and Carney 32; Walbridge and Delene 6).

An interesting study (1993) investigated what issues physicians perceived as important to the quality of medical services delivery. Stephanie Walbridge, of the Service Quality Institute, and Linda Delene, Professor of Marketing at Western Michigan University, sought to "define service quality as more than a

positive medical outcome" (6). The findings of this study are actually part of a larger research project seeking a method by which physician reimbursement is partially based on quality of physician services.

The study focused on physician perceptions of quality on seven global determinants. It then subdivided those seven global determinants into thirty-seven practice-related determinants of quality. Not only is physician perception of service quality important in terms of developing physician reimbursement methods, but it is physician perception which has the ability to most directly influence how medical services are delivered (6).

The physicians who participated in the study were on staff at two large teaching hospitals. Questionnaires were sent to all active medical staff members. Of the 649 questionnaires distributed, 32.7% (212) were returned. More than 60% of the physicians who responded were between the ages of 35 and 54. The number of years in practice were evenly distributed among the three groupings for this demographic (less than 10 years; 10-19 years; and 20 years or more) (8).

Seven service quality determinants were rated on a scale from 1 (less important) to 10 (more important). These seven determinants were: Reliability, Assurance, Empathy, Tangibles, Responsiveness, Core Medical Services, and Professionalism/Skill. These seven determinants were then further divided into 37 determinants of practice activities and characteristics. These were rated on a five-point scale (7-8).

The results of the seven global quality determinants indicated that physicians perceived Reliability to be the most important attribute of service quality (mean score 9.04; sd=0.98). "Female respondents had significantly higher mean scores for Reliability than their male counterparts" (8). Moreover, Reliability was rated higher among the older physician age group than with the younger physicians.

Second highest rating of importance went to Professionalism/Skill (mean of 8.91; sd=1.09). The older the individual respondent and the longer number of years that they practiced, the higher the rating given to this determinant. Empathy was rated third (mean of 8.72; sd=1.28) followed by Assurance (mean of 8.67; sd=1.19). Again, the older and longer number of years in practice by the respondent, the higher the rating for each of these two determinants (8).

Fifth-ranked among the determinants of service quality was Core Medical Services (mean score 8.56; sd=1.39). In looking at the mean scores for this variable, those who practiced in the 10-19 year category rated it higher than those who practiced more than 20 years and those who practiced less than 10 years (8).

Examining the practice-related characteristics shows that "knowledge and skill of the physician" (8) was considered to be the most important attribute (4.79). This was followed by "correct performance of the service the first time" (4.51) (8). All practice characteristics related to the global Reliability determinant were ranked in the top half of the importance scores. This was also true for those

determinants under Professionalism/Skill with two exceptions. These exceptions pertained to "history of malpractice judgement" (2.77) (9) and "explaining the trade-offs between cost and benefit" (3.40) (9).

The Assurance determinant practice characteristics, with the exception of two, all "had relative mean scores in the top third" (9). The researchers believe that this indicates the value physicians place on the importance of process-related, humanistic elements to service delivery. The Empathy scores also were ranked in the top third.

Interestingly, Core Medical Services ranked in the bottom half. This further emphasizes the fact that physicians are beginning to believe that quality of the delivery process is more important than quality of outcome. Additionally, the characteristics of "medical research" (2.28) and "journal publication" (2.12) (9) were also ranked less important than other attributes, possibly because they are not directly related to patient care. Physicians rated Tangible attributes as less important with the exception of the determinant "up-to-date equipment" (3.99) (9) which they ranked in the top half of importance.

The results of this study demonstrates that service quality is not only important to the patient but to the provider of health care services, as well. Service quality measurements are important for many reasons. It provides a means by which to "rationalize the costs of the American health care system" (10).

In a 1994 publication, the research team of Stephen O'Connor, Professor of Health Care Management at the University of Wisconsin, Richard Shewchuk, Professor of Health Services Administration at the University of Alabama, and Lynn Carney, Provider Relations Manager at PrimeCare Health Plan in Milwaukee, investigated patient satisfaction not only from the patient's perspective, they also included perceptions of patient expectations as viewed by physicians, administrators, and patient contact personnel. Recent research has demonstrated that patients' expectations of physicians constantly increases. Patients expect physicians to demonstrate greater degrees of personal warmth, friendliness, and responsiveness to their needs (34).

Patient needs and expectations cannot be met without purposefully obtaining information as to what constitutes those needs. Accurately assessing expectations is the first activity in providing service quality. Making all employees aware of those expectations will create a true organizational culture of service quality (35).

The objective of this study was to determine

> the degree of congruence among patient expectations for the five dimensions of service quality and the perceptions of those expectations held simultaneously by administrators, physicians, and patient-contact (non-physician) employees in a health care setting. (35)

The study was done at a large multi-specialty clinic. The population targeted for study consisted of the entire medical staff, the administrative staff, patient-contact (non-physician) employees, and established adult (over 18 years of age) patients. The survey instrument queried respondents regarding five basic dimensions of quality: Tangibles, Reliability, Responsiveness, Assurance, and Empathy. Survey response rates were: patients 38%, physicians 67%, administrators 67%, and patient-contact employees 62%. Of the patient respondents, 65% were female with a mean age of 51 years. Ninety-two percent of patient respondents had some form of health insurance (36).

Results indicated that the perception of the three groups of health care providers (physicians, administrators, and patient-contact employees) regarding patient expectations does not align with patients expectations in any of the five dimensions of service quality. All of the health care provider groups underestimated patient expectations in regard to four of the five service quality dimensions (Reliability, Responsiveness, Assurance, and Empathy). The fifth dimension, Tangibles, was overestimated by these groups (37).

In determining which of the groups has the closest understanding of patient expectations, administrators and patient-contact employees had the closest estimation of patient expectations. The exception to this was the dimension of Tangibles which the physician group estimated closest to the patient group. Overall, physicians had the least understanding of patient expectations (37-38).

Tangible elements are typically the areas in which administrators tend to place their initial focus when embarking on a service quality improvement journey. As the results of this study indicate, the physical attributes of the facility are the least important to the patients. This would indicate that other areas in the service quality dimension need to have priority (38).

Findings demonstrated that the dimensions of Reliability and Assurance had no significant differences between the groups. This is a significant finding, particularly in terms of the Reliability dimension. The Assurance dimension refers to employees knowledge, courtesy, and ability to convey confidence and trust. Reliability refers to "the service providers' ability to offer dependable, consistent, and accurate service" (38). The dimension Reliability lies at the essence of patient expectations for service quality.

The greatest gap between patient expectations and the three health care groups' estimation of patient expectations occurred with Responsiveness and Empathy. This finding, too, is significant in that Responsiveness refers to willingness to help patients and provide prompt service; Empathy refers to caring aspects. Administrators and patient-contact employees did not show much difference in their estimations of patient expectations from the patients themselves. Obviously, physicians need to be more cognizant and achieve a better understanding of patients' needs in these areas (38).

One of the major strengths of this study is that it investigated patient expectations not only from the viewpoint of the patients, but also from the viewpoint of those who serve the patients. As demonstrated with the dimension of Tangibles, the assumed need may not be the real need. Those who serve patients must be fully cognizant of the fact that it is the patient who ultimately defines service quality (39).

The Impact of Employee Satisfaction on Patient Satisfaction

Research has demonstrated the interdependent relationship which patient satisfaction and employee satisfaction share. A national survey investigated how consumers defined service quality. The responses indicated that employee interaction played a significant part in these definitions. Issues such as employee courtesy, employee attitude, and the level of helpfulness provided by the employee were cited in 30% of all responses. If employees are not satisfied with their jobs, whether the cause of the dissatisfaction is the environment or the workload, they cannot easily convey the skills described in the national survey (Joseph 54).

Employees can be the most effective marketing resource an organization has at its disposal. In order to serve as marketing ambassadors, employees need to understand not only the organizational mission, values, and operations, but they must understand the external environmental forces effecting the organization.

The first step in educating employees on these issues is to first educate employees as to their value in the marketing process (Lee, Gombeski, and Doremus 58).

The Greater Cleveland Hospital Association conducted a study which looked at the effectiveness of employee education. They performed a telephone survey over a two-week period in 1988. The thrust of the survey questions dealt with public health policy such as Medicare, Medicaid, and rising health care costs. In all, 861 households were surveyed (58).

Three categories of respondents were developed: 1) those who either work or had a family member employed in health care, 2) those who did not work or have a family member employed in health care, and 3) those who did not work or have a family member employed in health care but had a family member who had been hospitalized in the previous two years (58).

The theory behind this categorization was that through the family member who was a health care employee, better information would be provided to that family as opposed to a family who had no one employed in health care. Additionally, families who had recent experience with a health care system through the hospitalization of a family member may form alternate opinions than a family who had no recent health care experience. Under these three categories, the breakdown of respondents is as follows: 24% (208 families) had a family member in health care, 44% (377) had a recently hospitalized family member, and 32% (271) had no recent health care experience through a family member (58).

The study results are interesting in that they reveal no difference of opinion or knowledge between all three groups. It appears that having either worked in health care or having a family member who worked in health care is no more advantageous to one's knowledge base regarding issues affecting public policy than one who does not. Neither does it appear that having experienced a hospitalization provide any additional insight into these matters. "Health care employees appear to be no more aware of market forces than non-health care workers" (59).

When asked about factors which may influence health care costs, interestingly the growing number of empty hospital beds was at the bottom of the list for all three groups. Excessive malpractice claims, growing number of older people and physician charges were listed as the top three reasons for all three groups (59).

It appears from these results that health care administrators need to focus efforts on educating employees about the dynamic health care industry. The authors have defined internal marketing as "the process to ensure that employees at all levels understand the business and its various activities in the context of the environment" (59).

The pivotal force behind the process is effective communication between administrators and employees on the health care market in general. There are several strategies through which administrators can accomplish this task. One

hospital in Cincinnati used the new employee orientation session as a tool through which they educated employees on the organization's marketing efforts. More importantly, through this medium they enlightened their employees as to their role in the overall marketing effort and, specifically, how each individual employee fit into the business of health care (60).

Researchers P. Mardeen Atkins, Brenda Marshall, and Rajshekhar Javalgi explored the relationship that employee satisfaction plays on patient satisfaction and published their study in 1996. With increased competition for health care dollars and declining revenues, administrators and managers of health care services must find methods by which revenues and expenses will balance. Consolidation of services helps to achieve this through integrated health care delivery systems. Therefore, medical services can be provided at lower cost (14).

Combined resources typically results in decreased numbers of staff to provide those services. While reducing labor costs through staff reduction may appear to assist a flailing bottom line, in the long-term strategic plan staff reductions may exacerbate the organization's economic condition. Without enough staff to meet the needs of the patient, employee job dissatisfaction occurs due to an environment of "increased workloads and job uncertainty" (14).

Negative attitudes of staff influences patient perceptions of service quality which ultimately affect patients' intent to use the services of the provider and recommend the provider. Health care administrators need to have a better

understanding of the link between employee satisfaction and patient satisfaction. In order to meet the needs of its external customers, the organization must first focus on the needs of the internal customers (14).

The research team distributed surveys to 719 patients and 283 nursing staff employees of a tertiary care hospital in the Midwest. The team explored three hypotheses: 1) A significant relationship exists between employee satisfaction and patient satisfaction; 2) A significant relationship exists between employee satisfaction and patient loyalty in terms of recommending the hospital; and 3) A significant relationship exists between employee satisfaction and patient loyalty in terms of returning for future medical services (15).

The patient survey consisted of both Likert scale questions and open-ended questions. It included five direct measures of patient satisfaction and three measures arising from patient perception: 1) perception of quality; 2) intent to recommend; and 3) intent to return (16).

Nursing staff were also surveyed using Likert scale and open-ended questions. The staff survey inquired as to whether staff would recommend the hospital. Additionally, it provided a forum through which staff could view their opinions on various aspects of employment. Patient surveys had a 60% response rate while employee surveys had a 45% response rate (16 and 17).

Results demonstrated "strong and positive relationships . . . between the nursing staff's overall job satisfaction and a patient's recommending the hospital

($r = .63$, $\rho < .005$) and repeat purchase behavior ($r = .989$, $\rho < .005$)" (18). When the research team analyzed the data investigating the effect of perception of nursing care and patient satisfaction in terms of intentions to return, they found only a moderate association.

> It is obvious that the intervening variable of staff satisfied with their jobs appears to be the pivotal determinant in the strong, positive relationship observed. . . The results of this study demonstrate the level of influence [employee] satisfaction can have on patients' intent to return and their willingness to recommend a hospital to friends and family. (18)

Given the fact that patient attraction and retention are critical determinants in the survival of a health care system and knowing the effect employee satisfaction plays on patient satisfaction, administrators would be wise to develop an internal marketing program to enhance employee satisfaction. The key to patient satisfaction is to demonstrate to staff the organization's respect and value for its employees (19).

Summary

As demonstrated throughout the literature, a confluence of factors forms patient expectations with a health care encounter. Past experiences, the influence of others, societal and personal values, culture, personal needs, and changing technology all contribute to the dynamics of the health care industry. Evaluation and consumption of health care services occur simultaneously. The intangibility

of the health care product occurs because it delivers processes rather than objects. Process delivery is largely dependent upon those providing the service. Three management functions are intimately joined by the service trinity--marketing, operations, and human resources. Marketing health care services and defining quality continually challenge administrators and service providers (Atkins, Marshall, and Javalgi 18; and Joseph 55).

Therefore, this paper will explore the actual hypothesis that patient perceptions of service quality influence patient satisfaction. The statistical hypothesis will be: The correlation between patient perceptions of service quality and patient satisfaction will be significantly greater than zero.

Chapter III

RESEARCH METHODOLOGY

Subjects

The researcher sampled patients who receive medical care from primary care physicians (internal medicine, family medicine, and pediatric medicine). The sample encompassed male and female adults aged 18 years to approximately 90 years. The sample also included parents of patients for the pediatric population (infant through 17 years of age). Another criterion for inclusion in the survey sample was that the patient had to have received medical care at that practice no fewer than five times. The researcher believed that fewer than five experiences was not enough to form a sufficient response regarding service and satisfaction.

One hundred surveys were randomly distributed at each of the six practice locations. Of the six hundred surveys distributed, 122 surveys were returned of which 99 were usable and included within this study for an overall response rate of 16.5%.

Demographics gathered by the survey included age, education, and number of visits to the physician practice site. For the pediatric patients, the demographic data was gathered based upon the respondent's age, and education while the

number of visits was based upon the pediatric patient's number of visits to the practice site.

Instrument

A survey was used to measure the constructs of the hypothesis. The researcher designed the survey instrument incorporating the same twelve dimensions identified by Bowers, Swan, and Koehler (52-53) as relevant to measuring health care service quality and patient satisfaction. Table 1 illustrates these twelve dimensions.

For each of the twelve dimensions, the survey requested a response to four questions pertaining to that particular dimension, with the exception of the dimension Outcomes in which five questions were asked for each construct. For each construct, service quality and patient satisfaction, measurements were taken in all twelve dimensions. Therefore, a total of ninety-eight measurements were taken, forty-nine for each construct. Table 2 lists the survey questions with the corresponding dimension being measured for each construct. The complete survey instrument is located in Appendix A.

The survey instrument was designed in a "service script" format similar to that identified by Peyrot, Cooper, and Schnapf as being useful to help the respondent recall the service encounter experience. The survey was organized into sections in basically the same order in which the respondent would receive

the service. It begins with questions pertaining to initial contact by telephone to the physician practice, through encounters with staff and physician, and ends with questions pertaining to insurance claim filing and billing issues.

Procedure

The research was done in the field at the medical practices. Data gathering was operationalized by placing the surveys at the patient registration desk for patients to take if they desire. A cover letter (Appendix B) was attached to each survey. The anonymity of the survey was ensured by attaching a self-addressed, stamped envelope to the survey in which the respondent placed the completed survey and sealed the envelope. The respondents then mailed the completed survey to a post office box used only for this research project.

The researcher employed a quota sampling technique. Two medical practices from each of the primary care areas (internal medicine, family medicine, and pediatric medicine) were asked to participate. These six medical practices were chosen for participation based upon their geographic distribution in the St. Louis metropolitan area. The geographic distribution was used in order to provide diversity of respondents by community culture and socio-economic status.

Data Analysis

Data was analyzed using both the Likert and Bi-Polar Adjective scales. The Likert scale was used to measure service quality data. Patient satisfaction data was measured with the Bi-Polar Adjective scale.

Responses were combined for each construct (service quality and patient satisfaction) and for each of the twelve dimensions within each construct looking at the mean, median, mode, and standard deviation. Rho will be used to calculate the correlation between constructs ($\rho >> 0$).

Table 1

Patient Service Quality Dimensions

Dimension	Description
Access	Approachability and ease of contact: by telephone; waiting time is not extensive.
Caring	A personal, human involvement in the service situation.
Communication	Keeping the customers informed; listening to the customer.
Competence	Possession of the required skills and knowledge to perform the service.
Courtesy	Politeness, respect, consideration, and friendliness of the contact personnel.
Credibility	Trustworthiness, believability, and honesty.
Outcomes	Relief from discomfort; quality of life after medical encounter.
Reliability	Ability to perform promised service dependably and accurately.
Responsiveness	Willingness to help customers; prompt service.
Security	Freedom from risk, danger, or doubt; It involves financial safety and confidentiality.
Tangibles	Physical facilities and appearance of personnel.
Understanding	Making the effort to understand the customer's needs

Source: Health Care Management Review. Exhibit from "What Attributes Determine Quality and Satisfaction with Health Care Delivery?" by Michael R. Bowers, John E. Swan, and William F. Koehler (1994).

Table 2

Service Quality and Patient Satisfaction
Survey Instrument Questions Listed by Dimension

Service Quality	Patient Satisfaction	Dimension	Description
Questions #: 1, 2, 8, 9	Questions #: 50, 51, 57, 58,	Access	Approachability and ease of contact: by telephone; waiting time is not extensive.
Questions #: 34, 37, 39, 40	Questions #: 83, 86, 88, 89	Caring	A personal, human involvement in the service situation.
Questions #: 14, 15, 16, 17	Questions #: 63, 64, 65, 66	Communication	Keeping the customers informed; listening to the customer.
Questions #: 18, 21, 25, 32	Questions #: 67, 70, 74, 81	Competence	Possession of the required skills and knowledge to perform the service.
Questions #: 10, 11, 12, 13	Questions #: 59, 60, 61, 62	Courtesy	Politeness, respect, consideration, and friendliness of the contact personnel.
Questions #: 20, 23, 26, 27	Questions #: 69, 72, 75, 76	Credibility	Trustworthiness, believability, and honesty.
Questions #: 41, 42, 43, 44, 45	Questions #: 90, 91, 92, 93, 94,	Outcomes	Relief from discomfort; quality of life after medical encounter.
Questions #: 19, 24, 28, 33	Questions #: 68, 73, 77, 82	Reliability	Ability to perform promised service dependably and accurately.
Questions #: 3, 22, 29, 31	Questions #: 52, 71, 78, 80	Responsiveness	Willingness to help customers; prompt service.
Questions #: 46, 47, 48, 49	Questions #: 95, 96, 97, 98	Security	Freedom from risk, danger, or doubt; It involves financial safety and confidentiality.
Questions #: 4, 5, 6, 7	Questions #: 53, 54, 55, 56	Tangibles	Physical facilities and appearance of personnel.
Questions #: 30, 35, 36, 38	Questions #: 79, 84, 85, 87	Understanding	Making the effort to understand the customer's needs

Chapter IV

RESULTS

Descriptive Statistics

Demographics of the respondents are as follows: The age range of the respondents was 18 to 75 years with a mean age of 40 years (Figure 1). Slightly more than 40% had bachelor's degrees and 17.17% had graduate degrees (Figure 2).

Regarding the number of visits to the practice location, 78% reported that they had been to the survey site twenty or more times (Figure 3). Of that 78%, just over 10% reported that they had been to the survey site for more than 80 visits.

As indicated in Table 3, the mean number of visits to a practice location was 33, while the mode was 50 visits. The mean and mode for age of respondents shows only a very slight difference at 40 and 38 respectively.

Figure 1

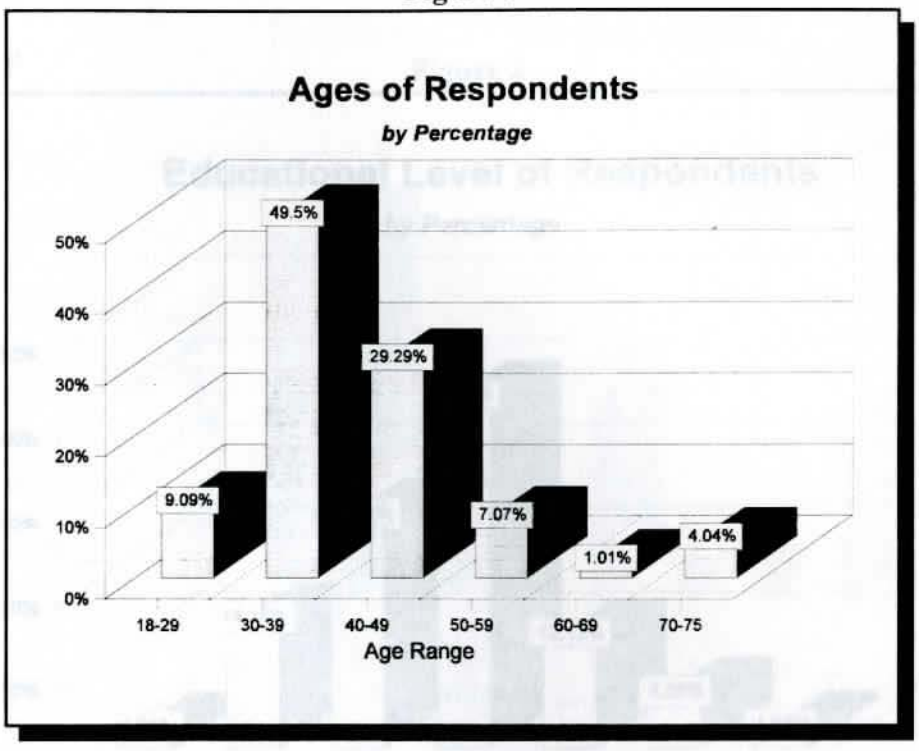

Ages of Respondents
by Percentage
50%
40%
30%
20%
10%
0%
9.09%
49.5%
29.29%
7.07%
1.01%
4.04%
18-29
30-39
40-49
50-59
60-69
70-75
Age Range

Figure 2

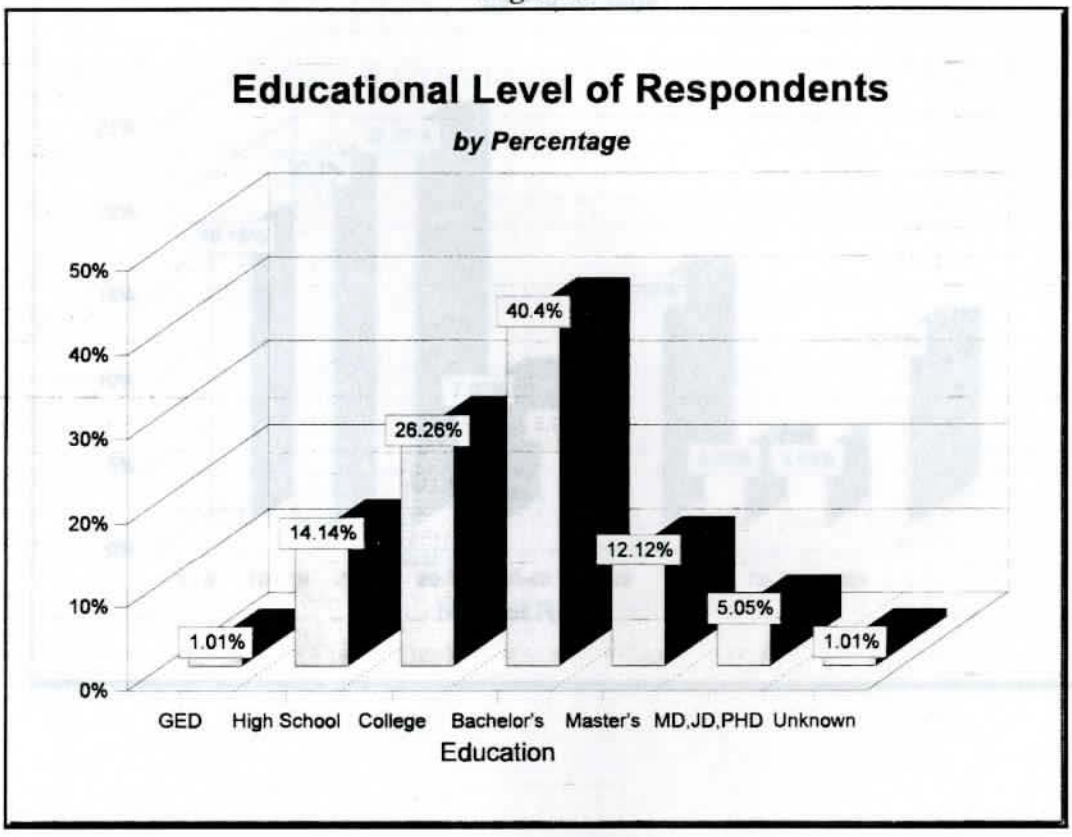

Educational Level of Respondents
by Percentage
50%
40%
30%
20%
10%
0%
1.01%
14.14%
26.26%
40.4%
12.12%
5.05%
1.01%
GED
High School
College
Bachelor's
Master's
MD,JD,PHD
Unknown
Education

Figure 3

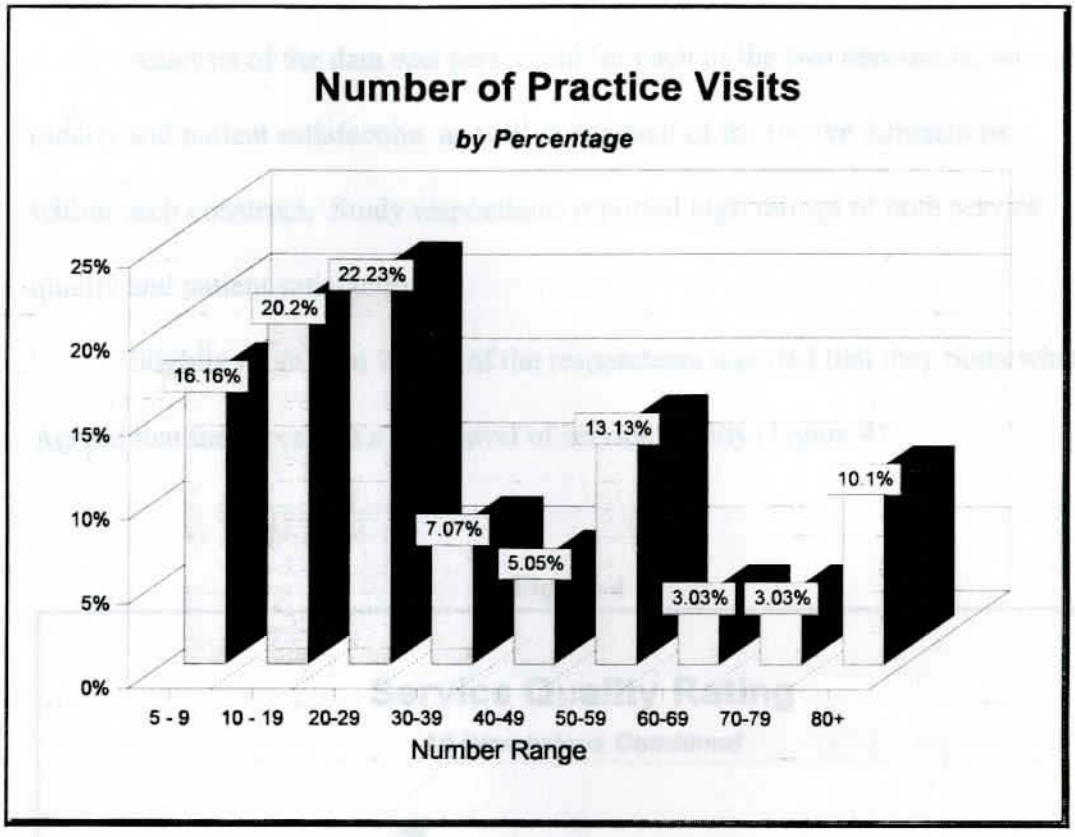


Table 3

Age and Number of Visits to Practice
Mean, Median, Mode, Minimum and Maximum

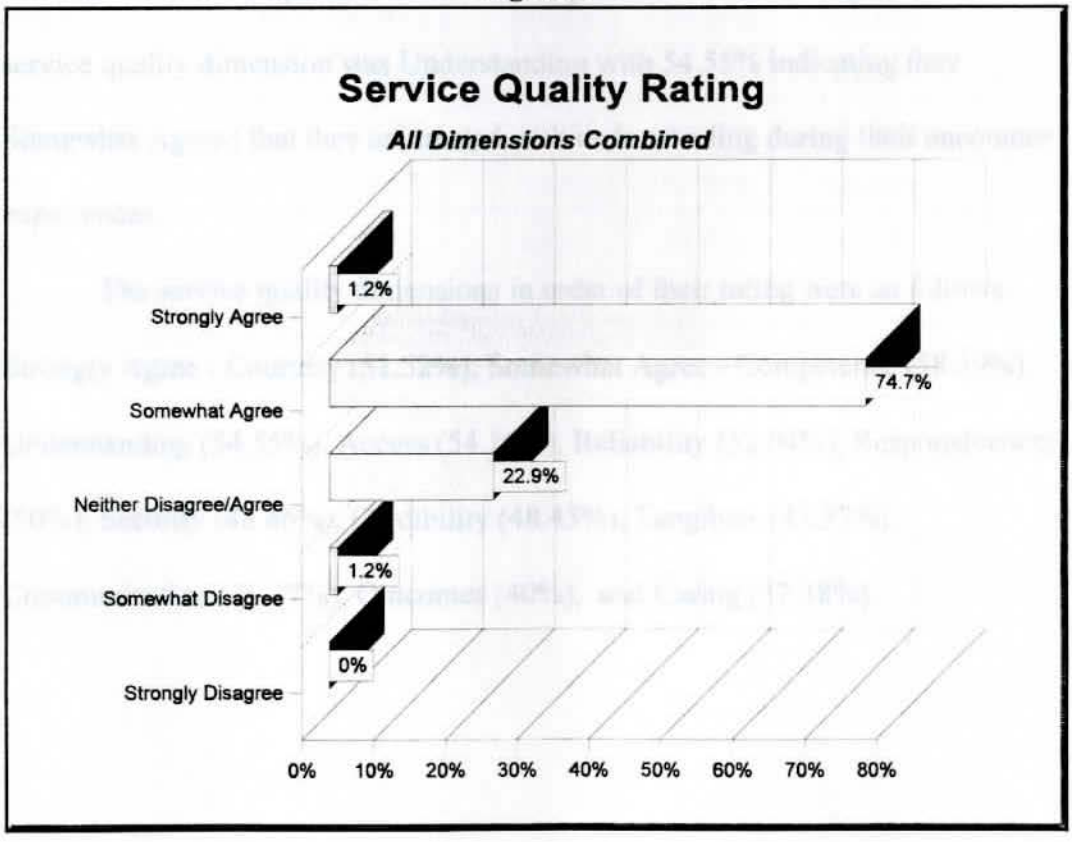
Variable	n	Mean	Std. Dev.	Median	Mode	Min.	Max.
Age	99	40	11	38	38	18	75
Visits	99	33	28	25	50	5	100

Inferential Statistics

Analysis of the data was performed for each of the two constructs, service quality and patient satisfaction, as well as for each of the twelve dimensions within each construct. Study respondents reported high ratings of both service quality and patient satisfaction.

Slightly more than 74.7% of the respondents reported that they Somewhat Agreed that they received a high level of service quality (Figure 4).

Figure 4



Looking at the twelve dimensions within the construct of service quality, survey respondents indicated that they Strongly Agree or Somewhat Agree that service quality is provided at a high level. Each dimension is rated as a 4 or higher on the Likert scale (Table 4).

The highest rated service quality dimension was that of Courtesy. Results indicated that 51.52% of the respondents Strongly Agreed that they were treated in a courteous manner during their patient encounters.

More than fifty-eight percent of the respondents believe that the physician and staff exhibit Competence in the service provided. Another highly-rated service quality dimension was Understanding with 54.55% indicating they Somewhat Agreed that they are treated with understanding during their encounter experiences.

The service quality dimensions in order of their rating were as follows: Strongly Agree - Courtesy (51.52%); Somewhat Agree - Competence (58.59%), Understanding (54.55%), Access (54.16%), Reliability (52.04%), Responsiveness (50%), Security (48.46%), Credibility (48.45%), Tangibles (47.37%), Communication (46.47%), Outcomes (40%), and Caring (37.38%).

Table 4
Service Quality Dimensions
Frequency Listing by Percentage

Dimension	n[1]	Strongly Disagree	Somewhat Disagree	Neither Disagree/ Agree	Somewhat Agree	Strongly Agree
Service Quality	83	0.00%	1.20%	22.90%	**74.70%**	1.20%
Access	96	1.0%	4.17%	30.21%	**54.16%**	10.42%
Caring	99	2.0%	9.09%	33.33%	**37.38%**	18.18%
Communication	99	0.00%	1.01%	13.13%	**46.47%**	39.39%
Competence	99	0.00%	0.00%	12.12%	**58.59%**	29.29%
Courtesy	99	0.00%	1.01%	10.10%	37.37%	**51.52%**
Credibility	97	0.00%	0.00%	20.62%	**48.45%**	30.93%
Outcomes	95	0.00%	16.84%	38.95%	**40.00%**	4.21%
Reliability	98	0.00%	0.00%	16.33%	**52.04%**	31.63%
Responsiveness	96	0.00%	5.21%	23.96%	**50.00%**	20.83%
Security	97	0.00%	1.03%	12.37%	**48.46%**	38.14%
Tangibles	95	0.00%	2.11%	32.63%	**47.37%**	17.89%
Understanding	99	0.00%	3.03%	20.20%	**54.55%**	22.22%

[1] Cases with missing values were excluded from the analysis

The patient satisfaction results parallel those of service quality (Figure 5). The majority of patients (65.52%) are Somewhat Satisfied with their encounter experiences. Almost 3.5% are Very Satisfied with their experiences.

Figure 5

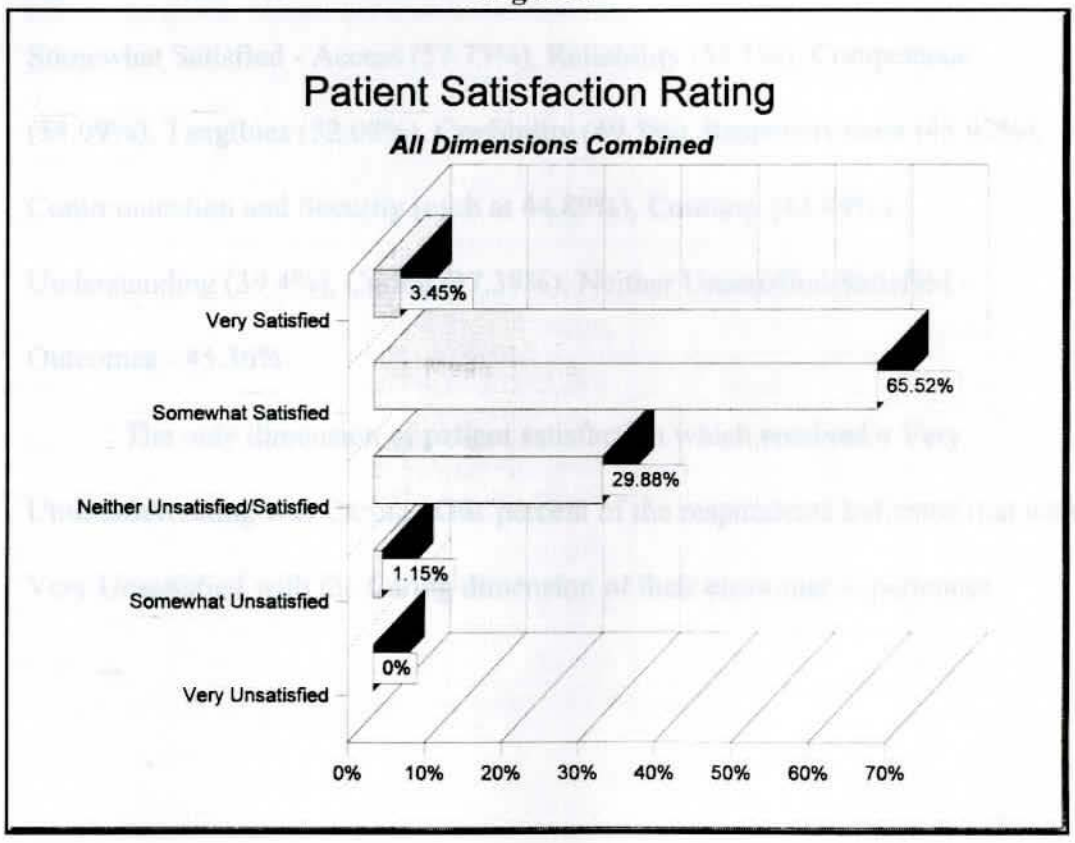


Table 5 lists the responses to the twelve patient satisfaction dimensions. While overall the results are similar to service quality dimensions, there are some differences noted. Whereas under service quality the highest rated dimension was Courtesy, under patient satisfaction the highest rated dimension is Access. Fifty-eight percent of the respondents were Somewhat Satisfied with Access.

Ratings for patient satisfaction in order of rating were as follows: Somewhat Satisfied - Access (57.73%), Reliability (55.1%), Competence (54.09%), Tangibles (52.08%), Credibility (49.5%), Responsiveness (45.92%), Communication and Security (each at 44.89%), Courtesy (43.44%), Understanding (39.4%), Caring (37.38%); Neither Unsatisfied/Satisfied - Outcomes - 45.36%.

The only dimension of patient satisfaction which received a Very Unsatisfied rating was Caring. One percent of the respondents indicated that were Very Unsatisfied with the Caring dimension of their encounter experiences.

Table 5

Patient Satisfaction Dimensions
Frequency Listing by Percentage

Dimension	n[1]	Very Unsatisfied	Somewhat Unsatisfied	Neither Unsatisfied/ Satisfied	Somewhat Satisfied	Very Satisfied
Patient Satisfaction	87	0.00%	1.15%	29.88%	**65.52%**	3.45%
Access	97	0.00%	7.22%	27.83%	**57.73%**	7.22%
Caring	99	1.01%	8.08%	26.26%	**37.38%**	27.27%
Communication	98	0.00%	2.04%	13.27%	**44.89%**	39.80%
Competence	98	0.00%	0.00%	12.24%	**54.09%**	33.67%
Courtesy	99	0.00%	1.01%	13.13%	**43.44%**	42.42%
Credibility	99	0.00%	0.00%	15.15%	**49.50%**	35.35%
Outcomes	97	0.00%	12.37%	**45.36%**	30.93%	11.34%
Reliability	98	0.00%	0.00%	15.31%	**55.10%**	29.59%
Responsiveness	98	0.00%	6.12%	25.51%	**45.92%**	22.45%
Security	98	0.00%	1.02%	12.25%	**44.89%**	41.84%
Tangibles	96	0.00%	3.13%	31.25%	**52.08%**	13.54%
Understanding	99	0.00%	3.03%	20.20%	**39.40%**	37.37%

[1] Cases with missing values were excluded from the analysis

In looking at the mean, median, and mode of service quality and patient satisfaction (Table 6 and Table 7), the mean and mode of each are identical at 4.28 and 4.4 respectively. There is only a slight variation in the median with service quality receiving a 4.38 and patient satisfaction receiving a 4.44. Similar results are demonstrated for each of the twelve dimensions within service quality and patient satisfaction.

Table 6
Service Quality Dimensions
Mean, Median, Mode, Minimum and Maximum

Dimension	n[1]	Mean	Std. Dev.	Median	Mode	Min.	Max.
Service Quality	83	4.28	0.46	4.38	4.40	2.98	5.00
Access	96	4.01	0.71	4.00	4.50	1.75	5.00
Caring	99	3.95	0.85	4.00	5.00	1.50	5.00
Communication	99	4.55	0.54	4.75	5.00	2.75	5.00
Competence	99	4.51	0.48	4.50	5.00	3.00	5.00
Courtesy	99	4.63	0.52	4.75	5.00	2.75	5.00
Credibility	97	4.39	0.58	4.50	5.00	3.00	5.00
Outcomes	95	3.76	0.74	3.80	3.80	2.20	5.00
Reliability	98	4.41	0.55	4.50	5.00	3.00	5.00
Responsiveness	96	4.18	0.73	4.25	5.00	2.00	5.00
Security	97	4.51	0.52	4.50	5.00	2.75	5.00
Tangibles	95	4.17	0.64	4.25	5.00	2.00	5.00
Understanding	99	4.29	0.68	4.50	5.00	2.00	5.00

[1] Cases with missing values were excluded from the analysis

Table 7

Patient Satisfaction Dimensions
Mean, Median, Mode, Minimum and Maximum

Dimension	n[1]	Mean	Std. Dev.	Median	Mode	Min.	Max.
Patient Satisfaction	87	4.28	0.50	4.44	4.40	2.83	5.00
Access	97	3.98	0.76	4.25	5.00	2.00	5.00
Caring	99	4.10	0.83	4.25	5.00	1.75	5.00
Communication	98	4.48	0.60	4.75	5.00	2.75	5.00
Competence	98	4.50	0.51	4.50	5.00	3.00	5.00
Courtesy	99	4.51	0.57	4.75	5.00	2.75	5.00
Credibility	99	4.44	0.56	4.50	5.00	3.00	5.00
Outcomes	97	3.84	0.74	3.80	3.80	2.00	5.00
Reliability	98	4.45	0.51	4.50	5.00	3.00	5.00
Responsiveness	98	4.22	0.73	4.50	5.00	2.00	5.00
Security	98	4.52	0.57	4.75	5.00	2.50	5.00
Tangibles	96	4.09	0.65	4.25	4.50	2.25	5.00
Understanding	99	4.34	0.69	4.50	4.50	2.50	5.00

[1] Cases with missing values were excluded from the analysis

The correlations between service quality and patient satisfaction are very positively related at 0.95 (Figure 6). The same is true for each of the twelve dimensions. The lowest correlation for any dimension is that of Security with a service quality/patient satisfaction correlation of 0.75.

Figure 6

Results of this study were further subclassified in order to determine the levels of service quality and patient satisfaction imparted by the physicians and staff members. Aspects of the patient encounter encompass nine of the twelve dimensions for each of these two groups.

Physician and staff aspects of the patient encounter both encompassed eight of the nine physician/staff dimensions for each construct: Caring, Communication, Competence, Courtesy, Credibility, Reliability, Responsiveness, and Understanding. The ninth dimension of the physician encounter was Outcomes, and the ninth dimension for the staff encounter was Tangibles.

Physician service quality was quite highly rated. Eighty-one percent of respondents indicated that they Somewhat Agreed that their physicians provided a high level of service, and 3.19% Strongly Agreed that the service level was high (Figure 7).

In looking at individual dimensions of physician service quality (Table 8), the majority of responses for each dimension were rated in the Strongly Agree category. The only exception to this was Outcomes in which the majority of respondents (40%) rated this dimension under Somewhat Agree.

Figure 7

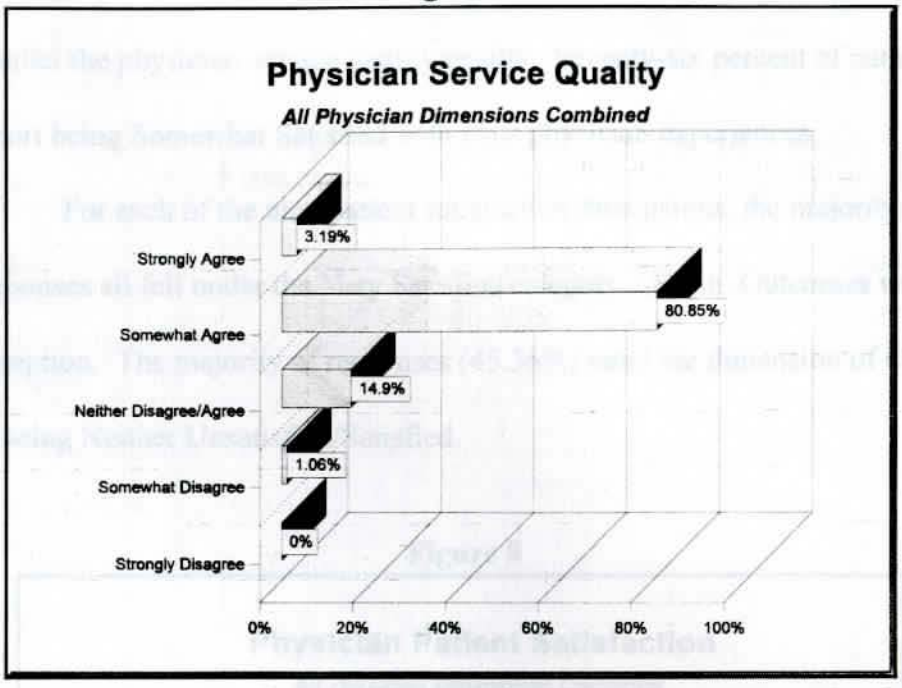


Table 8
Physician Service Quality Dimensions
Frequency Listing by Percentage

Dimension	n[1]	Strongly Disagree	Somewhat Disagree	Neither Disagree /Agree	Somewhat Agree	Strongly Agree
Service Quality	94	0.00%	1.06%	14.90%	**80.85%**	3.19%
Caring	99	1.01%	6.06%	17.17%	33.34%	**42.42%**
Communication	99	0.00%	1.01%	2.02%	23.23%	**73.74%**
Competence	99	0.00%	0.00%	2.02%	15.15%	**82.83%**
Courtesy	99	0.00%	1.01%	0.00%	17.17%	**81.82%**
Credibility	99	0.00%	0.00%	9.09%	36.36%	**54.55%**
Outcomes	95	0.00%	16.84%	38.95%	**40.00%**	4.21%
Reliability	99	0.00%	0.00%	7.07%	24.24%	**68.69%**
Responsiveness	98	1.02%	9.18%	3.06%	22.45%	**64.29%**
Understanding	99	0.00%	2.02%	11.11%	22.22%	**64.65%**

[1] Cases with missing values were excluded from the analysis

Physician patient satisfaction results (Figure 8 and Table 9) strongly parallel the physician service quality results. Seventy-six percent of patients report being Somewhat Satisfied with their physician experiences.

For each of the nine patient satisfaction dimensions, the majority of responses all fell under the Very Satisfied category. Again, Outcomes was an exception. The majority of responses (45.36%) rated the dimension of Outcomes as being Neither Unsatisfied/Satisfied.

Figure 8

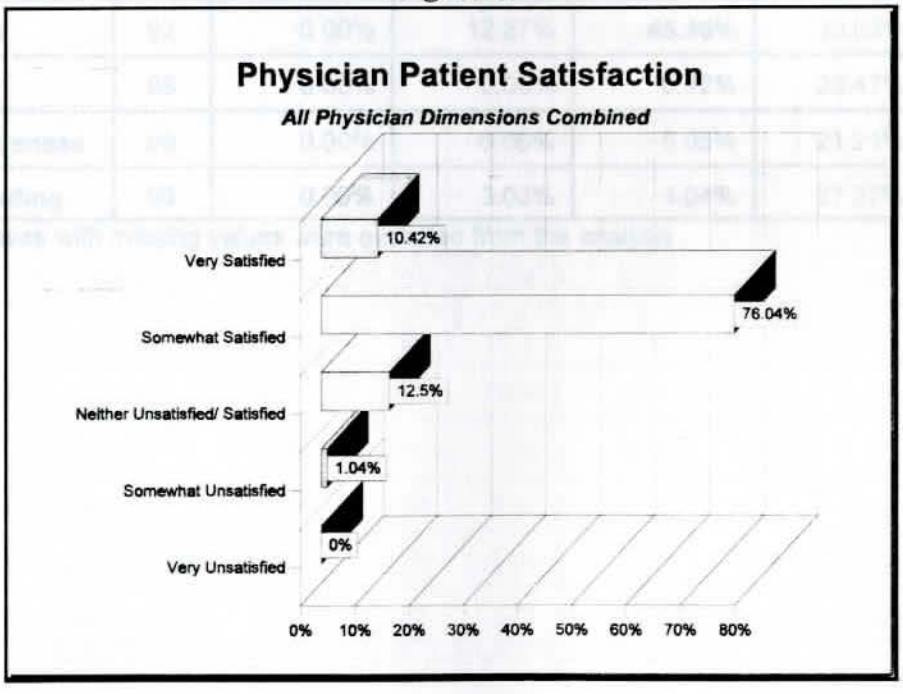


Table 9
Physician Patient Satisfaction Dimensions
Frequency Listing by Percentage

Dimension	n[1]	Very Unsatisfied	Somewhat Unsatisfied	Neither Unsatisfied / Satisfied	Somewhat Satisfied	Very Satisfied
Patient Satisfaction	96	0.00%	1.04%	12.50%	**76.04%**	10.42%
Caring	99	1.01%	5.05%	14.14%	30.30%	**50.51%**
Communication	99	0.00%	2.02%	3.03%	22.22%	**72.73%**
Competence	99	0.00%	1.01%	3.03%	17.17%	**78.79%**
Courtesy	99	0.00%	1.01%	1.01%	19.19%	**78.79%**
Credibility	99	0.00%	0.00%	7.07%	29.29%	**63.64%**
Outcomes	97	0.00%	12.37%	**45.36%**	30.93%	11.34%
Reliability	98	0.00%	0.00%	6.12%	23.47%	**70.41%**
Responsiveness	99	0.00%	6.06%	5.05%	21.21%	**67.68%**
Understanding	99	0.00%	3.03%	4.04%	27.27%	**65.66%**

[1] Cases with missing values were excluded from the analysis

In looking at the mean, median, and mode of physician service quality and patient satisfaction (Table 10 and Table 11), there are strong similarities between the two constructs, as well as between the twelve dimensions within the constructs.

Table 10

Physician Service Quality Dimensions
Mean, Median, Mode, Minimum and Maximum

Dimension	n[1]	Mean	Std. Dev.	Median	Mode	Min.	Max.
Service Quality	94	4.52	0.48	4.68	4.866 4.911	2.72	5.00
Caring	99	4.26	0.88	4.50	5.00	1.00	5.00
Communication	99	4.77	0.46	5.00	5.00	2.50	5.00
Competence	99	4.85	0.37	5.00	5.00	3.00	5.00
Courtesy	99	4.84	0.39	5.00	5.00	2.50	5.00
Credibility	97	4.56	0.55	5.00	5.00	3.00	5.00
Outcomes	95	3.76	0.74	3.80	3.80	2.20	5.00
Reliability	99	4.68	0.55	5.00	5.00	3.00	5.00
Responsiveness	98	4.40	0.99	5.00	5.00	1.00	5.00
Understanding	99	4.58	0.71	5.00	5.00	2.00	5.00

[1] Cases with missing values were excluded from the analysis

Table 11

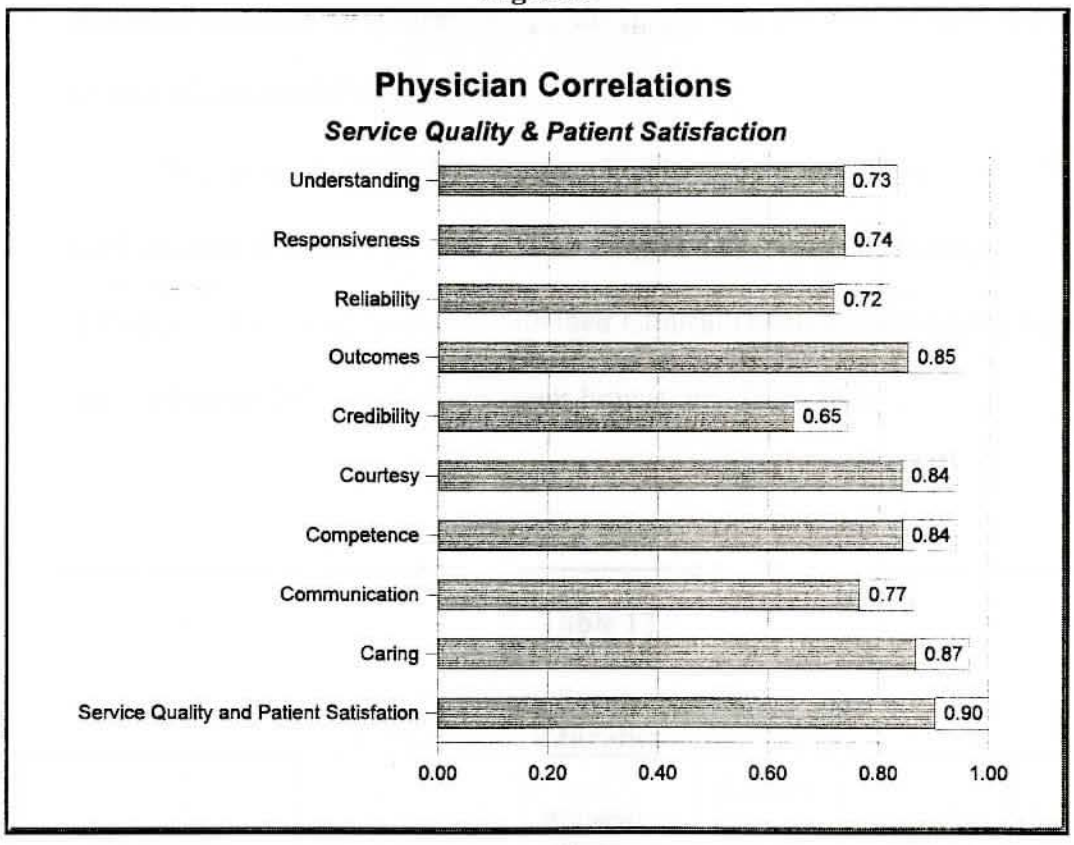
Physician Patient Satisfaction Dimensions
Mean, Median, Mode, Minimum and Maximum

Dimension	n[1]	Mean	Std. Dev.	Median	Mode	Min.	Max.
Patient Satisfaction	96	4.57	0.48	4.78	4.87	2.69	5.00
Caring	99	4.37	0.85	4.50	5.00	1.00	5.00
Communication	99	4.73	0.54	5.00	5.00	2.50	5.00
Competence	99	4.78	0.50	5.00	5.00	2.50	5.00
Courtesy	99	4.80	0.44	5.00	5.00	2.50	5.00
Credibility	99	4.65	0.53	5.00	5.00	3.00	5.00
Outcomes	97	3.84	0.74	3.80	3.80	2.00	5.00
Reliability	98	4.71	0.51	5.00	5.00	3.00	5.00
Responsiveness	99	4.51	0.85	5.00	5.00	2.00	5.00
Understanding	99	4.63	0.65	5.00	5.00	2.00	5.00

[1] Cases with missing values were excluded from the analysis

Correlations of physician service quality and patient satisfaction are positively related (Figure 9). Physician service quality/patient satisfaction correlation is 0.9. The lowest correlation for any of the nine dimensions is that of Credibility with a 0.65.

Figure 9



The dimension Outcomes was further subclassified into two aspects, Clinical Outcomes and Educational Outcomes. The main reason for this further subclassification is that respondents indicated a lower rating for this dimension than anticipated.

As indicated in Table 12, 65.66% of the respondents rated their Clinical Outcomes service as being very positive experiences. Nearly half of the respondents (46.32%), Neither Disagreed/Agreed with the level of service quality of their Educational Outcomes.

Nearly identical results were found under patient satisfaction with Clinical and Educational Outcomes (Table 13 and Figure 11). Nearly 65% of the respondents were Very Satisfied with their Clinical Outcomes and 53.6% were Neither Unsatisfied/Satisfied with their Educational Outcomes.

Table 12

Physician Service Quality
Clinical and Educational Outcomes

Dimension	n[1]	Strongly Disagree	Somewhat Disagree	Neither Disagree /Agree	Somewhat Agree	Strongly Agree
Clinical Outcomes	99	0.00%	1.01%	2.02%	31.31%	**65.66%**
Educational Outcomes	95	17.89%	10.53%	**46.32%**	17.90%	4.21%

Figure 10

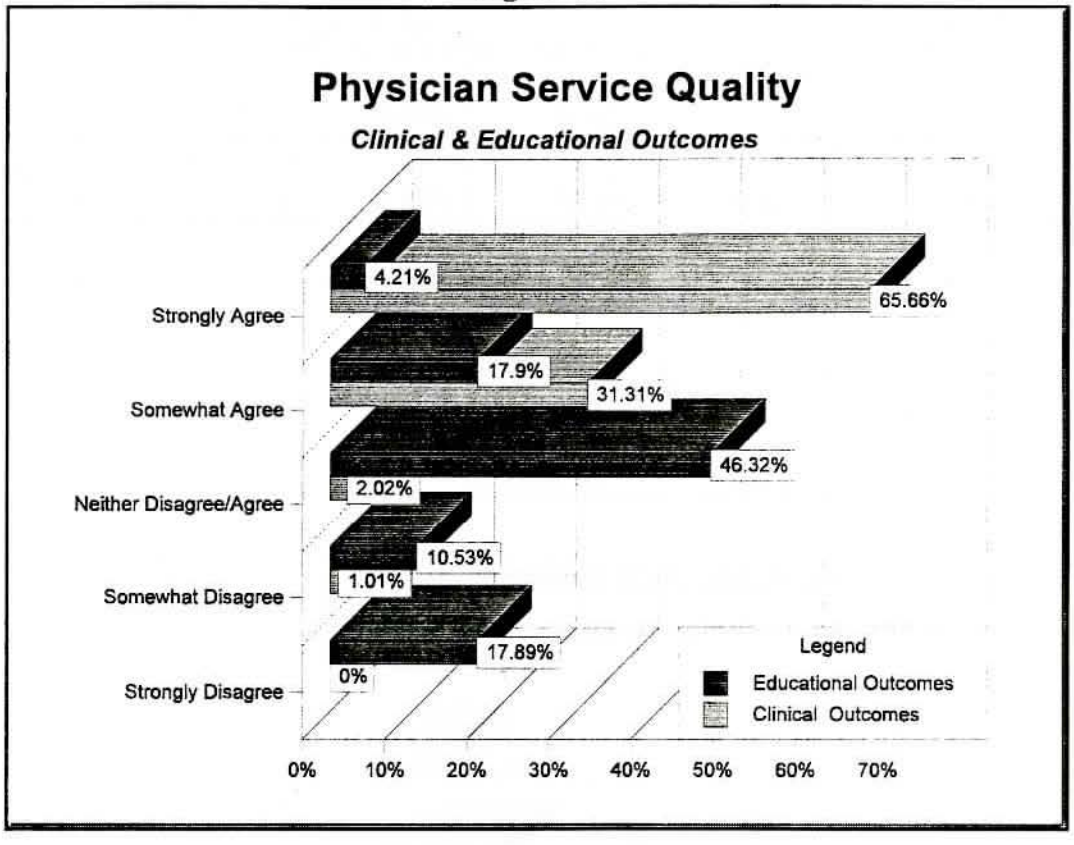
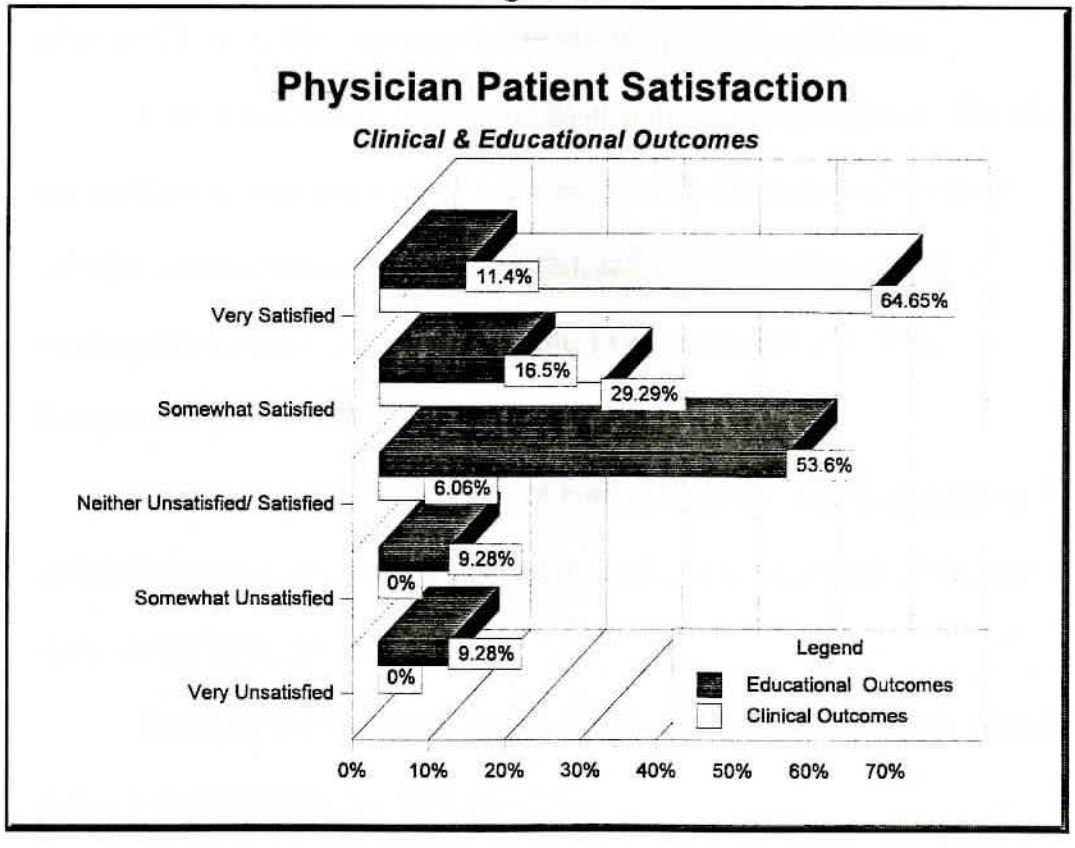

Physician Service Quality
Clinical & Educational Outcomes
Strongly Agree
Somewhat Agree
Neither Disagree/Agree
Somewhat Disagree
Strongly Disagree
4.21%
65.66%
17.9%
31.31%
46.32%
2.02%
10.53%
1.01%
17.89%
0%
Legend
Educational Outcomes
Clinical Outcomes
0%
10%
20%
30%
40%
50%
60%
70%

Table 13
Physician Patient Satisfaction
Clinical and Educational Outcomes

Dimension	n[1]	Very Unsatisfied	Somewhat Unsatisfied	Neither Unsatisfied / Satisfied	Somewhat Satisfied	Very Satisfied
Clinical Outcomes	99	0.00%	0.00%	6.06%	29.29%	**64.65%**
Educational Outcomes	97	9.28%	9.28%	**53.60%**	16.50%	11.40%

Figure 11



Results of staff service quality demonstrated that 57.9% of respondents categorized the level of service quality provided by staff under Somewhat Agree (Figure 12). The majority of responses for each of the service quality dimensions (Table 14) is as follows: Strongly Agree - Tangibles (60.61%), Courtesy (57.58%), Communication (44.44%), Credibility (38.14%); Somewhat Agree - Responsiveness (68.37%), Understanding (45.46%), Competence (41.42%), Reliability (38.78%), and Caring (33.34%).

Just as physician service quality and patient satisfaction results strongly paralleled one another, so do staff service quality and patient satisfaction. Fifty-four percent of respondents are Somewhat Satisfied with their staff encounters (Figure 13). Over 11% are Very Satisfied with the staff experiences.

Table 15 lists the nine dimensions of staff patient satisfaction. The results are as follows: Very Satisfied - Tangibles (59.6%), Courtesy and Credibility (43.43% each), Communication (40.82%), and Understanding (39.39%); Somewhat Satisfied - Responsiveness (40.13%), Reliability (38.39%), Competence (37.76%), and Caring (33.34%).

The mean, median, and mode of both staff service quality and patient satisfaction closely parallel one another overall, as well as in each of the nine dimensions (Table 16 and Table 17).

Correlations between the two constructs are also very positively related (0.95) as demonstrated in Figure 14.

Figure 12

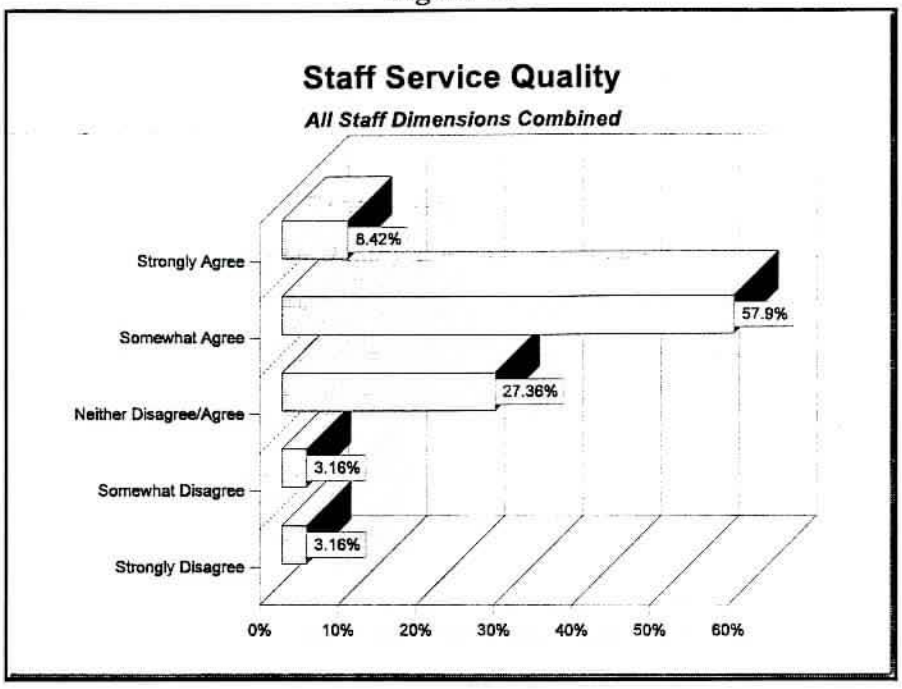


Table 14
Staff Service Quality Dimensions
Frequency Listing by Percentage

Dimension	n[1]	Strongly Disagree	Somewhat Disagree	Neither Disagree /Agree	Somewhat Agree	Strongly Agree
Service Quality	95	3.16%	3.16%	27.36%	**57.90%**	8.42%
Caring	99	2.02%	15.15%	29.29%	**33.34%**	20.20%
Communication	99	2.02%	4.04%	12.12%	37.38%	**44.44%**
Competence	99	1.01%	4.04%	23.23%	**41.42%**	30.30%
Courtesy	99	2.02%	3.03%	13.13%	24.24%	**57.58%**
Credibility	97	0.00%	4.12%	20.62%	37.12%	**38.14%**
Reliability	98	0.00%	3.06%	26.53%	**38.78%**	31.63%
Responsiveness	98	2.04%	4.08%	32.66%	**68.37%**	25.51%
Tangibles	99	1.01%	4.04%	5.05%	29.29%	**60.61%**
Understanding	99	3.03%	6.06%	20.20%	**45.46%**	25.25%

[1] Cases with missing values were excluded from the analysis

Figure 13

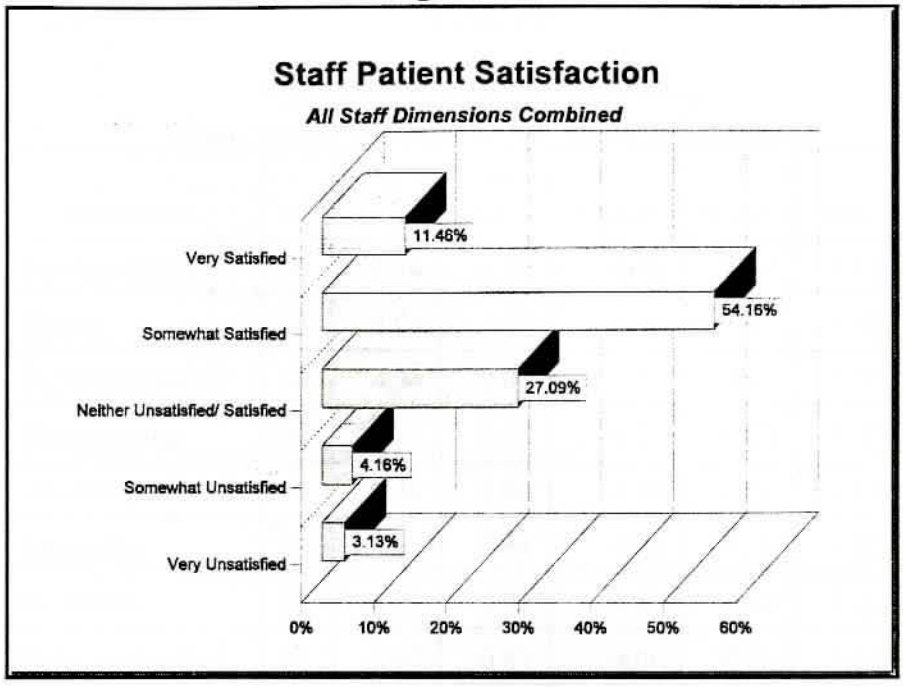


Table 15
Staff Patient Satisfaction Dimensions
Frequency Listing by Percentage

Dimension	n[1]	Very Unsatisfied	Somewhat Unsatisfied	Neither Unsatisfied / Satisfied	Somewhat Satisfied	Very Satisfied
Patient Satisfaction	96	3.13%	4.16%	27.09%	**54.16%**	11.46%
Caring	99	4.04%	8.08%	26.26%	**33.34%**	28.28%
Communication	98	3.06%	3.06%	15.31%	37.75%	**40.82%**
Competence	98	0.00%	4.08%	22.45%	**37.76%**	35.71%
Courtesy	99	3.03%	6.06%	10.10%	37.38%	**43.43%**
Credibility	99	1.01%	6.06%	14.14%	35.36%	**43.43%**
Reliability	99	0.00%	3.03%	25.25%	**38.39%**	33.33%
Responsiveness	98	3.06%	8.16%	17.35%	**40.13%**	31.63%
Tangibles	99	0.00%	4.04%	13.13%	23.23%	**59.60%**
Understanding	99	3.03%	9.09%	20.20%	31.32%	**39.39%**

[1] Cases with missing values were excluded from the analysis

Table 16

Staff Service Quality Dimensions
Mean, Median, Mode, Minimum and Maximum

Dimension	n[1]	Mean	Std. Dev.	Median	Mode	Min.	Max.
Service Quality	95	4.14	0.69	4.22	4.67	1.83	5.00
Caring	99	3.65	1.03	3.50	4.00	1.00	5.00
Communication	99	4.34	0.08	4.50	4.50	1.50	5.00
Competence	99	4.17	0.77	4.00	4.00	1.50	5.00
Courtesy	99	4.42	0.88	4.50	4.50	1.00	5.00
Credibility	97	4.22	0.81	4.50	4.50	2.00	5.00
Reliability	98	4.13	0.75	4.00	4.50	2.00	5.00
Responsiveness	98	3.93	0.91	4.00	4.50	1.00	5.00
Tangibles	99	4.44	0.85	5.00	5.00	1.00	5.00
Understanding	99	4.01	0.94	4.00	5.00	1.00	5.00

[1] Cases with missing values were excluded from the analysis

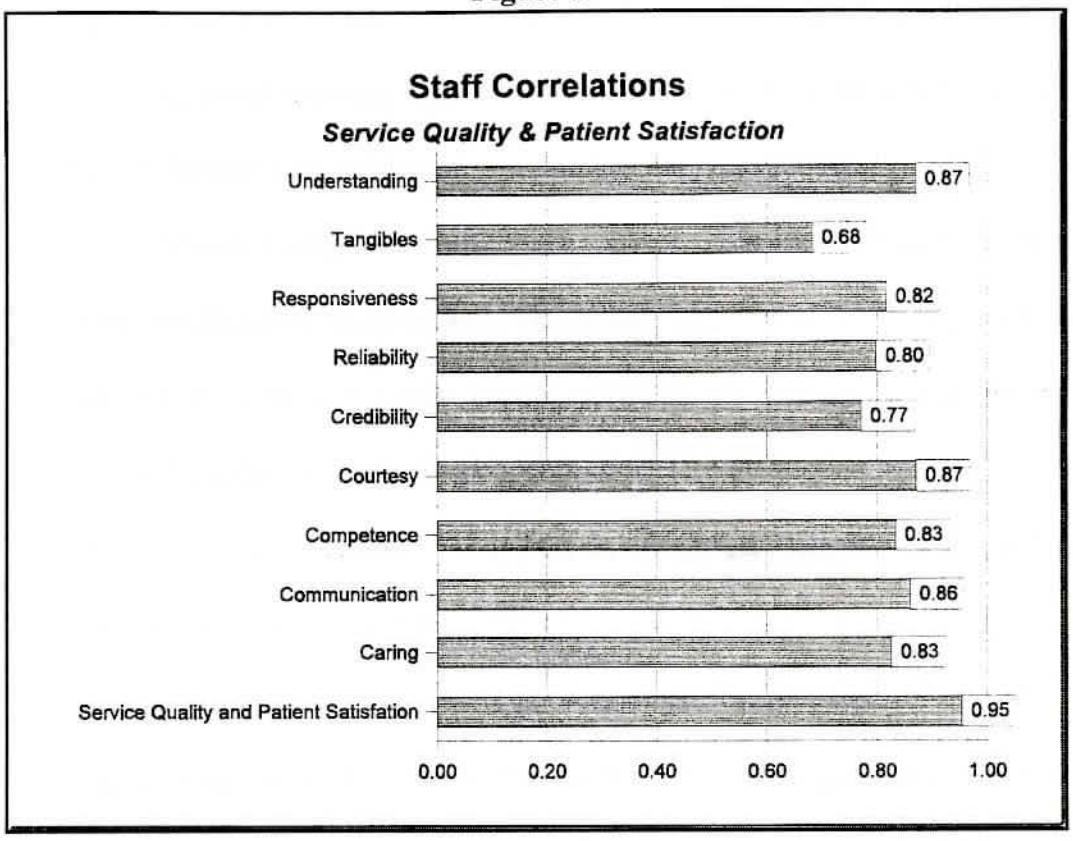
Table 17

Staff Patient Satisfaction Dimensions
Mean, Median, Mode, Minimum and Maximum

Dimension	n[1]	Mean	Std. Dev.	Median	Mode	Min.	Max.
Patient Satisfaction	96	4.14	0.81	4.39	4.89	1.44	5.00
Caring	99	4.26	0.88	4.00	4, 5	1.00	5.00
Communication	98	4.24	0.92	4.50	5.00	1.00	5.00
Competence	98	4.21	0.76	4.00	5.00	2.00	5.00
Courtesy	99	4.22	0.97	4.50	4.00	1.00	5.00
Credibility	99	4.24	0.88	4.00	4.00	1.00	5.00
Reliability	99	4.17	0.77	4.00	5.00	2.00	5.00
Responsiveness	98	4.03	1.04	4.50	5.00	1.00	5.00
Tangibles	99	4.38	0.87	5.00	5.00	2.00	5.00
Understanding	99	4.05	1.04	4.00	5.00	1.00	5.00

[1] Cases with missing values were excluded from the analysis

Figure 14


Staff Correlations
Service Quality & Patient Satisfaction
Understanding
Tangibles
Responsiveness
Reliability
Credibility
Courtesy
Competence
Communication
Caring
Service Quality and Patient Satisfation
0.87
0.68
0.82
0.80
0.77
0.87
0.83
0.86
0.83
0.95
0.00
0.20
0.40
0.60
0.80
1.00

Data analysis also took place investigating variations of service quality and patient satisfaction ratings for the three primary care areas involved in the study: Pediatric Medicine, Family Medicine, and Internal Medicine. Results of this analysis parallel previous study results. The majority of respondents believe they receive high service quality and are satisfied with that service.

Figure 14 depicts the responses from the three primary care areas, as well as the results of the study overall. One hundred percent of the Family Medicine respondents Somewhat Agree that the service quality provided is high. More than 73% of Pediatric Medicine respondents stated they Somewhat Agree that they receive high service quality. Sixty percent of Internal Medicine respondents also came to the same conclusion.

Patient satisfaction results are very similar to the results for service quality. One exception to this is Family Medicine. Sixty-percent of Family Medicine respondents are Somewhat Satisfied with their encounter experiences. This group also had the largest number of respondents (20%) who stated they were Very Satisfied with their experiences.

Figure 15

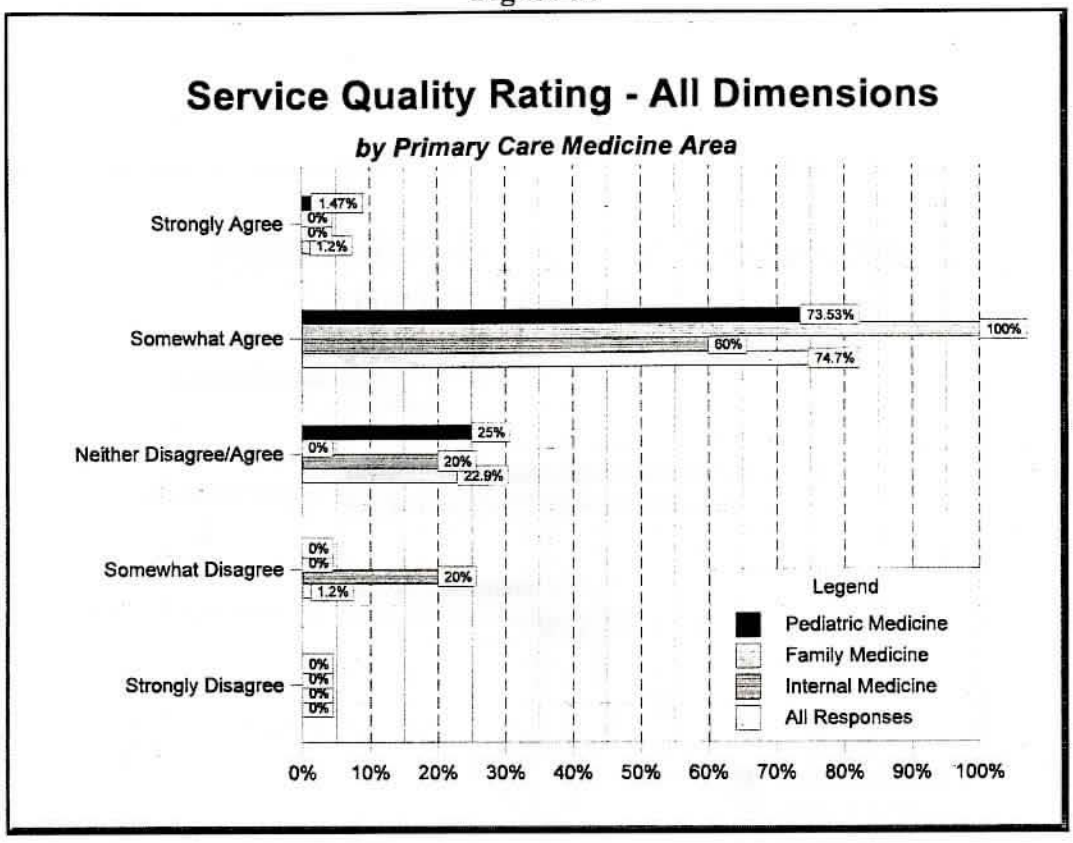
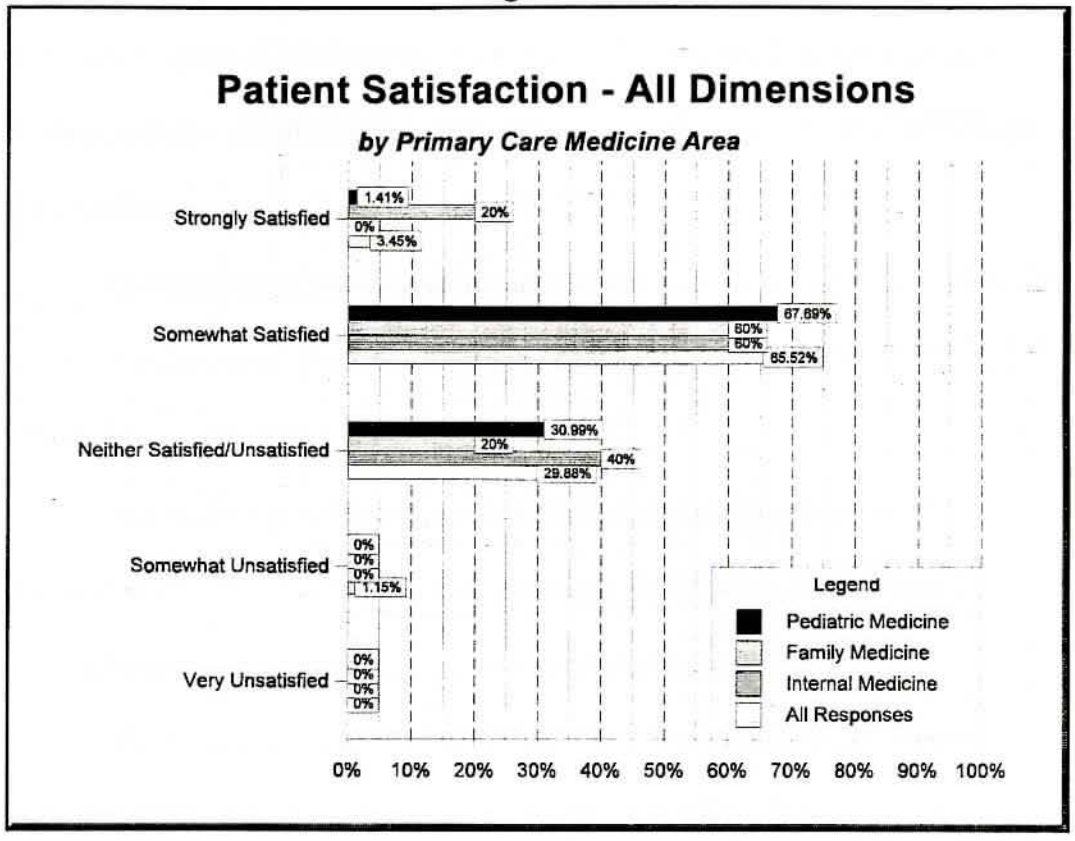

Service Quality Rating - All Dimensions
by Primary Care Medicine Area
Strongly Agree
Somewhat Agree
Neither Disagree/Agree
Somewhat Disagree
Strongly Disagree
1.47%
0%
0%
1.2%
73.53%
100%
60%
74.7%
25%
0%
20%
22.9%
0%
0%
20%
1.2%
0%
0%
0%
0%
Legend
Pediatric Medicine
Family Medicine
Internal Medicine
All Responses
0%
10%
20%
30%
40%
50%
60%
70%
80%
90%
100%

Figure 16


Patient Satisfaction - All Dimensions
by Primary Care Medicine Area
Strongly Satisfied
1.41%
20%
0%
3.45%
Somewhat Satisfied
67.69%
80%
80%
85.52%
Neither Satisfied/Unsatisfied
30.99%
20%
40%
29.88%
Somewhat Unsatisfied
0%
0%
0%
1.15%
Very Unsatisfied
0%
0%
0%
0%
Legend
Pediatric Medicine
Family Medicine
Internal Medicine
All Responses
0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

Looking at the mean for the twelve service quality dimensions across all three primary care areas (Table 18), similar results are revealed. Courtesy is the highest-rated dimension in two of the three areas (Pediatric Medicine and Family Medicine). Internal Medicine respondents rated Tangibles first with Courtesy being rated very closely behind. The dimension Outcomes was rated the lowest across all three areas.

Correlations of service quality and patient satisfaction are nearly identical across all three areas: Pediatric Medicine (0.95), Family Medicine (0.96), and Internal Medicine (0.98).

The highest correlations and dimensions of occurrence are as follows: Pediatric Medicine - Caring and Understanding (0.90 each); Family Medicine - Competence (0.97); Internal Medicine - Competence (0.99).

The lowest correlations and dimensions of occurrence are as follows: Pediatric Medicine - Credibility (0.75); Family Medicine - Security (0.81); Internal Medicine - Understanding (0.61).

Table 18

Primary Care Areas
Service Quality Dimensions
Mean and Standard Deviation

	Pediatric Medicine			Family Medicine			Internal Medicine			All Responses		
Dimension	n[1]	Mean	Std. Dev.	n[1]	Mean	Std. Dev.	n[1]	Mean	Std. Dev.	n[1]	Mean	Std. Dev.
Service Quality	68	4.28	0.45	9	4.48	0.32	5	4.05	0.67	83	4.28	0.46
Access	77	4.03	0.67	12	4.15	0.65	6	3.79	1.02	96	4.01	0.71
Caring	78	3.97	0.85	13	4.17	0.79	7	3.50	0.80	99	3.96	0.85
Communication	78	4.57	0.51	13	4.65	0.45	7	4.29	0.89	99	4.55	0.54
Competence	78	4.50	0.45	13	4.63	0.49	7	4.43	0.73	99	4.51	0.48
Courtesy	78	4.64	0.50	13	4.75	0.43	7	4.43	0.83	99	4.63	0.52
Credibility	76	4.39	0.55	13	4.44	0.63	7	4.39	0.76	97	4.39	0.58
Outcomes	77	3.81	0.73	11	3.78	0.77	6	3.33	0.70	95	3.76	0.74
Reliability	77	4.41	0.51	13	4.54	0.60	7	4.32	0.75	98	4.41	0.55
Responsiveness	76	4.23	0.71	13	4.15	0.68	6	3.75	0.96	96	4.18	0.73
Security	78	4.53	0.52	11	4.64	0.34	7	4.21	0.64	97	4.51	0.53
Tangibles	74	4.11	0.63	13	4.40	0.55	7	4.46	0.71	95	4.17	0.64
Understanding	78	4.32	0.67	13	4.07	0.73	7	3.89	0.89	99	4.29	0.68

[1] Cases with missing values were excluded from the analysis

Table 19

Primary Care Areas
Patient Satisfaction Dimensions
Mean and Standard Deviation

	Pediatric Medicine			Family Medicine			Internal Medicine			All Responses		
Dimension	n[1]	Mean	Std. Dev.	n[1]	Mean	Std. Dev.	n[1]	Mean	Std. Dev.	n[1]	Mean	Std. Dev.
Patient Satisfaction	71	4.28	0.45	10	4.41	0.52	5	4.25	0.49	87	4.28	0.50
Access	78	4.02	0.73	11	4.07	0.73	7	3.64	0.91	97	3.98	0.76
Caring	78	4.11	0.82	13	4.31	0.83	7	3.82	0.83	99	4.10	0.83
Communication	77	4.50	0.54	13	4.58	0.58	7	4.36	0.89	98	4.48	0.60
Competence	78	4.50	0.46	13	4.65	0.53	6	4.38	0.77	98	4.50	0.51
Courtesy	78	4.51	0.55	13	4.67	0.47	7	4.36	0.89	99	4.51	0.57
Credibility	78	4.46	0.55	13	4.48	0.55	7	4.36	0.69	99	4.44	0.56
Outcomes	76	3.85	0.70	13	4.12	0.83	7	3.46	0.71	97	3.84	0.74
Reliability	78	4.46	0.48	13	4.42	0.66	6	4.58	0.38	98	4.45	0.51
Responsiveness	77	4.27	0.68	13	4.23	0.70	7	3.96	0.96	98	4.22	0.73
Security	78	4.53	0.57	12	4.69	0.40	7	4.29	0.70	98	4.52	0.57
Tangibles	75	4.06	0.64	13	4.31	0.56	7	4.25	0.80	96	4.09	0.65
Understanding	78	4.35	0.66	13	4.50	0.61	7	4.11	0.86	99	4.34	0.69

[1] Cases with missing values were excluded from the analysis

Figure 17

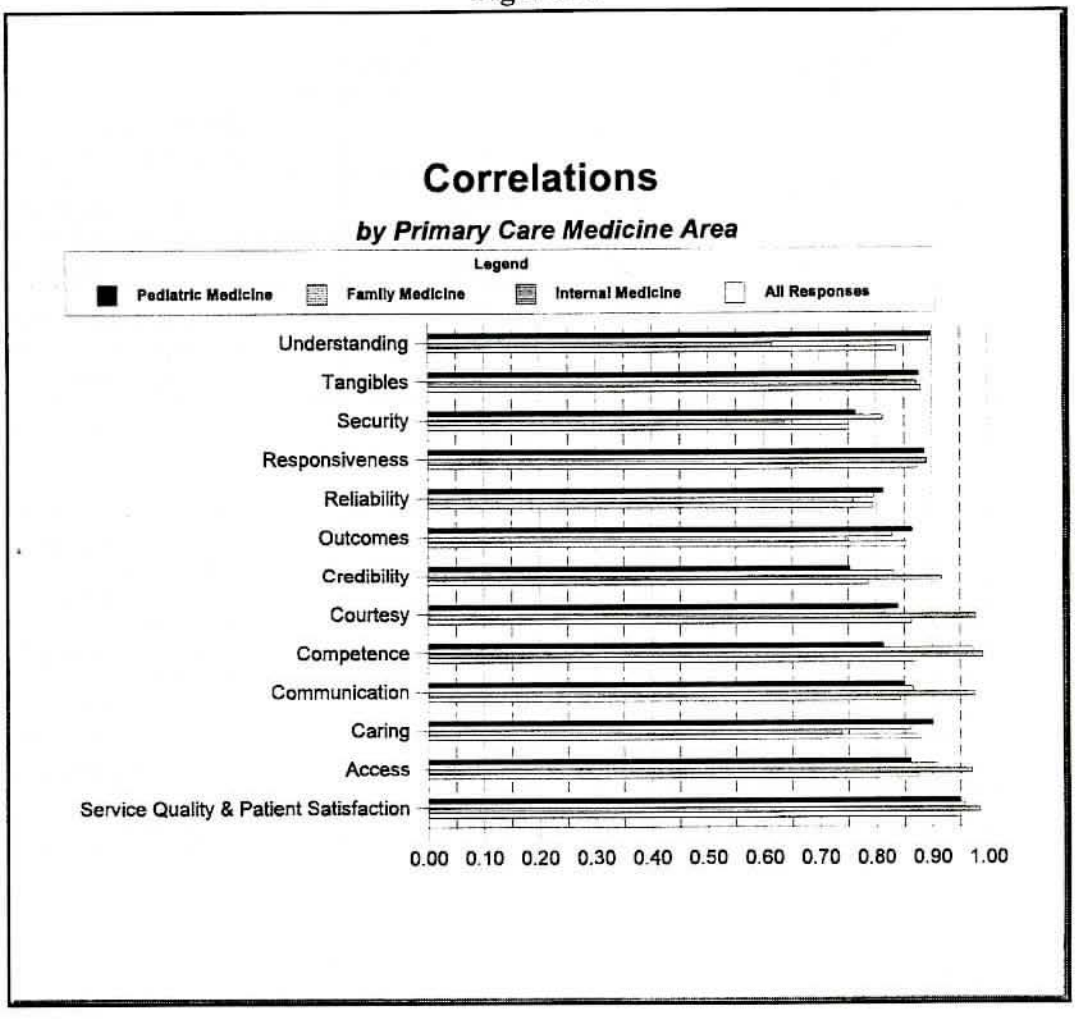

Correlations
by Primary Care Medicine Area
Legend
Pediatric Medicine
Family Medicine
Internal Medicine
All Responses
Understanding
Tangibles
Security
Responsiveness
Reliability
Outcomes
Credibility
Courtesy
Competence
Communication
Caring
Access
Service Quality & Patient Satisfaction
0.00 0.10 0.20 0.30 0.40 0.50 0.60 0.70 0.80 0.90 1.00

Table 20
Correlations - Service Quality and Patient Satisfaction by Primary Care Medicine Area

	All Responses	Pediatric Medicine	Family Medicine	Internal Medicine
Service Quality & Patient Satisfaction	0.95	0.95	0.96	0.98
Access	0.88	0.86	0.91	0.97
Caring	0.88	0.90	0.86	0.74
Communication	0.84	0.85	0.87	0.98
Competence	0.87	0.81	0.97	0.99
Courtesy	0.86	0.84	0.82	0.98
Credibility	0.79	0.75	0.83	0.92
Outcomes	0.85	0.86	0.83	0.75
Reliability	0.80	0.81	0.80	0.76
Responsiveness	0.87	0.89	0.88	0.89
Security	0.75	0.76	0.81	0.64
Tangibles	0.88	0.88	0.82	0.87
Understanding	0.84	0.90	0.89	0.61

Chapter V

DISCUSSION

Analysis of the data took place by combining all questions within a particular dimension to achieve the results for that particular dimension within each construct. Results for each construct were accomplished by associating each of the dimensions within that construct.

This study found results comparable to those of previous research. The perceived level of service quality delivery produces a comparable level of patient satisfaction.

Combining the service quality responses for Strongly Agree and Somewhat Agree, 75.9% of the respondents believe they received high service quality. This result coincides with the 68.97% of respondents who are Very Satisfied and Somewhat Satisfied. Similar results are also found for those who are neutral about the service quality (22.9%) and patient satisfaction (29.88%). Results for those who Disagree that they received high service quality (1.2%) and are not Satisfied (1.15%) also correspond.

Results indicated that a highly positive correlation exists between service quality and patient satisfaction (0.95), thus, lending support to the study hypothesis.

Results for the twelve dimensions within each construct also coincide, as do the correlations for the dimensions. Similar results were found for the subcategorized areas within the study: physician and staff service quality and patient satisfaction, and the primary care medicine areas.

Researchers Bowers, Swan, and Koehler identified two dimensions of health care service quality to be added to the original ten SERVQUAL dimensions, Outcomes and Caring. It is interesting that in this study, the dimensions of Outcomes and Caring were the two lowest-rated dimensions.

Outcomes was the lowest-rated for both service quality and patient satisfaction. Only 44.21% of the respondents believed service quality was high and only 42.27% were satisfied. Additionally, 38.95% Neither Disagreed/Agreed that Outcomes service quality was high, and 45.36% were Neither Unsatisfied.

Therefore, this dimension was further subclassified into two aspects of Outcomes - Clinical Outcomes and Educational Outcomes. By separating the two aspects, the results identified an area in which exists a patient need.

Under Clinical Outcomes, 96.97% Agree that they receive high service quality, and 93.99% are satisfied. Educational Outcomes revealed that only 22.11% believe they receive high service quality, and patient satisfaction was only 27.90%. Additionally, 46.32% of respondents are neutral about the service quality, and 53.60% are neutral about satisfaction levels.

Therefore, it is not the medical treatment with which patients needs are not filled, but rather it is in the education regarding preventive health issues in which a need must be met.

The dimension Caring pertains to either staff or physician. The results for this dimension as it pertains to staff and physician demonstrates that Caring was more favorably rated under the physician aspect than under the staff aspect for both service quality and patient satisfaction.

Those respondents who agreed they received a high level of service quality from the physician numbered 75.76% while the staff was rated 53.54% for Caring. Those patients who were satisfied consisted of 80.81% for the physician aspect and 61.62% for the staff. Additionally, those who believed they received low service quality by the physician consisted of 7.07% compared to a staff rating of 17.17%. Unsatisfied patients for the dimension Caring was 6.06% for physician ratings and 12.08% for staff ratings. Approximately one-third of respondents Neither Disagreed/Agreed they received high service quality, and did not express Dissatisfaction nor Satisfaction.

In terms of the entire study, the next lowest-rated dimension was Access. Respondents who agreed that a high level of service quality was delivered totalled 64.58%. Slightly more than 64% of patients indicated Satisfaction for this dimension.

Reviewing the results for each of the areas encompassing Access, it is evident that telephone access, both to the physician office during the day and reaching the physician at nights and weekends, is an area in which patient needs are not met.

The three highest-rated dimensions for both service quality and patient satisfaction were Competence, Courtesy, and Security. The ratings for all three dimensions under each construct ranged from 85.86% to 88.89%.

Results for the dimension Security revealed that respondents were generally pleased with insurance claim filing and billing aspects of their encounter experience. They also positively rated the issue of patient privacy.

The three highest-rated physician service quality and patient satisfaction dimensions (Table 8 and Table 9) are Courtesy, Competence, and Communication. These results for both constructs range from a low of 94.95% to a high of 98.99%.

The two lowest-rated physician dimensions for both constructs were Outcomes and Caring as previously discussed.

Correlation for physician service quality and patient satisfaction was significantly greater than 0 at 0.90 (Figure 9).

The two highest-rated staff dimensions for service quality are Responsiveness (93.88%) and Tangibles (staff appearance) (89.9%). Both Courtesy and Communication were third at 81.82% (Table 14).

The three highest-rated staff dimensions for patient satisfaction were Tangibles (82.83%), Courtesy (80.81%), and Credibility (78.79%) (Table 15).

The correlation for staff service quality and patient satisfaction was highly positive at 0.95 (Figure 14).

The breakdown of the twelve dimensions by primary care medicine areas (Table 18 and Table 19) indicates that Courtesy is among the three highest-rated dimensions across all three of these areas for both service quality and patient satisfaction.

Internal Medicine results indicated that more respondents within this primary care area are neutral about service quality and patient satisfaction than either of the other two primary care medicine areas. The mean response was neutral for the service quality dimensions Access, Caring, Outcomes, Responsiveness, and Understanding. Patient satisfaction neutral dimensions included three of the previous four. The exception was the dimension Understanding.

Comparing the results for Access, Responsiveness, and Understanding across the primary care medicine areas indicates that several encounter areas under each dimension may warrant further investigation.

Regarding the dimension Access, Internal Medicine respondents demonstrated concern regarding telephone access and office hours. For the dimension Responsiveness, areas indicated for potential improvement included

appointment availability, the physician being rushed during a patient's office encounter, and staff responsiveness in terms of not being too busy to provide assistance and initiating an offer to the patient to provide assistance. Results for the dimension Understanding indicated that both physician and staff members need to be cognizant of the fact that patients feel that neither physician nor staff is interested in understanding their needs, nor do they demonstrate sensitivity towards the patient.

Figure 19 and Table 20 illustrate that correlations for service quality and patient satisfaction are nearly identical across all primary care medicine areas and the overall study.

Summary

Study results are comparable to results by other researchers. The results of research done by William Borchardt and others clearly demonstrate that the patient's perception of service quality play a definite role in their level of satisfaction for that service (57).

This study's highly significant correlation between service quality and patient satisfaction (0.95) support the hypothesis of this study.

Results also identified areas in which improvements and further investigation may be conducted. While the dimension Outcomes was rated lower than anticipated, the breakdown of the results between Clinical Outcomes and

Educational Outcomes demonstrates that respondents highly value the clinical aspects of the care received. It also further emphasized the fact that recipients of health care services should be viewed as consumers. They want information on how to take preventive steps to ensure their wellness. They look to the health care provider to supply that information.

The study results regarding the difference in ratings between physician and staff raised several issues. Researchers Mack, File, Horwitz, and Prince believed that low staff ratings are due to the subjective and complex nature of evaluating staff interactions (11). This assumption would explain the difference in ratings between these two groups.

It also raises the possibility that employee satisfaction may be suffering. Researcher W. Benoy Joseph identified that job dissatisfaction, whether it is due to environmental factors or the workload itself, interferes with an employee's ability to convey skills which health care consumers use to define service quality (54).

While the physicians received high ratings in this study, physicians and administrators need to be conscious of the fact that patients' expectations of physicians continually increase. They want physicians to demonstrate more personal warmth, friendliness, and responsiveness to their needs (O'Connor, Shewchuk, and Carney 34). This further supports the importance of the "art of medicine" (Borchardt 53).

Study results demonstrated areas in which improvements need to be made, such as in the dimension of Access. Conscientious efforts to improve various areas of the health care encounter are important because of the cumulative effect of individual encounters. John Joby recognized the potentiality of each encounter to influence the viability of the health care system as a whole (56). He also identified that service quality and patient satisfaction influence a patient's intent to return to that provider for future services (57).

Therefore, it is important that administrators of health care services actively acknowledge relevance to areas identified as needing improvement, such as telephone access. Researchers Strasser, Schweikhart, Welch, and Borge identified that the potential effect of lost cumulative revenue by failing to satisfy one patient ranges from $6,000 to as high as $400,000 (35).

Actively working on process improvement in identified areas may change the perception of the 20% to 40% of respondents who gave neutral responses regarding service quality and patient satisfaction. Those who are neutral about service delivery and satisfaction may not dissuade potential patients from seeking services, but they do not necessarily positively influence potential patients.

Limitations

One piece of demographic data, gender, was inadvertently omitted from the survey instrument. While not vital to the overall results of the study, this would have been an interesting piece of data as other researchers have identified that typically more respondents are female.

The demographic data asking the respondent for the total number of visits to the practice location listed a blank space in which the respondent wrote in an estimated number of visits. Categorization of this data would have been more appropriately facilitated by offering a range of values from which the respondent could choose.

Distribution of surveys turned out to be more complex than originally anticipated. The researcher explained the distribution procedure to the contact person at each practice location; however, differences in distribution did exist. These differences were mainly the result of the various office layouts of the practice sites. The surveys were made available to the patients in the waiting room, examination room, and/or at the check-out desk.

It may be the differences in distribution that resulted in more surveys being picked up and returned by respondents at the Pediatric Medicine locations. Both Pediatric locations placed surveys in the waiting room and at the check-out desk. The possibility exists that at the other locations a greater number of patients saw the surveys in the waiting room prior to the examination and intended to pick up

a survey when they left the office but forgot to do so as they left. Having the surveys at the check-out desk would remind them to take a survey.

Suggestions for Future Research

The distribution procedure would be more carefully reviewed with the contact person. A visit to the site prior to distribution to determine the best location to place the surveys would be appropriate. This may result in a greater number of responses across the primary care areas.

Appendix A

Service Quality and Patient Satisfaction Survey

Thank you for participating in our service quality and patient satisfaction survey. The survey is divided into three sections. Section I helps categorize the data by asking general questions about the person completing the survey. Section II asks questions relating to service quality. Section III asks questions relating to your satisfaction with service. The instructions for completion are slightly different for each section. At various points in each section, your comments will be welcomed.

Section I. General Questions About the Person Completing the Survey

At no time is your name asked in order to guarantee anonymity

Age of Person Completing Survey _____

Approximately how many times have you come to this office for medical care? _____

Years of Education

Please check one indicating your highest level of education

____ GED ____ High School Diploma ____ Some College

____ Bachelor's Degree ____ Master's Degree

____ Professional Degree: ___ JD ___ MD ___ PHD

Section II. Service Quality

Following each statement, please indicate your level of agreement to the statement. The lowest level of agreement is 1 (Strongly disagree). The highest level of agreement is 5 (Strongly agree).

1. I am able to reach the physician's office by telephone without getting a busy signal.

1	2	3	4	5
Strongly Disagree	Somewhat Disagree	Neither Disagree/Agree	Somewhat Agree	Strongly Agree

2. The office hours are convenient for my needs.

1	2	3	4	5
Strongly Disagree	Somewhat Disagree	Neither Disagree/Agree	Somewhat Agree	Strongly Agree

3. Appointments are available within an acceptable number of days.

1	2	3	4	5
Strongly Disagree	Somewhat Disagree	Neither Disagree/Agree	Somewhat Agree	Strongly Agree

4. The number of parking spaces is adequate at any time of day.

1	2	3	4	5
Strongly Disagree	Somewhat Disagree	Neither Disagree/Agree	Somewhat Agree	Strongly Agree

5. Disabled access to our office (doorways, elevators, and parking) is appropriate.

1	2	3	4	5
Strongly Disagree	Somewhat Disagree	Neither Disagree/Agree	Somewhat Agree	Strongly Agree

6. The staff displays a professional appearance.

1	2	3	4	5
Strongly Disagree	Somewhat Disagree	Neither Disagree/Agree	Somewhat Agree	Strongly Agree

7. The office is clean and neat.

1	2	3	4	5
Strongly Disagree	Somewhat Disagree	Neither Disagree/Agree	Somewhat Agree	Strongly Agree

8. The waiting time in the reception area is acceptable.

1	2	3	4	5
Strongly Disagree	Somewhat Disagree	Neither Disagree/Agree	Somewhat Agree	Strongly Agree

9. Contacting the physician for night and weekend emergencies is an easy process.

1	2	3	4	5
Strongly Disagree	Somewhat Disagree	Neither Disagree/Agree	Somewhat Agree	Strongly Agree

Your comments regarding the above statements are welcome: _____

_____

_____

_____

_____

10. The staff demonstrates a friendly, courteous, and professional manner.

1	2	3	4	5
Strongly Disagree	Somewhat Disagree	Neither Disagree/Agree	Somewhat Agree	Strongly Agree

11. The physician demonstrates a friendly, courteous, and professional manner.

1	2	3	4	5
Strongly Disagree	Somewhat Disagree	Neither Disagree/Agree	Somewhat Agree	Strongly Agree

12. The staff's overall attitude makes me feel at ease.

1	2	3	4	5
Strongly Disagree	Somewhat Disagree	Neither Disagree/Agree	Somewhat Agree	Strongly Agree

13. The physician's overall attitude makes me feel at ease.

1	2	3	4	5
Strongly Disagree	Somewhat Disagree	Neither Disagree/Agree	Somewhat Agree	Strongly Agree

14. The staff listens to my concerns.

1	2	3	4	5
Strongly Disagree	Somewhat Disagree	Neither Disagree/Agree	Somewhat Agree	Strongly Agree

15. The physician listens to my concerns about my health care.

1	2	3	4	5
Strongly Disagree	Somewhat Disagree	Neither Disagree/Agree	Somewhat Agree	Strongly Agree

16. The staff clearly explains policies and procedures.

1	2	3	4	5
Strongly Disagree	Somewhat Disagree	Neither Disagree/Agree	Somewhat Agree	Strongly Agree

17. The physician clearly explains medical care and treatment.

1	2	3	4	5
Strongly Disagree	Somewhat Disagree	Neither Disagree/Agree	Somewhat Agree	Strongly Agree

18. The physician demonstrates knowledge and a high level of competency.

1	2	3	4	5
Strongly Disagree	Somewhat Disagree	Neither Disagree/Agree	Somewhat Agree	Strongly Agree

19. I trust my physician to make appropriate medical decisions.

1	2	3	4	5
Strongly Disagree	Somewhat Disagree	Neither Disagree/Agree	Somewhat Agree	Strongly Agree

20. The physician provides accurate information.

1	2	3	4	5
Strongly Disagree	Somewhat Disagree	Neither Disagree/Agree	Somewhat Agree	Strongly Agree

21. The physician confidently answers my questions.

1	2	3	4	5
Strongly Disagree	Somewhat Disagree	Neither Disagree/Agree	Somewhat Agree	Strongly Agree

22. The physician is not too rushed to answer my questions.

1	2	3	4	5
Strongly Disagree	Somewhat Disagree	Neither Disagree/Agree	Somewhat Agree	Strongly Agree

23. The physician will tell me if he/she does not know the answer to a question.

1	2	3	4	5
Strongly Disagree	Somewhat Disagree	Neither Disagree/Agree	Somewhat Agree	Strongly Agree

24. The physician will get the correct information in order to answer my questions.

1	2	3	4	5
Strongly Disagree	Somewhat Disagree	Neither Disagree/Agree	Somewhat Agree	Strongly Agree

25. The staff confidently answers my questions.

1	2	3	4	5
Strongly Disagree	Somewhat Disagree	Neither Disagree/Agree	Somewhat Agree	Strongly Agree

26. The staff provides accurate information.

1	2	3	4	5
Strongly Disagree	Somewhat Disagree	Neither Disagree/Agree	Somewhat Agree	Strongly Agree

27. The staff will tell me if they do not know the answer to a question.

1	2	3	4	5
Strongly Disagree	Somewhat Disagree	Neither Disagree/Agree	Somewhat Agree	Strongly Agree

28. The staff will get the correct information in order to answer my questions.

1	2	3	4	5
Strongly Disagree	Somewhat Disagree	Neither Disagree/Agree	Somewhat Agree	Strongly Agree

Your comments regarding the above statements are welcome: _____

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_____

29. The staff asks if they can help me without me having to first ask for help.

1	2	3	4	5
Strongly Disagree	Somewhat Disagree	Neither Disagree/Agree	Somewhat Agree	Strongly Agree

30. The staff shows an interest in understanding my needs.

1	2	3	4	5
Strongly Disagree	Somewhat Disagree	Neither Disagree/Agree	Somewhat Agree	Strongly Agree

31. The staff is not too busy to respond to my needs.

1	2	3	4	5
Strongly Disagree	Somewhat Disagree	Neither Disagree/Agree	Somewhat Agree	Strongly Agree

32. The staff is knowledgeable regarding procedures and paperwork needed for referrals to specialists.

1	2	3	4	5
Strongly Disagree	Somewhat Disagree	Neither Disagree/Agree	Somewhat Agree	Strongly Agree

33. The staff accurately coordinates referrals to specialists.

1	2	3	4	5
Strongly Disagree	Somewhat Disagree	Neither Disagree/Agree	Somewhat Agree	Strongly Agree

34. The physician shows an interest in me first as a person then as a patient.

1	2	3	4	5
Strongly Disagree	Somewhat Disagree	Neither Disagree/Agree	Somewhat Agree	Strongly Agree

35. The physician shows an interest in understanding my needs.

1	2	3	4	5
Strongly Disagree	Somewhat Disagree	Neither Disagree/Agree	Somewhat Agree	Strongly Agree

36. The physician shows sensitivity.

1	2	3	4	5
Strongly Disagree	Somewhat Disagree	Neither Disagree/Agree	Somewhat Agree	Strongly Agree

37. The physician cares about my health as if I were a family member.

1	2	3	4	5
Strongly Disagree	Somewhat Disagree	Neither Disagree/Agree	Somewhat Agree	Strongly Agree

38. The staff shows sensitivity.

1	2	3	4	5
Strongly Disagree	Somewhat Disagree	Neither Disagree/Agree	Somewhat Agree	Strongly Agree

39. The staff shows an interest in me first as a person then as a patient.

1	2	3	4	5
Strongly Disagree	Somewhat Disagree	Neither Disagree/Agree	Somewhat Agree	Strongly Agree

40. The staff cares about my health as if I were a family member.

1	2	3	4	5
Strongly Disagree	Somewhat Disagree	Neither Disagree/Agree	Somewhat Agree	Strongly Agree

Your comments regarding the above statements are welcome: _____

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_____

41. Treatment prescribed by my physician for my medical condition is usually effective.

1	2	3	4	5
Strongly Disagree	Somewhat Disagree	Neither Disagree/Agree	Somewhat Agree	Strongly Agree

42. Overall, my physician has made a positive impact on my health.

1	2	3	4	5
Strongly Disagree	Somewhat Disagree	Neither Disagree/Agree	Somewhat Agree	Strongly Agree

43. My physician discusses the importance of seat belt use.

1	2	3	4	5
Strongly Disagree	Somewhat Disagree	Neither Disagree/Agree	Somewhat Agree	Strongly Agree

44. My physician discusses the importance of regular exercise.

1	2	3	4	5
Strongly Disagree	Somewhat Disagree	Neither Disagree/Agree	Somewhat Agree	Strongly Agree

45. My physician discusses the importance of using bicycle helmets.

1	2	3	4	5
Strongly Disagree	Somewhat Disagree	Neither Disagree/Agree	Somewhat Agree	Strongly Agree

46. Information regarding my medical condition is always discussed with me in a manner to ensure my privacy.

1	2	3	4	5
Strongly Disagree	Somewhat Disagree	Neither Disagree/Agree	Somewhat Agree	Strongly Agree

47. My medical records are maintained in a confidential manner.

1	2	3	4	5
Strongly Disagree	Somewhat Disagree	Neither Disagree/Agree	Somewhat Agree	Strongly Agree

48. The staff handles the insurance claim filing appropriately.

1	2	3	4	5
Strongly Disagree	Somewhat Disagree	Neither Disagree/Agree	Somewhat Agree	Strongly Agree

49. The billing statements accurately reflect the balance due.

1	2	3	4	5
Strongly Disagree	Somewhat Disagree	Neither Disagree/Agree	Somewhat Agree	Strongly Agree

Your comments regarding the above statements are welcome: _____

_____

_____

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_____

Section III. Patient Satisfaction

Following each statement, please indicate your level of satisfaction to the service presented in the statement. The lowest level of satisfaction is 1 (Strongly dissatisfied). The highest level of satisfaction is 5 (Strongly satisfied).

50. The ease of reaching the office by telephone without getting a busy signal.

1	2	3	4	5
Very Unsatisfied	Somewhat Unsatisfied	Neither Unsatisfied/ Satisfied	Somewhat Satisfied	Very Satisfied

51. The ability of the office hours to meet your needs.

1	2	3	4	5
Very Unsatisfied	Somewhat Unsatisfied	Neither Unsatisfied/ Satisfied	Somewhat Satisfied	Very Satisfied

52. Availability of appointments within an acceptable number of days.

1	2	3	4	5
Very Unsatisfied	Somewhat Unsatisfied	Neither Unsatisfied/ Satisfied	Somewhat Satisfied	Very Satisfied

53. Availability of parking spaces at any time of day.

1	2	3	4	5
Very Unsatisfied	Somewhat Unsatisfied	Neither Unsatisfied/ Satisfied	Somewhat Satisfied	Very Satisfied

54. Disabled access to our office.

1	2	3	4	5
Very Unsatisfied	Somewhat Unsatisfied	Neither Unsatisfied/ Satisfied	Somewhat Satisfied	Very Satisfied

55. The professional appearance of the staff.

1	2	3	4	5
Very Unsatisfied	Somewhat Unsatisfied	Neither Unsatisfied/ Satisfied	Somewhat Satisfied	Very Satisfied

56. The cleanliness of the office.

1	2	3	4	5
Very Unsatisfied	Somewhat Unsatisfied	Neither Unsatisfied/ Satisfied	Somewhat Satisfied	Very Satisfied

57. The length of time spent in the reception area for a typical appointment.

1	2	3	4	5
Very Unsatisfied	Somewhat Unsatisfied	Neither Unsatisfied/ Satisfied	Somewhat Satisfied	Very Satisfied

58. The ease of contacting the physician at night and weekends for emergencies.

1	2	3	4	5
Very Unsatisfied	Somewhat Unsatisfied	Neither Unsatisfied/ Satisfied	Somewhat Satisfied	Very Satisfied

If you answered other than 4 or 5 to any of the above statements, your comments will be welcomed:

_____

_____

_____

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_____

59. The courtesy and professionalism of the staff.

1	2	3	4	5
Very Unsatisfied	Somewhat Unsatisfied	Neither Unsatisfied/ Satisfied	Somewhat Satisfied	Very Satisfied

60. The courtesy and professionalism of the physician.

1	2	3	4	5
Very Unsatisfied	Somewhat Unsatisfied	Neither Unsatisfied/ Satisfied	Somewhat Satisfied	Very Satisfied

61. The staff's ability to make me feel at ease.

1	2	3	4	5
Very Unsatisfied	Somewhat Unsatisfied	Neither Unsatisfied/ Satisfied	Somewhat Satisfied	Very Satisfied

62. The physician's ability to make me feel at ease.

1	2	3	4	5
Very Unsatisfied	Somewhat Unsatisfied	Neither Unsatisfied/ Satisfied	Somewhat Satisfied	Very Satisfied

63. The ability of the staff to listen to my concerns.

1	2	3	4	5
Very Unsatisfied	Somewhat Unsatisfied	Neither Unsatisfied/ Satisfied	Somewhat Satisfied	Very Satisfied

64. The physician's ability to listen to my health care concerns.

1	2	3	4	5
Very Unsatisfied	Somewhat Unsatisfied	Neither Unsatisfied/ Satisfied	Somewhat Satisfied	Very Satisfied

65. The ability of the staff to explain policies and procedures.

1	2	3	4	5
Very Unsatisfied	Somewhat Unsatisfied	Neither Unsatisfied/ Satisfied	Somewhat Satisfied	Very Satisfied

66. The ability of the physician to explain medical care and treatment.

1	2	3	4	5
Very Unsatisfied	Somewhat Unsatisfied	Neither Unsatisfied/ Satisfied	Somewhat Satisfied	Very Satisfied

67. The level of knowledge demonstrated by my physician to care for my medical needs.

1	2	3	4	5
Very Unsatisfied	Somewhat Unsatisfied	Neither Unsatisfied/ Satisfied	Somewhat Satisfied	Very Satisfied

68. The appropriateness of my physician's medical decisions.

1	2	3	4	5
Very Unsatisfied	Somewhat Unsatisfied	Neither Unsatisfied/ Satisfied	Somewhat Satisfied	Very Satisfied

69. The accuracy of information provided by my physician.

1	2	3	4	5
Very Unsatisfied	Somewhat Unsatisfied	Neither Unsatisfied/ Satisfied	Somewhat Satisfied	Very Satisfied

70. The ability of my physician to confidently answer my questions.

1	2	3	4	5
Very Unsatisfied	Somewhat Unsatisfied	Neither Unsatisfied/ Satisfied	Somewhat Satisfied	Very Satisfied

71. The amount of time my physician spends discussing my medical care.

1	2	3	4	5
Very Unsatisfied	Somewhat Unsatisfied	Neither Unsatisfied/ Satisfied	Somewhat Satisfied	Very Satisfied

72. The straightforward approach of the physician when he/she does not have an answer to a question.

1	2	3	4	5
Very Unsatisfied	Somewhat Unsatisfied	Neither Unsatisfied/ Satisfied	Somewhat Satisfied	Very Satisfied

73. The reliability of the physician to get information to my questions.

1	2	3	4	5
Very Unsatisfied	Somewhat Unsatisfied	Neither Unsatisfied/ Satisfied	Somewhat Satisfied	Very Satisfied

74. The ability of the staff to confidently answer my questions.

1	2	3	4	5
Very Unsatisfied	Somewhat Unsatisfied	Neither Unsatisfied/ Satisfied	Somewhat Satisfied	Very Satisfied

75. The accuracy of information provided by the staff.

1	2	3	4	5
Very Unsatisfied	Somewhat Unsatisfied	Neither Unsatisfied/ Satisfied	Somewhat Satisfied	Very Satisfied

76. The straightforward approach of the staff when they do not have an answer to a question.

1	2	3	4	5
Very Unsatisfied	Somewhat Unsatisfied	Neither Unsatisfied/ Satisfied	Somewhat Satisfied	Very Satisfied

77. The reliability of the staff to get information to my questions.

1	2	3	4	5
Very Unsatisfied	Somewhat Unsatisfied	Neither Unsatisfied/ Satisfied	Somewhat Satisfied	Very Satisfied

If you answered other than 4 or 5 to any of the above statements, your comments will be welcomed:

_____

_____

_____

_____

_____

78. The helpfulness of the staff without being asked.

1	2	3	4	5
Very Unsatisfied	Somewhat Unsatisfied	Neither Unsatisfied/ Satisfied	Somewhat Satisfied	Very Satisfied

79. The staff's level of interest in understanding my needs.

1	2	3	4	5
Very Unsatisfied	Somewhat Unsatisfied	Neither Unsatisfied/ Satisfied	Somewhat Satisfied	Very Satisfied

80. The staff's level of response to my needs.

1	2	3	4	5
Very Unsatisfied	Somewhat Unsatisfied	Neither Unsatisfied/ Satisfied	Somewhat Satisfied	Very Satisfied

81. The staff's knowledge regarding paperwork for referrals to specialists.

1	2	3	4	5
Very Unsatisfied	Somewhat Unsatisfied	Neither Unsatisfied/ Satisfied	Somewhat Satisfied	Very Satisfied

82. The staff's accurate coordination of specialist referrals.

1	2	3	4	5
Very Unsatisfied	Somewhat Unsatisfied	Neither Unsatisfied/ Satisfied	Somewhat Satisfied	Very Satisfied

83. The ability of the physician to show an interest in me first as a person, then as a patient.

1	2	3	4	5
Very Unsatisfied	Somewhat Unsatisfied	Neither Unsatisfied/ Satisfied	Somewhat Satisfied	Very Satisfied

84. The level of interest in which the physician shows an interest in understanding my needs.

1	2	3	4	5
Very Unsatisfied	Somewhat Unsatisfied	Neither Unsatisfied/ Satisfied	Somewhat Satisfied	Very Satisfied

85. The sensitivity shown by the physician.

1	2	3	4	5
Very Unsatisfied	Somewhat Unsatisfied	Neither Unsatisfied/ Satisfied	Somewhat Satisfied	Very Satisfied

86. The ability of the physician to care about my health needs as if I were a family member.

1	2	3	4	5
Very Unsatisfied	Somewhat Unsatisfied	Neither Unsatisfied/ Satisfied	Somewhat Satisfied	Very Satisfied

87. The sensitivity shown by the staff.

1	2	3	4	5
Very Unsatisfied	Somewhat Unsatisfied	Neither Unsatisfied/ Satisfied	Somewhat Satisfied	Very Satisfied

88. The ability of the staff to show an interest in me first as a person, then as a patient.

1	2	3	4	5
Very Unsatisfied	Somewhat Unsatisfied	Neither Unsatisfied/ Satisfied	Somewhat Satisfied	Very Satisfied

89. The ability of the staff to care about my health needs as if I were a family member.

1	2	3	4	5
Very Unsatisfied	Somewhat Unsatisfied	Neither Unsatisfied/ Satisfied	Somewhat Satisfied	Very Satisfied

If you answered other than 4 or 5 to any of the above statements, your comments will be welcomed:

_____

_____

_____

_____

_____

90. The effectiveness of the treatment prescribed for my medical condition.

1	2	3	4	5
Very Unsatisfied	Somewhat Unsatisfied	Neither Unsatisfied/ Satisfied	Somewhat Satisfied	Very Satisfied

91. The overall impact my physician has made on my health.

1	2	3	4	5
Very Unsatisfied	Somewhat Unsatisfied	Neither Unsatisfied/ Satisfied	Somewhat Satisfied	Very Satisfied

92. The amount of information my physician provides regarding the importance of seat belt use.

1	2	3	4	5
Very Unsatisfied	Somewhat Unsatisfied	Neither Unsatisfied/ Satisfied	Somewhat Satisfied	Very Satisfied

93. The amount of information my physician provides regarding the importance of regular exercise.

1	2	3	4	5
Very Unsatisfied	Somewhat Unsatisfied	Neither Unsatisfied/ Satisfied	Somewhat Satisfied	Very Satisfied

94. The amount of information my physician provides regarding the importance of using bicycle helmets.

1	2	3	4	5
Very Unsatisfied	Somewhat Unsatisfied	Neither Unsatisfied/ Satisfied	Somewhat Satisfied	Very Satisfied

95. The privacy provided me during discussion of my medical information.

1	2	3	4	5
Very Unsatisfied	Somewhat Unsatisfied	Neither Unsatisfied/ Satisfied	Somewhat Satisfied	Very Satisfied

96. The confidential manner in which medical records are maintained.

1	2	3	4	5
Very Unsatisfied	Somewhat Unsatisfied	Neither Unsatisfied/ Satisfied	Somewhat Satisfied	Very Satisfied

97. The staff's ability to appropriately file insurance claims.

1	2	3	4	5
Very Unsatisfied	Somewhat Unsatisfied	Neither Unsatisfied/ Satisfied	Somewhat Satisfied	Very Satisfied

98. The accuracy of the billing statements.

1	2	3	4	5
Very Unsatisfied	Somewhat Unsatisfied	Neither Unsatisfied/ Satisfied	Somewhat Satisfied	Very Satisfied

If you answered other than 4 or 5 to any of the above statements, your comments will be welcomed:

_____

_____

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_____

Thank you for completing this survey. The data from all participants will be analyzed and the results used to better serve all of our patients. Your input provides us with valuable information to ensure that you receive the service quality you deserve!

Appendix B

COVER LETTER

October 10, 1998

Dear Survey Participant,

I am a student in graduate school gathering patients' opinions about health care service. Patients such as yourself are the ones who can provide valuable information to those of us in health care. Through your answers, we will learn what we are doing right and what we are doing wrong. The entire goal of this project is to educate health care teams about what patients want and need from their physicians, nursing staff, clerical staff, and administrators of health care services.

This project will let us see through your eyes how health care should be provided. You have the opportunity to educate us. Attached is a confidential survey that will be used strictly for research purposes. ***Those who participate are not asked to reveal their name at any point in the survey, therefore, your participation in this survey will be strictly anonymous.***

Data for the survey will be gathered from more than 100 participants. Analysis of the data will take place using responses from all participants.

Each survey question is in the form of a statement. Following the statement is a scale from 1 to 5, with 5 being the high end of the scale. Please circle the number you feel is appropriate as it relates to the question being asked.

Completing the survey will take approximately 45 minutes. After you have completed the survey, please place it in the attached postage-paid envelope and mail. Because there is a deadline for completing this research project, please mail by November 20, 1998.

Thank you for taking part in this project.

Sincerely,

Mary Ann Hackmeister

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