1998

Improving patient satisfaction with a major healthcare organization

Mary Carolyn Tornero

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IMPROVING PATIENT SATISFACTION WITH A MAJOR HEALTHCARE ORGANIZATION

A Thesis
Presented to the
Faculty of
California State University,
San Bernardino

In Partial Fulfillment
of the Requirements for the Degree
Master of Science
in
Health Services Administration

Mary Carolyn Tornero
March 1998
IMPROVING PATIENT SATISFACTION WITH A MAJOR HEALTHCARE ORGANIZATION

A Thesis

Presented to the

Faculty of

California State University,

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by

Mary Carolyn Tornero

March 1998

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Abstract

The purpose of this thesis was to evaluate the objectives of a pilot project conducted with two healthcare ambulatory service departments. The three phase pilot consisted of Customer Service Training, Service Quality Call customer feedback to providers and Cycle of Service and Action Team process improvements around the two Cycles of Service within the departments. The research design used was non experimental evaluative. The first section is formative research in that it is a collection of several different types of data collection and analysis. Telephone survey, focus groups and mail questionnaires were analyzed both quantitatively and qualitatively. All pilot objectives were met. The customer service training participants were highly satisfied with the training under the categories of applicability and value of the training programs, they rated it between 88% and 100% Highly Satisfied. Their level of stress when dealing with difficult customers was reduced and maintained over time. The Service Quality Call customer feedback to providers was found to be actionable by the providers receiving the feedback reports. The process improvements made by the two Action Teams resulted in an increase in positive comments and a decrease in the negative comments using coding as the method of analysis. Lastly, the organization's ambulatory services survey showed a
process change occurred in one of the departments participating in the pilot when compared to another facility without the addition of the independent variables. Additional monitoring of the second department is expected to result in similar findings. Limitations of the study and problems experienced relate to the dynamics of a study of this type. It was very broad, difficult to get the variables to be consistent over time since it took place over an 18 month period.
Acknowledgments
Richard Tornero, Tracy Hegeman, Marti Tate, Barbara Smith, Edward Curry, MD, Donald Harlan, MD, Colleen O'Sullivan, Bob Parks, Larry Oliver, William H. Meyer, Philip Carney, MD, Norm Sogioka, MD.
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Chapter One: Statement of the Problem

Many health care organizations today are struggling with how to improve patient satisfaction and how to relate satisfaction to customer loyalty. Satisfaction is a subjective perception of the customer who receives the service and they typically enter a service with needs, wants and expectations. The extent to which the provider or organization fulfills them defines the degree to which the customer will be satisfied.

Although cost does not equal loyalty alone, if cost changes, some customers will leave. Loyalty to an organization is based upon the cost of the product but, more importantly, the experiences a customer has with the organization. (Beckman, 1996) The value for services is determined by the quality of the product and the way in which the customer is treated when they receive the services/product. J. Daniel Beckman reported in Health Care Forum (1996) that it has become popular to suggest that all the healthcare market cares about today is price. It is price and only price that shapes purchaser's behavior in healthcare. But no market and no customer buys on price alone. Customer purchase decisions are made on value, and value is part of an equation with price only serving as the denominator. He goes on to say that the numerator is comprised of many other attributes, such as quality, piece
of mind, reliability, access, compassion and breadth of services. He believes the focal point of senior leadership prior to cost reduction should be to define the customer's core services or the value the customer receives from the money paid for services and the way in which they are treated when they receive the services. Health care works largely in a service environment and the challenge is to create and sustain a superior service provided by a highly educated staff and sophisticated technology.

According to studies (TARP, 1997) customers in a group health environment may influence a large number of co-workers, they may tell approximately 9-12 additional people about their experience, and 1 in every 8 customers with a service problem will recount the event to more than 20 individuals. Compare that with the satisfied customer who only tells 3-4. In addition, it costs much more to attract new customers than it does to retain the customers you already have. An unsatisfactory experiences therefore lead to a poor image which equates to the companies bottom line.

With healthcare competition steadily increasing over the past three years on price, it is my belief that the price factor will become neutral and service will be the key determinant in the patient's selection of a health care organization and their decision to re-enroll. However, the problem is determining what will improve patient's perception of the service they receive from the health care
organization? Does this impact overall satisfaction as measured by patient surveys? Will it impact their behavior to renew membership?

Background

I am employed by a major Health Care Organization in the Inland Empire. This organization currently serves approximately 350,000 members. It is an insurance company, a physician group and hospital services. Internal analyses completed by the organization indicate there is a distinct relationship to satisfaction of the member if they have a personal physician and are satisfied with the care received. Additional analyses showed the members' perception of personalized care satisfaction provided by the employees and physicians of the medical care organization also impact their decision to remain loyal customers. This organization has implemented several programs to improve satisfaction. Examples of these programs include: (1) Physician-Patient Communication Workshops from the Bayer Institute; (2) Development of and implementation of videos such as, Dr. Charming, Straight Talk From the Members; (3) The withholding of merit bonuses for those physicians who received more than a certain amount of complaints during a six month period; (4) Resolving member complaints by department managers at the point of service (5) Communication Training for Receptionists.
Current Customer Surveys

Throughout this thesis the term patients, members and customers will be referred to interchangeably and will mean the same thing. The Health Plan refers to people to who prepay dues to the organization as members or customers, the Hospital and the Medical Group refer to them as patients.

Organization-Wide, several member/patient surveys are conducted monthly and quarterly. The first one is randomly sent as a result of a visit to a department and is called the Ambulatory Service Questionnaire: It was developed by and is currently managed by our Organizational Effectiveness Department at our Divisional offices. It has been validated, meaning it measures what it is intended to measure and is reliable, meaning it measures in the same manner and the results in the same answers when measuring the same characteristics over time. This particular survey was implemented in 1994. Therefore, Human Subjects Consent forms are not necessary since it is an organizational survey. The member is asked to rate various aspects of service, Table Four contains the exact questions.

The second one is a telephone survey which is conducted by an outside research firm. This survey is called the Satisfaction Tracking And Reporting, (STAR) and is administered by the Program Offices. Approximately Four Hundred (400) customers each quarter per Medical Center are
telephoned, it is entirely random and includes customers who have been seen or not seen. It is based on membership and not actual use of services.

Our geographical area is held accountable for setting a specific target for what is referred to as the personalized care indicators. A composite score of the four questions makes up the Personalized Care Index. These four questions are:

- The interest and attention of providers
- The interest and attention of nurses
- The amount of time spent with providers
- The courtesy and attitude of non medical staff

Effective in 1997, the goal targets have been set around the level of Highly Satisfied, those rating the services 8-10 on a 1-10 point scale. We are held accountable for reaching the target set for the Personalized Care Index. Opinion Research Corporation suggests that customers who are Highly Satisfied are more likely to remain customers. (Steiber and Krowinski, 1996) Our area's performance around the Personalized Care indicators for Highly Satisfied had been relatively static over the last two years (1994-1995), meaning no real changes to the processes have been noticed. All of the programs and training previously provided during 1993-1995 did not result
in any significant changes to the process that would enable us to reach the target of 80% Highly Satisfied.

Healthcare Organization’s Pilot

In 1995, the organization requested assistance from a major service oriented consultant firm, Kaset International. They contracted with them to conduct a three phase pilot project during 1996. The three phase pilot consisted of the following:

I. Phase One: Customer Relations Training--3 Separate Courses:
   - Achieving Extraordinary Customer Relations
   - Motivating For Extraordinary Service
   - Managing Extraordinary Service

II. Phase Two: Service Quality Call Customer Feedback

III. Phase Three Cycle of Service Ownership Team and Action Teams

The three phase pilot was conducted with three departments: one Specialty service, one Family Medicine service and one Pediatric service. The pilot has objectives and measurements for training; objectives and measurements for the Service Quality Call and Cycle of Service Ownership and Action Teams. Two of the three departments completed all three phases while the Specialty Department only participated in phase one.
The long term outcomes (12-24 months) will eventually be determined by the members perception of personalized care as measured by the STAR Survey and the departmental, Ambulatory Service Questionnaire.

**Purpose**

The purpose of the thesis is both evaluative and descriptive:

1. To determine if the pilot objectives were met
2. To determine if there is improvement in the ASQ survey as determined by use of Statistical Process Control for the two pilot departments that participated in all three phases
3. To set new personalized care goal targets, strategies, outcomes and activities for future implementation

My belief is satisfaction with delivery of healthcare services is developed by a compilation of experiences the customer has with the organization and is not solely based on the interaction between the physician and the patient as most of the literature review suggests. Isolating the physicians and teaching them to improve their communication techniques without any immediate customer feedback has been met with limited success at best. This three phase approach takes everything we know today that could impact customer satisfaction: employees' communication skills, physicians'
communication skills, customer feedback to the physician/employee, the teamwork between the employees and physicians and process improvement within the cycle of service the customer experiences.

Significance

If the data supports a significant change in the ASQ survey, the entire Inland Empire and perhaps the entire Southern California region will implement this process to improve our personalized care, beat the competition on service and create loyal customers. This could have enormous impact our organization's core business of healthcare by retaining current members it would increase overall membership.

Assumptions

The assumptions regarding the training are: (1) customer relations training is necessary in order to become customer focused: (2) conducting the training within already existing work teams will have a positive effect in teamwork, which will improve processes and systems and (3) the physicians and staff will attend the training with an open mind. Many physicians do not feel they need communication training. However, based on my experience, communication skills are not inherent in all physicians nor was it routinely covered in medical school training and many physicians went to medical school more than 20 + years ago.
An assumption about the feedback from the customer to the provider is that it will change the provider's behavior to be more customer focused instead of physician focused. Lastly, but perhaps the most significant, is the assumption that physicians and staff will use the new skills being taught in the Achieving Extraordinary Customer Relations course.

The internal organizational changes taking place may negatively impact the results. It is perhaps assumed that this three phase project is the only factor that will change satisfaction, in reality there are other issues that could either contribute to, or, take away from, the overall results. One last assumption is that the Hawthorne effect is not taking place, meaning service scores will improve because we are paying attention to them and, in fact, may not change long term behavior.

Scope and Limitations

I will be evaluating the overall effectiveness of the three phase pilot by reporting the results based upon the objectives of the pilot. In addition, I will be analyzing the ASQ Survey data for the two pilot departments and compare it to the ASQ survey data on several other departments not involved in the pilot. For the Family Medicine Department, one additional question will be added
that will measure process improvement for their Cycle of Service.

Since the ASQ survey measures attitudes and opinions, the following precautions are kept in mind:

• When measuring attitudes, we must rely on inference, since it is impossible to measure attitudes directly.
• Behaviors, beliefs and feelings will not always match, so to focus on only manifestation of an attitude may tend to distort our picture of the situation and mislead us.
• We have no guarantee that the attitude we want to assess will stand still long enough for a one time measurement. Information should be gathered on more than one occasions.
• When we study attitudes, we do so without universal agreement on their nature. Attitude assessment generally calls for assessment of the attitudes of a group of people.

I will not be analyzing the STAR survey data because it measures satisfaction about Medical Center-wide services and the pilots are only focused on three departments. This thesis is focused on two of the pilot departments.

**Definition of Terms**

**Moment of Truth:** These were first described by Jan Carlson of Scandanavia Airlines (Steiber and Kronski, 1996) as that point in time when a customer forms an impression of an organization. They are individual interactions when a
member/patient interacts with one of the employees in the organization. How they perceive the organization is based upon this moment of truth.

**Cycle of Service:** A Cycle of Service was coined by Ron Zemke, as the predictable sequence of Moments of Truth which a customer goes through from the time they identify a need which they can meet through the organization until the need is met. Cycles can be usefully prioritized. The concept of the cycle of service provides a tool for separating customers experiences into analyzable and improbable groupings.

**Steering Committee:** This is the senior administrative management team who identify the Cycle of Service to be evaluated.

**Cycle of Service Ownership Team (COSOT):** This team is a group of middle managers who own the cycle of service that is being targeted for improvement. They receive their direction from the Steering Committee and one member of the Steering Committee is on the Cycle of Service Ownership Team.

**Action Team:** This is a group of front-line employees and physicians who work within the cycle of service. They are the ones who interact with the customer and have the most impact on improving the cycle. They are selected by the COSOT and one representative of the COSOT sits on this team.
Kaset International's Customer Service Training Courses:

- Achieving Extraordinary Customer Relations: This is a two day course for front-line staff, physicians/providers and managers, it deals with identifying customers behaviors, helps front-line staff determine where they stand in relation to handling the difficult customer and skill practice to improve.

- Motivating for Extraordinary Service: This course is also two days, is for supervisors and managers and strives to help them understand what motivates their employees, how to increase their coaching skills to develop their employees to becoming customer focused.

- Managing Extraordinary Service: This is a three day course for the Department management team (usually a Physician and Non-Physician leader) and for their senior management representative to understand how to survey customers, design a service strategy, design a plan for service recovery and to continuously improve their service by identifying Cycles of Service providing this feedback and recognition to providers and employees.

**Customer Loyalty:** This is a term to mean repeat business or customers who remain with our organization on a long term basis. They reenroll year after year. To our organization it means specifically that our members remain as members.
Core Services: This is a term that is used by our consultants, Kaset International, to mean those services that the customer is paying for, for example (1) an appointment; (2) a test; (3) a qualified physician (4) access to services. The consultants tell us that to get a customer to be satisfied with core services results in a "C" grade, this is the best we can expect. Perfect core services are their minimum requirement. It is impossible to dazzle the customer with core services.

Human Services: This is usually what a customer will remember, they expect the core services to be flawless, the extra ordinary human service skills adds to the whole experience to increase satisfaction. This is where we can dazzle the customer. These are the customer service skills provided by the employees to the member/patients during the moments of truth. This is the meat of any service organization; many a company can make a mistake but if the customer experiences excellent human skills to recover, the positive feelings the customer experiences during this encounter will make a difference in the overall perception.

Service Quality Call (SQC): This is a call to the member or patient within 24-48 hours after they have experienced cycle of service. The SQC call provides three principal values to an organization: (1) feedback to the management team and employees about the service they have delivered to
the customer, (2) reinforces the skills learned in the training and allows them to make improvements, (3) creates a positive memorable experience for the member, it allows for recovery to occur and facilitates resolution of unsolved customer problems.

**Ambulatory Satisfaction Questionnaire (ASQ):** This is a survey developed by our organization's regional offices that is randomly mailed to patients who have come in for a visit to a department.

**Service Recovery:** It is a term used to refer to the process of making a customer happy again once a mistake has been made. There are several steps in the recovery process: acknowledging that a mistake has been made, apologizing for the mistake, taking action to see that the mistake has been corrected, and following up to ensure the corrective action was effective.

**Action Alert:** A process used in Service Quality Call designed to facilitate the resolution of unsolved problems or issues that customers have. The SQC caller may not be able to make happen what the customer needs, however, they need to have a process whereby they can make it happen. It puts the responsibility for resolving customer problems with the organization, not the customer.
Chapter Two: Review of the Literature

In reviewing the literature, most studies completed focused on only one area, physician-patient communication. In a study done by Pamela A Rowland and J. Gregory Carroll they attempted to discover the relationship between patient satisfaction with an office visit to certain characteristics of the physician. Five physicians leaders and mentors in their own field agreed to have new patients to their practice taped; the patients agreed to be taped also. The patients were asked to complete a 29 item instrument with a 7 point response scale, called the Medical Interview Satisfaction scale. The following are the selected variables of the language: silence, time and reaction time latency, language reciprocity and interruptions. These variables of the language dimensions were entered as the predictor variables in a multiple regression, along with satisfaction scores as the dependent variables. Their results showed the correlation between silence time and patient satisfaction wasn't significant. Four (4) of fifty-two (52) had no interruptions. There was a significant correlation between interruptions and differences and word lists. When the physician and the patient used similar concept word lists, they developed more similar patterns in the use of interruptions. The more similar concept word lists are used by patient and physician the greater the patient
satisfaction with the interview. Twenty-seven percent of the variance (p. -.01) in the satisfaction scores of initial interviews were explained by three aspects of the physician's language style:

- Use of silence or reaction time latency between speakers in an interview
- Whether there was language reciprocity
- Reflective use of interruptions

In another study by Aberdeen Royal,(1984) an attempt to explore the relationship of talk between the physician and patient and to discover how the non-verbal messages / behaviors plays a crucial part in how and when the patient will talk. They surmised that just as in other two way conversations, the paying of attention to the person speaking is crucial to determining if they are actually listening to the speaker. In the medical interaction, the patient should begin, however, it may be guided by what the physician is doing or showing as the patient is speaking. He wished to develop some practical tips for physicians in order to have a continual shifting between the two. The physician's interpretations of what the patient has said will determine what examination is warranted and hence crucial to the correct diagnosis. It explores the relationship between verbal and non verbal behavior in the medical consultation to show how patients can and do
encourage the physician to display attention. They conducted videotaped interviews to complete their study. This study identified ways that patients use to encourage the physician's attention. Bottom line, if the physician gazes into the medical records while the patient is speaking, the patient will either quit speaking or use a technique to attract the attention of the physician.

Smith and Hoppe's (1991) meta analysis of 41 studies showed higher satisfaction with the patient centered interview. The patient's knowledge and recall are linked with compliance and could be important to health outcomes, however, this has yet to be proved. Their study defines exactly what patient centered interviewing is and a rationale for using it. It shows how to integrate this with the physician approach and how to understand that the patient's biopsychosocial story is the product of this complementary style. The patient's responsibility; involvement in care and self sufficiency increases when the power is shared. They cited Beckman and Frankel's study regarding the length of time before a physician will usually interrupt patient's flow of speech, it occurs at 18 seconds. In 69% of the visits the patients were not allowed to finish their opening statement. Using open ended questioning brings out more data that could be important in the diagnosis.
Smith and Hoppe (1991) provided the following tips for patient centered interviewing:

- Know and use the patient name
- Introduce yourself
- Welcome and put the patient at ease
- Correct barriers to communication
- Establish understanding
- Clarify the time available
- Negotiate time and plan for its use
- Set the agenda
- Begin with open ended questions
- Restate the agenda if not done in the beginning
- Avoid exploring what the physician thinks is his/her hypothesis.

This allows the patient to express emotion and doesn't shut them off. It allows the physician to focus on the highest ranking personal clues so that a complete understanding is developed. When the physician is ready or the patient appears to be ready, the physician should explain moving on in the interview to where the physician takes lead. The following are instances in which open ended questions are not appropriate: the immature; adolescents; the demented; severely distressed or ill; where the patient is uncomfortable.
Historically, medicine has been physician-centered but there is a shift to patient centered which began when the rules changed with informed consent. In the past, the rule was only tell the patient what the physician felt was necessary. In this article, the authors quoted Hippocrates when he advocated concealing most things from the patient while you are attending to him and not to reveal anything of the patient's future or present condition.

As patients demand to be involved in decision making, the physician has to provide them with as much information needed to make the right decisions for themselves. Patient's compliance has always been the physician's wish however, they rarely took into account the importance of providing the patient with as much information as they needed. The article by Christine Lain, MD, MPH, and Frank Davidoff, MD, "Patient Centered Medicine" indicates that researchers have developed new methodologies to measure patients' perspectives and currently, patient-based outcomes are the major ones considered in decision making analysis. Even quality assessments are now beginning to take into consideration the patient and not just the peer review.

The article concludes with an example of a physician centered approach and contrast that with a patient centered example. The authors believe, along with a growing body of evidence, (Greenfield and Kaplan, 1985, 1988) that patients
who actively participate in their own health care have more favorable clinical outcomes.

Along the same lines of patient centering is the idea of trust between the physician and the patient. And what exactly is trust and what are the factors that contribute to it. High levels of interpersonal trust can contribute to social trust of an organization. But between the physician and the patient it occurs over time and is based on the patient's experience with the doctor's competence, responsibility and caring response.

Managed competition puts the patient or customer to choose among competing carriers in price, coverage, quality and service in trying to determine the best health care. They now become a consumer or customer and not just a patient. The initial cues when a consumer first comes to the physician are formed based upon the doctor's attentiveness, responsiveness, patience and general demeanor and it is only after time that trust is truly built, but when a major illness occurs, the customer is somehow transformed to a patient and the roles and perception may change at that time.

Peyrot, Cooper and Schnapf's (1993) completed a study to determine the non technical characteristics of a medical service encounter and how this affected consumer satisfaction and recommendation of the service to others. Their study was done in an facility that offered Magnetic
Resonance Imaging (MRI) and Computed axial tomography (CT). They did not involve a physician visit. Multivariate logistic regression showed that the following factors to be statistically significant in terms of satisfaction: appointment convenience, pre-examination comfort and convenience, prior and total information, examination comfort (the most important) and perceived worth. Their final recommendation was that employee orientation programs must include not only the technical skills but attention to develop a courteous, informative, friendly and helpful staff; a convenient, comfortable and pleasant looking environment and the delivering of medical, health related and logistical information.

Philip R. Myerscough's book Talking with Patients (1989) begins by outlining the benefits of good communication and he explains the difficulty of and the rationale for physicians who do not want to acknowledge its importance. He concludes with very practical tips for physicians to assist them to become better communicators while not becoming too emotionally involved in each and every patient. He lists the following as benefits of good communication:

- It is required to obtain a good history from the patient
- It is the cornerstone of therapy: consultations begin and end with the physician offering assessment and treatment
options, rapport, confidence and trust are essential for the patient to follow and be compliant with the physician's recommendations

- The consultation usually includes educational advice and unless the patient's attitude about his or her illness is understood by the physician the patient will not comply
- Good communication between patient and physician makes it less likely that dissatisfactions will lead to litigation
- Doctors have a leadership role in the health care team and are the principal communicator, they must be good role models
- Patients criticism of physicians is around inadequate explanations and fear of approaching them
- Patients more than before, want to be involved in and participate in their own care—this is evident by the number of people exercising; eating right; alternative therapies.

The technical competence and the handling of affective aspects of illness have taken separate paths. This has occurred because of the traditional dominance of physical sciences in pre-clinical teaching at the expense of applied behavioral science. The physician's need to control the relationship so as not to become too emotionally involved with their patient's illness or suffering and the potential that they may die, all have a part to play in the
professional and authoritative role they take. If the divergence between patient's needs and expectations and physician's performance is to be reconciled, the physician will need to understand the nature of balance between detachment and involvement to become better communicators.

Chapter Three: Research Method

Research Design

The research design I will be using is non-experimental evaluation research. The first part will be formative research, in that it will be a collection of the data and will address the pilot objectives. This evaluation will be used to form a policy or process upon which to build the program or any additional implementation of the customer service training, customer feedback and process improvement teams. Data and opinions will be collected from the providers, the patients/customers and participants. It will be quantitative and qualitative, survey research (ASQ survey data) and descriptive and evaluative (pilot objectives).

The second part will be summary and conclusions. Personalized Care goal targets will be developed and strategies written to meet the goal targets. These will be the basis for additional evaluation of the program.
Formative Research-Pilot Objectives

Pilot Objectives for Customer Service Training

1. The participants of the training will rate the Overall Applicability of the courses to their job at least 80% Highly Satisfied as measured by the participant evaluation. The scale of the evaluation is 1 through 9 with 9 being the highest.

2. The participants will rate the Value of the Courses to their job at least 80% Highly Satisfied as measured by the Participant Evaluation. The scale of the evaluation is 1 through 9 with 9 being the highest.

3. Participant's level of stress in handling difficult customers will be reduced as measured by the Pre, Post and 6 week Follow-Up Questionnaire.

Pilot Objectives for Service Quality Call, Cycle of Service and Action Teams

1. To provide actionable, developmental feedback in the words of the customer directly to the service providers soon after a interaction has occurred as measured by a focus group of providers after the first session of Service Quality Calls.

2. To improve customer satisfaction with two Cycles of Service (1) Visit to a Pediatric Physician and (2) Message Left with their Family Medicine Physician as
measured by 'a posteriori' comment analysis from the pre and post Service Quality Call.

**Overall Objective of the entire pilot:**

1. To improve overall customer satisfaction for Pediatrics and Family Medicine and determine if there is a significant differences between the pilot departments as compared to similar non pilot departments using the ASQ survey data in Statistical Process Control charts.

The pilot began in May of 1996 and ran through June of 1997. The table below reflects the timeline for the pilot:

### Table One

**Pilot Timeline**

<table>
<thead>
<tr>
<th>What Occurred</th>
<th>Completed During</th>
</tr>
</thead>
<tbody>
<tr>
<td>The training courses conducted</td>
<td>May 1996 through July 1996</td>
</tr>
<tr>
<td>The first Service Quality Calls made on both Cycles of Service</td>
<td>August 1996</td>
</tr>
<tr>
<td>Cycle of Service Ownership Teams and Action Teams developed and implemented process improvements</td>
<td>October 1996 - February, 1997</td>
</tr>
<tr>
<td>The second or post Service Quality Calls were made</td>
<td>March 1997</td>
</tr>
</tbody>
</table>
Subjects

Customer Service Training:

These subjects will be the participants of the training courses, physicians, other health care professionals, receptionists, chart room clerks, Trained Clinic Assistants, department managers, supervisors, Physicians-In-Charge and Chief of Service.

Service Quality Call Subjects:

There will be two groups of subjects. The first group will be members or patients who have called the Family Medicine facility to leave a telephone message for their provider or other health care professional, and request a return call. The criteria used, will be everyone who has left a message requesting a return call except for a request for prescriptions for narcotics or for test results of a very personal nature, (i.e. Venereal disease). The actual message will be faxed to the location where the calls will be made.

The second group of subjects will be calls to the parents of children who have visited a pediatrician. The criteria used to select the sample will be visits to the
primary care pediatricians and not pediatricians who specialize, such as oncologists, etc.

Logs will be kept on each physician to try to ensure that all receive an equal amount of completed calls, however, depending on the number who are actually home at the of the call will determine the final number of completed calls.

**COSOT and Action Teams Subjects:**

The Steering Committee is the senior management team. It oversees the implementation of the initiative and selects the COSOT team members. The COSOT subjects are the employees, physicians and managers of the two departments who serve on the teams. The criteria for the COSOT selection was made by the Steering Committee, one member of the Steering Committee serves on the COSOT team. COSOT is responsible to the steering committee for continuously improving customer satisfaction and retention for their assigned cycles of service on a continuous basis. The members must hold a senior position in the functional area and it should include all functional areas involved in the decision making. They are directly accountable for the cycle they are managing and the processes that impact the function, and trusted to represent the department in decisions that will affect the way they do business. It usually is a permanent team.
The Action Team members are selected by the COSOT. They are the ones who are close to the customer and the moment of truth, perform the work processes and are representative of the affected functional areas. The members of the Action Team included physicians and non-physicians.

Ambulatory Satisfaction Questionnaire Subjects:

These subjects are members or patients of the health care organization who have recently come in for a visit. They are randomly selected by a computerized system and automatically sent a mail survey with a cover letter from the Administrator. These surveys are returned to the regional offices, analyzed and reported to the local area.

Independent Variables, Instruments, Data Collection and Analysis

Independent Variable One-Customer Service Training

Participant Evaluation Instrument, Data Collection and Analysis:

Each participant will complete a course evaluation, however, only two questions will be used to determine the effectiveness of the training program as described in the objectives. The forms will be kept until the end of the training program and then quantitatively analyzed using mean score. Verbatim comments will also be included from these two questions.
Pre, Post & Follow-up Questionnaire Instrument, Data Collection and Analysis:

This is a stress measurement questionnaire that determines a rating for how participants feel about dealing with difficult customers. It will be completed at the Achieving Extraordinary Customer Relations Course both at the beginning and at the end by each participant: Each participant will answer the questions and calculate their own mean score. The final scores for each participant will be collected by the Kaset trainer who will deliver them to the Education and Training Manager. The mean score will be determined and entered into an excel database. The 6 weeks questionnaire will be mailed to each individual participant by interoffice mail by the secretary for Education and Training. The participants will be asked to complete and send in their final tally sheet to the Education and Training manager. They will then be entered into the excel database and an average score of all participants will be computed. The result should show if the participants are able to maintain a reduced level of stress when dealing with difficult customers. The expected result is that the scores will decrease both post test and 6 weeks post the course.
Independent Variable Two-Customer Feedback

Telephone Interview Instrument, Data Collection and Analysis:

A telephone interview will be conducted by the Service Quality Callers. The purpose of the interview is not so much to collect data for statistical analysis but to provide feedback to the physician on if customer's expectations were met and to provide them with actionable information to increase use of skills important to the customer.

The callers will have received four days of training, two days of Achieving Extraordinary Customer Relations and two additional days of Service Quality Caller training provided by the Kaset consultants. They will use a script (appendix one) which is a combination of a structured and non-structured questions. The initial question is structured since we wish to be able to compare the data pre and post and the callers are all new interviewers. The remaining interview is unstructured because we wish to obtain a lot of information from the customer on the Cycle of Service. Based on the initial response, the interviewers will be probing and clarifying so to obtain as much qualitative data as possible.

The sample may not be random since not everyone who belongs to the organization has the opportunity to be selected since our efforts are focused on only two
departments. However, every subject in the population that either uses the Pediatric Department or leaves a message for their physician during the calling, has the opportunity to be selected. The sample will include everyone who left a message for their provider at the Family Medicine Department or the parents of a child who visited a primary pediatrician between Mondays and Thursdays during each week in August, 1996. Everyone who does either of the above may or may not be contacted and may or may not be home when contacted.

The messages from the Family Medicine Department will be sent to the location where the calls will be made and the pediatric schedules will be pulled from the computer. After the interview is completed, the Service Quality Callers will enter customer comments obtained directly into an Access Database. Provider reports (appendix two) will be retrieved the following morning and mailed in confidential envelope to the person named in the report. If additional follow-up is necessary as a result of the call to the customer, it will be documented on an Action Alert (appendix three) and sent to the appropriate Department Administrator who will contact the customer directly within the next work day. This data will be tracked to ensure all are follow-up on, however, it is not a part of this thesis.

Focus Group Instrument and Data Collection:

A selected number of Physicians who received the Provider Reports will be asked to participate in a Focus
Group. They will be asked three questions regarding the usefulness of the feedback. These questions are: (1) Were the provider reports you received helpful, and if so, how?; (2) What could have made them more useful?; (3) Specifically what are you doing differently as a result of the feedback you received? The results of this focus group will determine if the reports were actionable and thus determine the success of this objective.

Independent Variable Three-Action Team Process Improvement

Telephone Interview Instrument and Data Collection and Analysis:

The second use of this member comment data from the SQC telephone interview is to conduct a qualitative analysis of the comments using 'a posteriori' method. SQC calls will be made prior to Action Team work and then post implementation of the Action Team's recommendations. The positive comments or enhancers and negative comments or detractors will be qualitatively compared to determine if the customer has voiced an increase in positive comments and a decrease in negative comments. This method of coding calls for the categories of analysis to be extracted from the material itself rather than being based upon a previously defined and outlined schematic system. Concept coding, where ideas or concepts will be the focus of the collection.

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This SQC data analyses will be given to the Cycle of Service Ownership Team. The following two tables outline the roles of these two teams.

**Table Two**

**Cycle of Service Ownership Team Activities**

<table>
<thead>
<tr>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Examine the current cycle of service and look at each moment of truth in the cycle</td>
</tr>
<tr>
<td>Brainstorm things in the cycle that may be causing the detractors in the cycle</td>
</tr>
<tr>
<td>Brainstorm possible enhancers within the cycle that could be done to dazzle the customer</td>
</tr>
<tr>
<td>Prioritize these detractors according to how they affect the customer</td>
</tr>
<tr>
<td>Charter an Action Team within the work processes who will analyze the detractors and develop processes to eliminate the detractors</td>
</tr>
</tbody>
</table>
### Table Three

#### Action Team Activities

<table>
<thead>
<tr>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Define the work flow processes using flow charting; analysis of root causes of the detractors through cause and effect diagrams and brainstorming</td>
</tr>
<tr>
<td>Identify possible solutions and implement actions they have authority to implement and submit recommendations to COSOT</td>
</tr>
<tr>
<td>Determine where to gather additional data necessary to facilitate decision making on some improvement piece</td>
</tr>
<tr>
<td>Make their recommendations to COSOT on additional detractors the team has uncovered and other ideas for customer enhancements</td>
</tr>
</tbody>
</table>

#### SOC Rating Instrument and Data Analysis:

The Service Quality Caller will ask the customer to evaluate whether or not their experience with the cycle of service exceeded their expectations, (coded as a 3) met their expectations (coded as a 2) or did not meet their expectations (coded as a 1). This will be a field the callers enters in the database. The percentages of each category will be determined before process improvements have been implemented and post process improvements. The sample size must be representative of the target population so that the variables being measured fall within the normal distribution for that population or be randomly selected.
In addition, the variables must have been measured in a manner that generates ratio data and finally, the initial differences between the subjects in the two groups must have the opportunity to be similar. I believe all of these criteria will be met.

**Dependent Variable, Instrument, Data Collection and Analysis**

**Dependent Variable-Customer Satisfaction**

**Ambulatory Services Questionnaire**

Patients satisfaction data as reported in the Ambulatory Satisfaction Questionnaires will be analyzed. This survey is randomly sent to customers after a visit and is analyzed by our divisional offices. The information is sent in summaries to each Administrator. There are six standard questions for all Departments with the possibility of adding additional questions. A likert scale is used for each of the questions, it asks for a rating between

<table>
<thead>
<tr>
<th>Extremely Dissatisfied</th>
<th>Extremely Satisfied</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 2 3 4 5 6 7 8 9 10</td>
<td></td>
</tr>
</tbody>
</table>

Table Four on the following page shows the standard six questions and the additional question for Family Medicine regarding Message Response time satisfaction:
### Table Four

**Ambulatory Satisfaction Questionnaire**

1. How satisfied are you with the length of time it took on the telephone to obtain this appointment?

2. How satisfied are you with the length of time it took to receive this appointment from the time you requested it?

3. How satisfied were you with the courtesy and helpfulness of the non-medical people you saw in this department during this appointment, such as receptionists, office workers and so on?

4. How satisfied were you with the personal interest and attention given to you by the doctor or health care provider you saw in this department during your last visit?

5. How satisfied were you with the personal interest and attention given to you by the nurses you saw in this department during your last visit?

6. Overall, how satisfied were you with this medical visit?

**Additional Question for Family Medicine:**

1. If you have called to leave a message with your provider, how satisfied were you with the length of time to receive a return call?

I will evaluate the ASQ data from Second Quarter 1995 through Third Quarter 1997 by using Statistical Process Control Charts to determine if there is improvement when
comparing the scores for Highly Satisfied pre and post the institution of the independent variables. Since I will need a minimum of 4 points of data to determine if any significant changes can be attributed to the variable of training, feedback and the teams process improvements these results may not show until Third Quarter of 1997 since the initiation of the independent variables occurred during second quarter of 1996.

I will also compare the SPC charts to one other similar facility to determine if the changes are organizational or can be attributed to the independent variables of training; Customer Feedback and Action Team Process improvements. The Pilot Departments are: (1) Pediatrics in the main campus and a (2) Family Medicine department isolated from the main campus in another city.

Chapter Four: Formative Results

Customer Service Training Results Narrative

When interviewing the participants, I found a great majority of them to be using the skills taught in these courses and very impressed not only with the content of the course but the way in which it was conducted enable them to see how other employees were dealing with the same frustrations. As a result, many felt that internal working relationships with the departments involved in the pilot were improved.
The following are some of the verbatim comments made by the participants.

- The Kaset training has been useful to my practice. It makes me more aware of how my words and actions may be perceived by patients and also taught me some useful techniques for dealing with difficult patients.
- I learned a lot and am trying to serve patients as I would expect to be served.
- Felt it helps me handle difficult situations and relieves stress both with patients and self.
- The was invaluable. Being in Mental Health for 35 years, I thought I knew it all but I learned new skills and enhanced some old skills.
- It was different from other training done as it was in small groups which allowed more individual participation.
- Very valuable course, very refreshing. Helped me realize where patients are coming from and to understand their situation.
- I now see problems in a different way and learned how to handle patients. I am more positive toward patients and employees.
- This was a good non-threatening session. They made it fun, helpful, useful and informative.
• I try to take good care of patients and this helps me to stay focused and not get upset and let it personally affect me.

• Existing employees learn how not to get hooked on certain areas and see the situation from the member's perspective.

The supervisory staff also were asked to share their thoughts about the training and they felt that having physicians and staff at the same table was valuable. The networking from the training helped employees provide better customer service and the staff enjoyed the non-threatening and creative atmosphere. Employees from other departments had heard about the hearing and wanted to participate.

**Customer Service Training Results**

The first two objectives were met as Table Five illustrates, the course evaluations exceeded 80% Highly Satisfied. Participants were asked to rate the Overall Applicability of the Courses to their job and the Value of the Courses to their Job. The scale of the evaluation was 1 through 9 with 9 being the highest. Those who indicated 9,8,7 were Highly Satisfied: the Satisfied included 6,5,4: Dissatisfied included 3,2,1.
Table Five

Participant Evaluation Results

<table>
<thead>
<tr>
<th>Achieving Extraordinary Customer Relations Course</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall Value to the Job</td>
<td>Applicability to the Job</td>
</tr>
<tr>
<td>88% Highly Satisfied</td>
<td>91% Highly Satisfied</td>
</tr>
<tr>
<td>11% Satisfied</td>
<td>9% Satisfied</td>
</tr>
<tr>
<td>1% Not Satisfied</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Motivating For Extraordinary Service</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall Value to the Job</td>
<td>Applicability to the Job</td>
</tr>
<tr>
<td>88% Highly Satisfied</td>
<td>94% Highly Satisfied</td>
</tr>
<tr>
<td>11% Satisfied</td>
<td>6% Satisfied</td>
</tr>
<tr>
<td>1% Not Satisfied</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Managing Extraordinary Service</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall Value to the Job</td>
<td>Applicability to the Job</td>
</tr>
<tr>
<td>100% Highly Satisfied</td>
<td>100% Highly Satisfied</td>
</tr>
</tbody>
</table>

Comments from some of the participant evaluation regarding value and applicability of the courses:

- Can empathize more and have improved listening skills
- Have a more positive patient interaction
- Can defuse difficult/angry patients better
- Learned the use of proper words and phrases
- Learned stress reduction skills when dealing with the patient
The participant's level of stress in handling difficult customers was reduced as measured by the Pre, Post and 6 week Follow-up Questionnaire. Chart One shows the decrease in scores of this instrument.

**Chart One**

**Rating of stress with Dealing with Difficult Customers**

![Chart showing decrease in stress levels](image)

**Service Quality Call Narrative**

The Service Quality Call (SQC) pilot revolved around two cycles of service: Physician Messages to their physician in Family Medicine and in Pediatrics a visit to the Physician. Twenty-four to forty-eight hours after a message was left or a visit, the customer would receive a follow-up call from a member of the service quality call team to find out how their experience went. The focus of the call was to
be qualitative and to create a positive experience for each member called.

In terms of numbers, the plan for the pilot was to complete roughly 520 calls to members during the pilot period of August, 1997. Calls would be made Monday through Thursday between 4:00 PM and 7:00 PM, and on Saturdays between 11:00 AM and 2:00 PM. It was estimated that callers would complete roughly four service quality calls per hour during these time intervals.

During July, 1997, 15 callers who had previously attended the AECR course received an additional two days of caller training from Kaset International and began making service quality calls in August. Roughly 270 calls were completed during the month of August, a little more that half of what was anticipated.

The callers would contact the member and using the script they would conduct the interview. (appendix one) The intent was for them to probe and clarify with the customer in order to obtain actionable feedback that would be useful to the provider. This would then be entered into an Access database and a Provider Report (appendix three) would be printed and sent in a confidential envelope to the provider.

If the customer has another problem with the Cycle of Service they were calling on or had another problem with another department, the caller would attempt to resolve the issue or create an Action Alert (appendix two). The Action
Alerts were sent directly to a secretary in the Administrative Offices who would, the following morning, send it directly to the Supervisor of the Department where the problem occurred. The arrangement made with supervisors was they would contact the member that day even though they may not have the answer at that time, but the importance was that they would know who was trying to help them. The secretary tracked all of these until a satisfactory answer was obtained.

For recovery situations, callers were empowered to resolve any issue or to work with other callers to resolve, and, if appropriate for moderate recovery situations, gift certificates to our Health Store were mailed to the customer. Formal complaints were to be documented as an Action Alert and Emailed directly the following morning to Member Services. The pilot did not reveal any formal complaints, however, two members contacted had previously filed formal complaints through Member Service and we were able to ensure action was taken.

For about 10% of the customers contacted, an Action Alert was generated. The following comments were made during a focus group with the callers regarding the action alert follow-up process:

- We uncovered dissatisfaction on the front end
- As an employee, I could handle member issues on my own
• We could spend our time on this call, and could handle the action alert ourselves; we could act immediately - we had the control and the responsibility to act
• I looked good to the member because I could act
• The action alert process worked effectively

As the above comments indicate, not only was the action alert process good for members, but it enabled the callers to feel really good about their roles in the SQC process as well. They had the ability and responsibility to act immediately to solve problems for members. This was a significant element in their overall feeling of being productively involved in a meaningful effort.

One element of the action alert/recovery process that was seen as needing improvement was some form of final follow-up with the member to ensure that the follow-up action had taken place to the member's satisfaction.

**Service Quality Call Results**

This objective, to provide actionable, developmental feedback in the words of the customer directly to the service providers soon after a interaction has occurred, was also met as determined by the focus group results.

A focus group was conducted with eight physicians who had received feedback reports during the SQC pilot. They were asked several questions regarding the usefulness of the feedback they had received including: (1) Were the feedback
reports you received helpful, and if so how?; (2) What could have made them more useful?; and (3) Specifically what are you doing differently as a result of the feedback you received?

(1) Specifically, what was helpful about the feedback reports you received?

• This is the first time we have received all the member's comments (as opposed to a rating or answers to specific questions)
• The comments changed my focus of what was important to the member vs. what we do (diagnosis)
• The patient's wants were not on the sheet to check-off; it was really nice to see their focus was on how they were treated
• This type of feedback gives us the incentive to increase doing more of what the patient said was good
• It was nice to hear what members like; it was good that we took the time to listen to what they said
• I liked the details of the report; other reports in the past have been rambling and we have to call to find out the details; this one was more focused
• Other feedback reports we use give us some feedback, but it is not as specific as with the service quality call
• I could see from the report that the callers were trying to identify the problem - this was very useful
• The comments seem to reinforce what we already do well
• The feedback tells us how we can by-pass lots of cookbook problems (waits); we need to be flexible and empower ourselves to take action on some of these issues
• It was good to get the feedback on wait-times, etc.; we are processing complaints but for the systemic issues, we can take the ownership off ourselves and our personal performance
• Nice thing about this is the member, provider and caller all come back together in a 1:1 way
• Most of us didn't recollect specific interactions when we received the feedback reports; this was good since it might bias our interpretation; we might remember if we receive the reports within a 48 hour time frame; our recollection would also depend on the situation or cycle of service (emergency phone call more likely to be remembered than routine visit)

As evidenced from the above comments (around which there was general consensus among the service providers), the physicians receiving the SQC feedback found the data to be quite helpful. They indicated it was more useful than other feedback mechanisms in the past primarily due to the specificity of the members comments regarding their whole experiences. They generally appreciated receiving feedback
in the words of the member and entirely from the member's perspective.

When asked whether they could recall specific member interactions on the basis of the feedback reports, all physicians said usually not. Interestingly they saw this as a positive. They indicated that recalling the actual member interaction would likely bias their interpretation of what the member had to say in the feedback report and that it would therefore detract from the value of the report. While this may be a consideration for future SQC work with physicians, Kaset explained that in their experience, recollection of the customer interaction, in conjunction with the customer feedback report, can be particularly powerful in enabling service providers to diagnose the impact of their behavior with specific customers.

(2) Specifically, what could have made the feedback reports more useful to you?

- Need a space of notation area for who can solve the problem so we can pass the report on to the appropriate person for problem solving (some providers felt that some of the comments were beyond their control to change and wanted to send it to someone who could change the process)
• One specific action was taken which resulted in an unneeded MRI; had the provider been involved up-front, this could have been avoided (MRI time/resources)
• Include the most information you can get; the very specific items - even if it uncovers other items
• Not sure which comments are the tip of the iceberg in regards to process issues: need numbers to establish trends
• Some of the feedback frustrated me because I couldn't do anything about it (e.g., referrals)
• The grade is for the whole cycle, not just the provider interaction - e.g., messages and referrals, etc.
• Each provider may need a stack of this feedback for it to be helpful
• If it were coupled with resources and a process to intervene; leadership on levels of service-it would be very effective
• If we want to be the Nordstrom's of medical care, we have to spend money to get the infrastructure in place to let the employees use these tools.

From the service provider's perspective, the more specific the feedback, the better. While the group acknowledged that the reports were more specific than any member feedback they had received in the past, they felt that in some instances it could have been even more
specific. Caller experience and skill in asking probing/clarifying types of questions will add value in this regard.

One physician noted that it would be helpful to be able to pass on certain feedback to someone more appropriate to take action on it, particularly in the case of process-related issues. While the COSOT teams were set up to handle these types of issues, there may be certain issues that are best addressed at a less strategic level. This idea of identifying follow-up action (and the person who should take this action) on process-related issues is certainly worth further investigation.

Several physicians noted that it was difficult in some cases to know whether certain process-related problems were the tips of icebergs or isolated events. It would probably be very useful for the physicians to have received the summary check sheet-type reports (as the COSOTs received) to that they could see what was happening at a macro-level. It would also be advisable that they be kept informed as to the focus of the COSOT's efforts to avoid duplication of effort and perhaps even encourage problem-solving at a local level. Additionally, greater awareness of COSOT/Action Team activity will provide a broader sense among service providers that the major process issues are, in fact, being addressed.
Future SQC reporting might contain a cover sheet which downplays the importance of the rating. One physician noted that the rating was for the whole experience and not just the physician interaction. Perhaps this issue needs stronger acknowledgment up-front. This may increase service provider comfort with the process in future SQC efforts.

There was an overall sense among physicians that even more feedback reports would have been useful. Some suggested that this would increase the statistical validity of the trend data collected. Several of the physicians had only received 2 feedback reports while others had reviewed 5 or 6 reports. It appeared that several who had received a relatively high frequency of reports were not present for the discussion. In any case, more would certainly be better from an individual developmental standpoint. On the systemic trend side, the reports collected seemed to establish some relatively clear trends - which will shortly be further discussed.

C. Specifically, what are you doing differently as a result of this feedback?

- I see the importance of calling members to let them know we care for them and keeping them informed (e.g., lab results - tell them in advance that if there is no problem they will not hear back from us - keep them informed)
• I sometimes forget that when I see the 30th ear infection of the day that for this member, it is their 1st ear infection and I should manage their experience accordingly.

• If I start getting negative feedback I need to start asking myself, do I fit with their (the member's) perception?

• I look at all the comments and see how I can help with the problems.

The above comments, and the discussion that took place around them, provides additional data to support the premise that the specific comments were helpful to the physicians from an individual developmental standpoint. There was discussion around the fact that while constructive (things members don't like) feedback is useful to show people what they can change about their behaviors, affirming feedback is a very important motivator and one which this group of physicians felt was helpful and perhaps refreshing.

**Cycle of Service Ownership Team Narrative**

This objective was to provide management and continuous improvement teams (COSOT and Action Teams) with actionable customer feedback which will be used to improve the processes, policies, procedures and practices impacting member experiences in regard to the two Cycles of Service. The objective was met.
For the customer feedback to be useful from a systemic, continuous improvement standpoint, it would need to be specific, it would need to describe member impact, and it would need to clearly identify some trends. Only then would the cycle of service ownership teams be able to act on the data.

The feedback reports were shared anonymously (without reference to the service provider) with the Cycle of Service Ownership Team members and the data was used to identify specific, systemic improvement opportunities within the respective cycles. This data had significant influence on the specific charters of the Action Teams.

Check sheets were developed around specific detractors and enhancers which members mentioned during the service quality call. In large part, the issues mentioned by members were specific enough to be grouped into distinct categories to identify trends. This type of specific feedback identifying systemic issues in checksheet format was particularly helpful to the COSOT teams in their efforts to prioritize improvement opportunities and charter Action Teams around specific improvement opportunities.

In addition to reviewing the data analysis, reading through all of the individual feedback reports was a useful activity for COSOT members. This provided a context for evaluating the impact that specific detractors had on
members. For example, many members discussed not only what happened to them, but also something about the way it made them feel.

After reviewing the COSOT reports from the SQC call along with the analysis of the comments, the Cycle of Service Ownership Team developed the following Charter for the Family Medicine Action Team:

1). To develop a customer focused process for handling calls to obtain information or to leave a message for the physician:
   a). Set and manage expectations
   b). Develop message taking protocols
   c). Design a feedback and tracking mechanism

2). Educate and communicate to staff the roles and the message process.

3). Facilitate the move to the Appointment Call Center regarding message handling which was to occur in January 1997.

4). Make recommendations regarding handling a member's request for appointments when none are available when the member wants it.

The Pediatric Cycle of Service Team's charter was to develop a customer-focused process to address waiting time:
   a). in the waiting area
   b). in the exam room before seeing the provider
The Family Medicine Action Team met for four weeks, developed the message taking protocol to set and manage expectations, developed a new form to record the message and pertinent information to help track the message and document the call. They developed a procedure to handle the message from taking, to delivery to the physician to ensuring the message are a priority and handled as such. They piloted it in one module, made several improvements and then communicated it to all staff. The new protocol began implementation November, 18, 1996. Meetings continued through February 1997 in order to address all of the transitional issues around the transition of calls to the Appointment Center. A time and motion study was also conducted in order to assess the number of staff necessary to adequately answer the number of incoming calls. These results indicated 1.5 FTE's were required, which was accomplished by the management team of the facility.

The Pediatric Action Team began meeting on October 9, 1996. Their major issues identified as root cause were nurses being overburdened; the Trained Clinic Assistant overburdened with telephone call responsibilities along with assisting the providers with patient visits. Their recommendations included solutions to the staffing issues
along with protocols and procedures. They took it a step further and made recommendations for enhancers to ease waiting. Some of their recommendations that were implemented included:

- Change Nurse staffing patterns based on expected demands for nurse services due to appointments
- Develop protocol for nurses to check stocks daily for supplies, expiration dates
- Developed a standardized practice for giving immunizations & parents sheet on what to watch out for
- Developed a booklet that included previous single sheet handouts that provided information for telephone advice for staff
- Developed urgent care phone advice system for providers
- Develop protocol regarding seeing non-members for receptionists
- Update the side effects handouts to included treatments
- Several other recommendations regarding expanding the role of the TCA, went to the Chief of Service to explore.

The Pediatric Team implemented some of the following enhancers during the first quarter of 1997, however, all were implemented by the end of June 1997:

- Message Board with health tips and trivia tips
- Where's Waldo laminated posters on the walls
• New puzzles and coloring pages & crayons in the exam rooms
• On-Time Club: When patients were on time for three appointments in a row, they receive gift certificate for ice cream at Baskin Robins
• Fully Immunized Club: When they have finished with their immunizations, they received a full size certificate congratulating them for being immunized.
• Video's with Disney films.

**Action Team Results Pre and Post SQC Calls:**

The second objective for Service Quality Call Pre and Post Action Team process improvement implementations was met. The Service Quality Callers were the same for both pre and post, we did not add any additional callers, however, we contacted slightly fewer customers during the post session as the table below shows. The callers used the same guidelines and script. The only difference may have been that the callers were more experienced the second time around and so may have been able to probe and clarify better which could have attributed to the increase in positive comments.

As the table four shows, the actual number of customers has no effect on the percentage highly satisfied. The Pediatric Visit Wait time showed more customers were Highly Satisfied, +8% the during the post calls; the Family
Medicine message returned showed a significant improvement in that less were below expectations (8% point improvement); more were satisfied (6% point improvement) and an increase in exceeded (a 2% point improvement).

Table Six

Pre and Post SQC Expectations Rating

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of completed calls</td>
<td>155</td>
<td>98</td>
<td>115</td>
<td>98</td>
</tr>
<tr>
<td>Exceeded Expectations</td>
<td>41%</td>
<td>49%</td>
<td>32%</td>
<td>34%</td>
</tr>
<tr>
<td>Met Expectations</td>
<td>54%</td>
<td>47%</td>
<td>45%</td>
<td>51%</td>
</tr>
<tr>
<td>Below Expectations</td>
<td>5%</td>
<td>4%</td>
<td>23%</td>
<td>15%</td>
</tr>
</tbody>
</table>

The comment analysis showed a significant increase in positive comments after the implementation of the Action Team recommendations, in particular the Colton Action Team.
Chart Two

PEDIATRIC WAIT TIME
COMMENT ANALYSIS FROM SERVICE QUALITY CALLS

PRE ACTION TEAM WORK

POST ACTION TEAM WORK
Ambulatory Satisfaction Questionnaire Results

The final objective was to improve ASQ Survey scores for Pediatrics and Family Medicine. Using statistical process control charts to determine if there has been a change in the process which would be attributed to the introduction of the independent variables. I compared these SPC charts to the two pilot departments and one non pilot departments in overall satisfaction.
Family Medicine Pilot

Using Statistical Process Control Charts, I looked at the Overall Satisfaction with the visit. After the implementation of the independent variables during 2nd Quarter 1996, the following six quarter data points were all above the mean, therefore, the mean was recalculated. (appendix four) Appendix five shows the mean recalculated, and the Highly Satisfied increased from an average of 75% to an average of 83% Highly Satisfied, (+8 percentage points).

Family Medicine (location of Colton) was compared to another Family Medicine (location of Rancho Cucamonga) which is similar in size and similar type of location in that it is in another city not physically linked to the main medical center service. Laurel offers similar Family Medicine services. The Statistical Process Control chart for Laurel shows no change in the process, and the average overall satisfaction is 79%. (appendix six) This indicates the process at the pilot department has changed and since the results are an increase in those Highly Satisfied, the objective has been met.

The ASQ survey question, "Satisfaction with Message Return", again we see a change in the process occurring during 2nd Quarter, six points above the average, so the mean is recalculated. The average then increases from 49% Highly Satisfied to 66% Highly Satisfied. Again, no change
in the process at the non pilot department, Laurel. (Appendix six and seven)

In Colton, most of the Action Team process improvements occurred between 2\textsuperscript{nd} Quarter of 1996 and 1\textsuperscript{st} Quarter of 1997. They were able to maintain not only their overall satisfaction but their satisfaction with message return over 2\textsuperscript{nd} and 3\textsuperscript{rd} quarter of 1997. This is in addition to significant membership increases without additional staff increases.

During 4\textsuperscript{th} Quarter of 1997, a leadership change occurred. The Physician In Charge (PIC) and the Department Administrator both announced they were leaving the facility, the Department Administrator retiring and the PIC receiving a promotion to Chief of Family Medicine. What effect this will have on process remains to be seen. However, the physician who was the representative on the Action Team has been named the Physician In Charge of the facility, and his Trained Clinic Assistant, who also served on the Action Team has been Kaset certified to facilitate the Achieving Extraordinary Customer Relations course for other departments. In addition, she has been doing customer service mini modules during staff meetings at the facility.

**Pediatrics Pilot**

In Pediatrics, I did not find as conclusive results with the ASQ survey as was seen in Family Medicine. This
could be for several reasons, they did not implement all of the Action Team improvements and enhancers until the 3rd Quarter of 1997.

However, when the ASQ survey results for overall visit satisfaction are compared to other facilities, similar in size, I found Fontana has the highest average of Highly Satisfied, as the table below illustrates:

Table Seven

Comparison of Pediatric Departments ASQ Survey

<table>
<thead>
<tr>
<th>Location</th>
<th>Average Highly Satisfied</th>
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</thead>
<tbody>
<tr>
<td>Southern California</td>
<td>68%</td>
</tr>
<tr>
<td>San Diego Facility</td>
<td>72%</td>
</tr>
<tr>
<td>Los Angeles</td>
<td>66%</td>
</tr>
<tr>
<td>Fontana</td>
<td>74%</td>
</tr>
</tbody>
</table>

Another interesting fact shown by the SPC charts (appendices twelve, thirteen, fourteen and fifteen) Fontana Pediatrics seems to have a significant increase in Highly Satisfied from 63% 1st Quarter to 79% 2nd Quarter which was maintained during 3rd Quarter of 1997. All of the Action Team's enhancers were finally implemented in July of 1997. Although this does not mean anything statistically, further monitoring will need to occur before any significance can be attributed to it.
Pediatrics does not have a certified facilitator, however, they have had three people certified to conduct the mini modules, these did not begin until 3rd Quarter 1997.

Chapter Five: Summary and Conclusions

After the senior leadership reviewed the pilot objective results which showed participants not only felt the training courses were valuable but resulted in a decreased level of stress, the satisfaction with the service quality call from the providers' point of view and the subsequent improvement in satisfaction in the ASQ survey they opted to implement the entire process throughout the service area. They began by developing a department that would oversee the implementation and serve to coordinate the process. Table Eight includes these strategies, outcomes and key activities that were written to fully support this journey to become customer focused. For the first time in this service area's history, the service component becomes fully integrated with our strategic goals. This priority in service should position the organization to meet their goal of creating the loyal customers. It is anticipated the following activities will be implemented throughout the next two years.

The following are the annual targets over the next three years. 1997-Average of 71% Highly Satisfied; 1998-Average of 73% Highly Satisfied; 1999-Average of 75% Highly Satisfied.
Satisfied. Table eight are the strategies, outcomes and key activities.

**Table Eight**

**Summative Strategies, Outcomes and Key Activities**

<table>
<thead>
<tr>
<th>Strategy and Outcome</th>
<th>Key Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Strategy</strong>: Identify the key components necessary to fully implement the cultural change to a customer focused organization</td>
<td><strong>1997</strong>: Identify necessary criteria to develop an infrastructure for becoming customer focused and implementing the following strategies for 1997 through 1999.</td>
</tr>
<tr>
<td><strong>Outcome</strong>: A totally customer focused service organization by 1999</td>
<td><strong>1997</strong>: Develop senior and departmental management accountabilities; roles and responsibilities to support service quality initiatives.</td>
</tr>
<tr>
<td></td>
<td><strong>1997</strong>: Implement infrastructure to facilitate meeting of the personalized care goals.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Strategy and Outcome</th>
<th>Key Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Strategy</strong>: Initiate customer service skill development programs</td>
<td><strong>1997</strong>: Identify the customer service training programs to be used.</td>
</tr>
<tr>
<td>Strategy and Outcome</td>
<td>Key Activities</td>
</tr>
<tr>
<td>---------------------</td>
<td>---------------</td>
</tr>
<tr>
<td><strong>Strategy:</strong></td>
<td><strong>1997-1999:</strong> Implement the customer service training; continual reevaluation to enact appropriate changes</td>
</tr>
<tr>
<td>Enhance the skills and ability of management (physicians and non-physicians) to motivate and manage their departments in a customer focused way</td>
<td>Develop and implement a four hour section on Personalized Care goal targets and service quality for General Orientation</td>
</tr>
<tr>
<td><strong>Outcome:</strong></td>
<td><strong>1997:</strong> Identify customer based skill development programs</td>
</tr>
<tr>
<td>Administration, Managers and Chiefs of Service will have the skills necessary to coach, motivate and manage a customer service organization</td>
<td><strong>1997:</strong> Develop timeline for all Department Management that will include physicians and managers</td>
</tr>
<tr>
<td></td>
<td><strong>1997-1999:</strong> Implementation of the customer relations training</td>
</tr>
<tr>
<td></td>
<td><strong>1998:</strong> Evaluate and reassess the impact of the training and value</td>
</tr>
<tr>
<td></td>
<td><strong>1997-1998:</strong> Each Department completing the training will</td>
</tr>
<tr>
<td>Strategy Outcome</td>
<td>Key Activities</td>
</tr>
<tr>
<td>------------------</td>
<td>----------------</td>
</tr>
<tr>
<td><strong>Strategy:</strong> Integrate current customer feedback that results in an actionable report Department Management can utilize to analyze their service problems</td>
<td>1997: Identify the feedback mechanisms currently in use 1997: Design 1-2 key reports 1998: Develop a methodology to assist Department Chiefs / Managers to identify process improvements opportunities</td>
</tr>
<tr>
<td><strong>Outcome:</strong> Once source document that assists in the analyzes of customer improvement opportunities</td>
<td>1998-1999: Implement Action Teams or improvement teams in those Departments who have completed the training and identified improvement opportunities</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Strategy and Outcome</th>
<th>Key Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Strategy:</strong> Develop the criteria for individual performance (MD/non-MD) around the Personalized Care Goals; Service Excellence</td>
<td>1997: Research best practices within service organizations to hire employees who meet certain service skills 1997: Develop Service</td>
</tr>
</tbody>
</table>
**Reward and Recognition**

Program; performance reviews

**Outcome:** Rewards, recognition, performance reviews have customer service as a key indicator of success and it is compensated appropriately

---

**Strategy and Outcome**

**Strategy:**

Ensure Service Recovery systems are customer focused; intervention is appropriate, timely and meets with regulatory compliance

**Outcome:** Systems will be

---

Questions for all managers to use when interviewing potential candidates

**1998:** Develop performance criteria that will be used to recognize exemplary performance and accountability for poor performance

**1999:** Incorporate service criteria performance into departmental accountability, performance reviews and individual reward and recognition

**1997:** Evaluate a pilot of the Action Alert process for members calling the Corona Call Center and who need assistance or information about Medical Center service

**1997:** Develop Medical Center specific Department
Chapter Six: Discussion

Improving a customer's perception of a service organization is a dynamic moving target because it involves interactions between people, many times a day with each and every employee, physician and customer. When customer comes to a healthcare facility, they usually are not at their best, they do not feel well. This alone is very different from other service organizations. In addition, when they come to see the doctor, they are usually asked to remove some clothing, how many other service companies do that? The element of trust is key when it comes to healthcare. Given that, I believe the organization is developing a process that should help to stabilize the satisfaction in
spite of all the differences between the healthcare service organization and other service companies.

In the beginning of this pilot and in the writing up of this thesis, I had doubts about the ability of customer service training to have a long term effect on customer satisfaction, especially since I had been working towards that goal for so long in my previous roles. Physicians, the healthcare team leaders, had not been taking the leadership role nor were many of them even cognizant of the importance of effective communication in their practice. Those that were good, stayed good and those that lacked communication skills, continued to lack them. I believe this was partly due on their inability to see themselves as lacking a necessary skill in physician to patient relationship. If it wasn't taught in medical school, then it wasn't necessary.

However, based upon the pilot results and the changes in the process of the ASQ scores for the Family Medicine Pilot, Colton, I do believe the teamwork training, the Service Quality Call and the Action Team process work may be the key to our organization making this cultural change. The insight developed by the physicians on the role of other health care professionals has had a very positive impact on this change, being able to see the importance of other members has given the employees a morale boost which is translated into providing better service.
One of the weaknesses of this study was the inability to control everything; it was too broad and was over too long a period of time. In addition, the organization conducted their pilot with departments that were already fairly good at working together as a team and knew the importance of customer satisfaction. Once the implementation of this throughout the service area, they may encounter additional difficulties with other departments that are not so positive. Another issue not addressed in this thesis was the cost to implement the pilot and to implement the three phases throughout the Service Area.

Future research should be done to determine the break even point and the link between employee and physician satisfaction with customer satisfaction in healthcare and how much does it cost to move 1% increase in STAR. I do believe other service organizations have shown the link between employee satisfaction and customer satisfaction, however, I have not read in the literature other studies that make this connection for healthcare.

Additional studies could also be done using the Service Quality Call process in determining why new members leave the organization early in their membership, why do they stay loyal? Our divisional offices conduct studies, however, the results are so broad based they inhibit the local area from actually using the data to make any changes.
Appendix One

PEDIATRICS SCRIPT and FAMILY MEDICINE SCRIPT

Pediatrics:

Answering Machine Message
Hello, this is __________ from Kaiser Permanente. We're calling a few of our members to ask their opinion of our services, sorry we missed you.

Record this information onto the entry form according to the reason.

If Phone is Answered:
Hello, may I please speak with Mr. or Mrs. ___________(the parent who took child into Peds)

I'm caller name from Kaiser Permanente, We're calling a few of our customers who have recently had an experience with the Pediatric Dept to ask their opinion of our services, I understand that on day of week ___(say the child's name) was taken to be seen in the Pediatric Department at the Fontana Medical Center. Were you the person who brought __________ into the Pediatric Department or could I speak with the person who did?

If the answer is no or person is not home:
We'll try back later on, do you know when would be a good time to reach them? (Record this information onto the form)

Is there anything that I can help you with regarding services at Kaiser Permanente? (If not, thank them and close, if yes, follow procedures for follow-up and/ or Action Alerts)

If you reach the person who experienced the Cycle of Service
I'm following up to see how that went for you. Would you be willing to speak with me about your recent experience? It will only take a few minutes.

If yes > Q1.
If no > Apologize for interruption, wish member nice day and close call gracefully. (record this onto the form)

Q1. With regard to the visit, would you say that it:
• was below you expectations; > Q2A
• met your expectations; > Q2B
• or that it exceeded your expectations > Q2

Family Medicine Script:

Answering Machine Message
Hello, this is __________________ from Kaiser Permanente.
We're calling a few of our members to ask their opinion of our services, sorry we missed you.

Record this information onto the entry form according to the reason.

If Phone is Answered:
Hello, may I please speak with Mr. or Mrs. ________________ (the person who left the message for the provider at Colton)

I'm caller name from Kaiser Permanente, We're calling a few of our customers who have recently had an experience with the Family Medicine Medical Offices ask their opinion of our services, I understand that on day of week _____ (the person who left the message) a message was left with Dr. ___________________. Were you the person who left the message?

If the answer is no or person is not home:
We'll try back later on, do you know when would be a good time to reach them? (Record this information onto the form)

Is there anything that I can help you with regarding services at Kaiser Permanente? (If not, thank them and close, if yes, follow procedures for follow-up and/or Action Alerts)

If you reach the person who experienced the Cycle of Service
I'm following up to see how that went for you. Would you be willing to speak with me about your recent experience? It will only take a few minutes.

If yes > Q1.
If no > Apologize for interruption, wish member nice day and close call gracefully. (record this onto the form)
Q1. With regard to that interaction, would you say that it:

- was below you expectations; > Q2A
- met your expectations; > Q2B
- or that it exceeded your expectations > Q2C

Script for both Cycles of Service after response to expectations is determined:

Q2A: Below their expectations

| Oh no! I'm sorry to hear that it was less than you expected. Would you be willing to tell me why |
| (Probe/clarify until unproductive) |
| Was there anything that went particularly well? |
| What suggestions do you have that I can relay back to the teams to work on? |

Q2B: Met Expectations

| It sounds like you received the services you expected. Was there anything about your experience that didn’t go so well? |
| (Probe/clarify until unproductive.) |
| Was there anything or any one who you felt was particularly outstanding in their service? |
| (Probe/clarify until unproductive.) |
| Is there anything else that we could have done to have made your experience an even better one? |
| (Probe/clarify until unproductive.) |

Q2C.: Exceeded their Expectations

| That’s great--I’m glad to hear it went well. In particular, what was it about the entire experience that exceeded your expectations |
| Was there any one person who made it exceptional |
| (Probe/clarify until unproductive.) |
| Is there anything else that we could have done to have made your experience an even better one? |

Close: I really appreciate the time you’ve taken to speak with me. Do you have any questions or need help with anything regarding Kaiser Permanente that I may be able to help with?

Obtain current address and enter onto the Interview Form.

Record all handwritten notes into the SQC database
Appendix Two

Action Alert

Action Alert Sent To: Fontana Assistance requested

This member was recently called by one of our Service Quality Callers. During the call, the member requested assistance as described below.

Please contact the member within 24 hours to offer assistance.

Demographic Information:

Action Alert Requested:

Date: Resolution:

Return to Medical Group Administration upon completion
Appendix Three

Service Provider Feedback Report

Medical Record Number:
Member's name:
Day Phone:
Evening Phone:

The following are the member's comments received during a Service Quality Call, Phase 2 of the Service Quality Initiative

Member Comments:

If you have any concerns or questions regarding this report, please call Carolyn Tornero at extension 5043
### Overall Satisfaction (Pilot) Colton Clinic Family Medicine (prior to recalculation)

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<th>Date</th>
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<th>3Q 95</th>
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</tbody>
</table>
### Overall Satisfaction (Pilot) Colton Clinic Family Medicine (after recalculation of mean)

#### Measure
- % Highly Satisfied

#### Department or Location
- Colton Clinic Family Medicine

#### Dates Covered
- 2nd Qtr 1995 - 3rd Qtr 1997

### Process Average

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<thead>
<tr>
<th>DATE</th>
<th>2Q 95</th>
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</table>

#### Process Avg
- 76% - 83%

#### Lower Control
- See Individual

#### Upper Control
- See Individual

#### Control Chart Type
- P

#### Chart Type
- % Proportion
- Process
- Upper Limit
- Lower Limit

#### Chart
- Graph showing satisfaction levels from 2Q 95 to 3Q 97 with specific data points listed in the table.
### Overall Satisfaction (Non-Pilot) Laurel Clinic Family Medicine

#### Process Average
- **Index**: ASQ
- **% Highly Satisfied**: 79%

#### Dates Covered
- 2nd Qtr 1995 - 3rd Qtr 1997

#### Chart Type
- Process
- Upper Limit
- Lower Limit

#### Lower Control
- See Individual

<table>
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### Satisfaction With Message Return (Pilot) Colton Clinic Family Medicine

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**Measure:** % Highly Satisfied

**Department or Location:** Colton Clinic Family Medicine

**Dates Covered:** 2nd Qtr 1995 - 3rd Qtr 1997

**Process or Location:** P

**Average:** 49% - 66%

**Process Average Lower Control:** See Individual

**Process Average Upper Control:** See Individual

**Upper Limit:** 62% 66% 65% 65% 77% 81% 81% 78% 78% 79%

**Lower Limit:** 37% 33% 34% 34% 55% 51% 51% 54% 54% 53%
Satisfaction with Message Return (Non-Pilot) Laurel Clinic Family Medicine

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### Overall Satisfaction - Fontana Pediatrics

#### ASQ Measures

- **% Highly Satisfied: 90%**
- **Fontana Pediatrics:**
  - Upper Limit: 94%
  - Lower Limit: 54%
- **Process:**
  - Upper Limit: 94%
  - Lower Limit: 54%
- **Upper Limit 1:**
  - Upper Limit: 87%
  - Lower Limit: 67%
- **Upper Limit 2:**
  - Upper Limit: 87%
  - Lower Limit: 60%

#### Dates
- **2nd Qtr 1995 - 3rd Qtr 1997**

#### Process Average, Lower Control, Upper Control

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### Overall Satisfaction: Pediatrics - Southern California

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- **Process Avg**: 68%
- **Upper Limit**: 72%
- **Lower Limit**: 64%
- **Upper Limit 1**: 69%
- **Lower Limit 1**: 67%
- **Upper Limit 2**: 71%
- **Lower Limit 2**: 66%

#### Process Control

- **Upper Limit**: 69%
- **Lower Limit**: 66%
### Overall Satisfaction San Diego Pediatrics

**ASQ**

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**Dates Covered**

- 2nd Qtr 1995 - 3rd Qtr 1997

**Process Average**

- 72%

- Upper Limit: 79%, 78%, 77%, 78%, 78%, 79%, 78%, 79%, 85%
- Lower Limit: 65%, 66%, 67%, 65%, 66%, 64%, 66%, 64%, 59%

**Upper Limit**

- 77%, 76%, 75%, 76%, 76%, 77%, 76%, 77%, 80%
- Lower Limit: 67%, 68%, 68%, 67%, 68%, 67%, 68%, 67%, 63%

**Number (np)**

- 2Q 95: 261
- 3Q 95: 354
- 4Q 95: 502
- 1Q 96: 302
- 2Q 96: 425
- 3Q 96: 329
- 4Q 96: 201
- 1Q 97: 389
- 2Q 97: 234
- 3Q 97: 68

**Sample (n)**

- 2Q 95: 362
- 3Q 95: 478
- 4Q 95: 705
- 1Q 96: 420
- 2Q 96: 571
- 3Q 96: 432
- 4Q 96: 283
- 1Q 97: 544
- 2Q 97: 315
- 3Q 97: 111

**Proportion (p)**

- 2Q 95: 72%
- 3Q 95: 74%
- 4Q 95: 71%
- 1Q 96: 72%
- 2Q 96: 74%
- 3Q 96: 76%
- 4Q 96: 71%
- 1Q 97: 72%
- 2Q 97: 74%
- 3Q 97: 61%

**Process Avg**

- 72%, 72%, 72%, 72%, 72%, 72%, 72%, 72%, 72%, 72%

**Appendix Eleven**
**Overall Satisfaction Los Angeles Pediatrics**

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**Proportion of highly satisfied patients**

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**Process Avg**

| 66% | 66% | 66% | 66% | 66% | 66% | 66% | 66% | 66% | 66% | 66% |

**Upper Limit**

| 111% | 109% |

**Lower Limit**

| 21% | 23% |

**Upper Limit 1**

| 81% | 80% |

**Lower Limit 1**

| 51% | 52% |

**Upper Limit 2**

| 96% | 95% |

**Lower Limit 2**

| 36% | 38% |
Bibliography


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