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The purpose of this study was to identify and implement a patient satsifaction survey based on an outcome-oriented quality improvement approach which could also be used by hospital leaders as a management tool. A modified version of the Health Service Command Patient Satisfaction survey was selected using pre-established criteria. The survey was distributed to proportionally stratified samples of the four target populations: Active Duty, CAM enrollees, CHAMPUS eligibles, and Medicare/Non-CHAMPUS eligibles. The instrument's reliability and validity measures were found to be satisfactory. Reliability coefficients for all but one content area were above .70. All items were valid at the critical value (2 -tail t test, p .05) except for four in one category. Baseline data were compiled and compared using descriptive and inferential statistics. Differences between the four categories of populations were significant at the p .05 level for the content areas of access, technical quality, choice, interpersonal skills, and outcome. The survey results reflected a moderately high level of patient satisfaction with the services at RACH as evidenced by a sample mean of 3.24 using a scale of 1 = poor and 4 = very good.

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IMPLEMENTATION OF A PATIENT SATISFACTION TOOL AT REYNOLDS ARMY COMMUNITY HOSPITAL FORT SILL, OKLAHOMA

A Graduate Management Project

Submitted to the Faculty of

Baylor University

In Partial Fulfillment of the

Requirements for The Degree

of

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by

MAJ Yolindia E. McCorquodale, AN

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ABSTRACT

The purpose of this study was to identify and implement a patient satisfaction survey based on an outcome-oriented quality improvement approach which could also be used by hospital leaders as a management tool. A modified version of the Health Service Command Patient Satisfaction survey was selected using pre-established criteria.

The survey was distributed to proportionally stratified samples of the four target populations: Active duty, CAM enrollees, CHAMPUS eligibles, and Medicare/Non-CHAMPUS eligibles. The instrument's reliability and validity measures were found to be satisfactory. Reliability coefficients for all but one content area were above .70. All items were valid at the critical value (2 -tail t test, $p < .05$) except for four in one category.

Baseline data were compiled and compared using descriptive and inferential statistics. Differences between the four categories of populations were significant at the $p < .05$ level for the content areas of access, technical quality, choice, interpersonal skills, and outcome. The survey results reflected a moderately high level of patient satisfaction with the services at RACH as evidenced by a sample mean of 3.24 using a scale of 1 = poor and 4 = very good.

By developing a survey coding system, hospital wide and department/unit level patient satisfaction performance standards can

be established and monitored. Specific interventions can then be directed toward improving services.

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IMPLEMENTATION OF A PATIENT SATISFACTION TOOL AT REYNOLDS ARMY COMMUNITY HOSPITAL, FORT SILL, OKLAHOMA

Introduction

In 1986, the National Leadership Commission on Health Care met to address the three major problems of health care: (1) cost, (2) quality, and (3) access. The commission agreed on a vision of a healthy society in the twenty-first century that will operate an innovative and efficient health care system which provides universal access to a basic level of appropriate and affordable care. This future society will also promote preventive care and healthy lifestyles through vigorous public education (Adams-Ender, 1990).

One health care delivery system currently striving to conform to this ideal is that of the Department of Defense. However, it too has been plagued by these three major problems of providing health care. Free services in the direct health care system have resulted in overutilization (Gisin, 1990) . Medicare-eligible beneficiaries, no longer eligible for CHAMPUS (Civilian Health and Medical Program of the Uniformed Services) benefits, turn to military health care facilities for free care. Local hospital commanders, in response to this increasing demand, have encouraged CHAMPUS-eligible patients to use civilian resources (Gisin, 1990).

Even though there are limited restrictions on the use of

CHAMPUS, expenditures have nearly doubled, from $1.3 billion to $2.5 billion, during the last four years. To reduce this spiraling increase in costs, Congress has initiated military-civilian joint ventures. Catchment Area Management (CAM) is one of four programs designed to contain the enormous cost of CHAMPUS (Gisin, 1990).

CAM provides hospital commanders authority to manage resources and patients within their 40-mile-radius catchment area. The hospital commander receives the normal appropriated funds for the provision of direct care and an amount equal to the previous year's CHAMPUS expenditures for that locale. Operating within these resource constraints, the commander assumes responsibility for all care, direct and CHAMPUS, within his/her catchment area. The commander is tasked with deciding the level and the mix of in-house direct care as well as ensuring that all beneficiary needs are met (Gisin, 1990).

Five military sites were selected to participate in the three-year CAM demonstration. All sites were given the same basic guidelines and each commander was tasked to develop a system that would maximize the cost-effective use of CHAMPUS funds based on the needs of his/her particular catchment area (Badgett, 1990).

Two elements within the general guidelines are mandated for all five test sites:

1. A voluntary enrollment feature associated with beneficiary

selection of health care delivery system options.

2. A'health care finder...and referral function to assist enrollees in obtaining care outside of the traditional military system (Badgett, 1990, p. 3).

Four primary objectives common to all sites are to:

1. Contain the rate of growth in CHAMPUS costs.

2. Improve accessibility to health care.

3. Improve satisfaction with health care.

4. Maintain quality of health care (Badgett, 1990, p. 3).

Further expansion of CAM will depend on the level of success achieved at the current demonstration sites. The evaluation will be conducted by the RAND Corporation during the program's test period (Badgett, 1990). RAND's analysis will be based on the results of two beneficiary surveys. The first survey was completed in September 1991. The baseline data from it will be compared to the outcome data which will be obtained from the survey that is scheduled to be performed in the Spring of 1992. The above guidelines and objectives are the criteria which will be monitored by the RAND Corporation; therefore, it is imperative that hospital commanders at these test sites adhere to them closely.

Conditions Which Prompted The Study

As one of the test sites, Reynolds Army Community Hospital (RACH), Fort Sill, Oklahoma, is concentrating on meeting these

objectives. Now that it has crossed the hurdle of developing, marketing, and implementing its CAM program, RACH is evaluating itself to determine if it has met the stated criteria.

It is important to note that the Congressional objectives are directed at all beneficiaries, not just those enrolled in the CAM program. This means that each of the different health care delivery systems used by the different categories of beneficiaries must be incorporated into the RACH evaluation.

The four categories of health care beneficiaries are specified and defined below:

1. Active duty members are those individuals currently serving in the Armed Forces who receive care through the direct military health care system, such as the medical treatment facility (MTF), the troop medical clinic, and the battalion aid station.

2. CAM enrollees are those who access the health care delivery system per CAM guidelines, using available resources such as the Preferred Provider Program and the MTF. These individuals must be eligible for CHAMPUS benefits, however, upon enrollment into the CAM program, they may not the access civilian health care system without being referred through the MTF. The deductible fees and co-payment charges required by CHAMPUS are waived for CAM enrollees that are referred to civilian health care sources.

3. CHAMPUS eligibles are those that may either use the direct

military health care system or access the civilian health care system through the use of CHAMPUS. These individuals must pay the required CHAMPUS deductibles and co-payment charges when receiving care outside the MTF. For the purpose of this study, this category refers to those CHAMPUS eligible individuals who have not enrolled in the CAM program.

4. Medicare/non-CHAMPUS eligibles are those that may access the direct military health care delivery system on a space-available basis or, since they are eligible for Medicare/Medicaid, they may use those civilian health care systems that accept these types of reimbursement. These individuals are not eligible for CHAMPUS benefits and therefore cannot enroll in the CAM program.

A fifth category of health care beneficiaries must also be mentioned, even though RACH has very little control of the health care delivery system, or lack of one, involved. This category includes two groups of individuals. The first group is made up of potential health care beneficiaries who are non-users of any health care delivery system. The second group are individuals who access civilian health care systems and pay for it either personally or by using civilian insurance.

Referring back to the four primary objectives of the CAM project, the RACH CAM program has met the first two objectives. It has contained CHAMPUS costs and improved access as demonstrated by

increased patient visits and reduced annual budgetary expenditures. However, RACH may have difficulty in demonstrating compliance with the last two objectives: maintaining the quality of health care and improving satisfaction with health care.

By meeting the current quality assurance standards of the Joint Commission on Accreditation of Healthcare Organizations (JCAHO), RACH has assumed that quality of care has been maintained. RACH's Quality Assurance (QA) Program is performed by the department and service levels. Each medical department/service develops its own QA plan and selects the indicators that it feels are appropriate for monitoring and evaluating. There is no mechanism in place for evaluating the quality of care provided across interdepartmental lines. Therefore, the QA Program provides only a snapshot view of single encounters or episodes of care within each department or service.

Also, there is currently no tangible evidence that satisfaction with health care has been improved. Numerous patient satisfaction surveys are given on a regular basis by various departments and services, such as nursing, radiology, and ambulatory care. These surveys tend to focus on patient encounters within individual services or departments. An integrated approach has not been taken to ascertain the levels of patient satisfaction the entire health care experience.

Statement of the Management Problem

The hospital has no way to verify RAND's results and is in no position to defend itself on the issues related to maintaining quality of health care and improving patient satisfaction should it be found that RACH clients are dissatisfied with their care. Outside of RAND's survey, Reynolds Army Community Hospital, Fort Sill, Oklahoma, has no way of measuring patient satisfaction over time nor does it have any mechanism in place for evaluating whether the quality of care has been maintained.

Review of the Literature

Changes in the health care industry, such as increases in competition, consumerism, and demand for accountability, mean that patient satisfaction can contribute to a health care organization's bottom line. Because of the changing expectations of purchasers, payers, and patients, hospitals must address patient satisfaction monitoring (Spitzer, 1988).

Policymakers and third-party payers consider that the relation of cost to quality is significant (Press, Ganey, & Malone, 1991). As a result, it can be expected that patient satisfaction surveys will become more widely used. In this era of increasing competition, hospital managers have also found that surveying patients is good business due to the high cost related to patient dissatisfaction (Press et al., 1991). The Hospital Corporation of

America reports a strong link between patient perceptions of high quality care and hospital profitability (Press et al., 1991).

A recent survey indicates that interpersonal issues, not technical skills, are the most important factors to patients (Press et al., 1991). However, from a patient's perspective, technical skills tend to be linked to interpersonal issues (Press et al., 1991). Attempts to distinguish between the quality of service and the quality of care appear to be moot, as patient satisfaction is relevant for several reasons and should be included as a health care performance indicator.

Even though the importance of patient satisfaction is recognized, systematic measurement of it is seldom included in routine quality assurance programs. According to Vouri (1987), three distinct areas of care with qualitative, measurable characteristics that may influence patient satisfaction are:

1. The science of medicine (technical/instrumental aspects of care).

2. The art of care (interpersonal/expressive/communicational aspects of care).

3. The amenities of care (p. 3).

Vouri (1987) also states that the three ways in which patient satisfaction can be measured and thereby be included in quality assurance assessments are:

1. As an attribute of quality care and as a legitimate and desired outcome. In simple words, care cannot be of high quality unless the patient is satisfied.

2. As an indicator of quality care, reflecting the views of patients on the care received.

3. As a prerequisite for care. Satisfied patients are more likely to cooperate effectively with their practitioners and accept and adhere to their recommendations. Satisfied patients are thought to be more likely to seek care again (p. 3).

Vouri (1987) contends that patient satisfaction is part and parcel of quality care and should be included in quality assurance programs. He feels that it is possible to measure patient satisfaction in a valid and reliable way in spite of admitted methodological difficulties. On the other hand, Press, Ganey, and Malone (1991) contend that patient satisfaction monitoring is becoming an important and standard management tool for health care providers. Because of internal and external demands that patient satisfaction be measured, it is expected that identified problems will be corrected, thereby increasing the levels of patient satisfaction (Press et al., 1991).

Approaches to measuring quality have usually addressed one of three dimensions: (1) structure, (2) process, or (3) outcome. Two fundamental methodological approaches to quality assessment are:

(1) individual case review and (2) statistical analysis. The former is essentially process-based while the latter is outcome-oriented (Moynihan, 1988). In the current health care environment, more emphasis is being placed on the outcome-oriented approaches (Merry, 1990).

In recent years, concerns about costs and medical competence in addition to demands by patients and payers that quality health care be provided at the best value have brought pressures on the health care delivery system to change. "The hospitals surviving this basic shift in the medical paradigm will be those hospitals that successfully make the transformation from the current practice of attempting to assure quality to actually measuring and improving the quality of care" (Gillem, 1988, pp. 70-71).

Health care leaders are generating an unprecedented interest in exploring the relevance and the possible application of industrial quality process techniques to health care. They have researched the values of these quality process models and are attempting to implement proven concepts such as Total Quality Management (Merry, 1990), Continuous Quality Improvement (CQI) (Re & Krousel-Wood, 1990), and Deming's Principles (Gillem, 1988).

The JCAHO has encouraged the shift to a quality improvement approach. It has convened the Quality Improvement Task Force to specifically incorporate CQI principles into new Joint Commission

quality assurance standards (Lesparre, 1989). The efforts of this task force are directed at identifying indicators for eleven organizational and management characteristics which have been associated with high quality, successful organizations (Lesparre, 1989). These characteristics range from having a clear organizational mission to having systems in place which monitor and ensure the continuity and completeness of patient care. This new JCAHO perspective is especially relevant to Army MTF Commanders. Health Services Command (HSC) Regulation 10-1 (1989) states that the standards of the JCAHO apply in all HSC Medical Centers and MEDDACs.

This Reg should be included in the Reference Section

According to Lesparre (1989), there are concerns that some hospitals are putting in industrial quality models outside the existing management structure and totally isolated from the hospital's current quality review and assurance program. Others express concerns that CQI will emphasize customer service as contrasted to customer outcome. It is feared that, by embracing CQI, the current efforts to develop sophisticated measures of clinical outcomes may be abandoned (Fifer, 1989). Fifer (1989) suggests that "we add quality of service as a measurable and desirable addition to the quality dialogue, reminding ourselves as we do so [that] what happens to our patients is still the key measure of the quality of health care services" (p. 9).

Purpose of the Study

The purpose of this study was to identify and implement a patient satisfaction survey tool based on an outcome-oriented quality improvement approach which could also be used by the hospital leaders as a management tool.

Objectives of the Study

The objectives of this study were to:

1. Select a patient satisfaction survey which uses an outcome approach that accurately measures specific causes of consumer satisfaction and dissatisfaction with the health care services provided in the RACH catchment area.

2. Identify and differentiate target populations from which to draw samples in order to determine if levels of patient satisfaction vary between delivery systems.

3. Determine the validity and reliability of the survey tool and conduct the survey.

4. Ascertain the appropriate sample size which would allow statistical inferences to be made.

5. Analyze and interpret the results of the survey.

6. Compile baseline data necessary for measuring satisfaction over a period of time and for ensuring that quality of health care is being maintained.

7. Make recommendations contingent upon the survey results.

Methods and Procedures

Selection Criteria for Patient Satisfaction Survey Instrument

Several factors were considered in order to select an appropriate data collection method that would not only measure patient satisfaction but would also provide input on quality of care issues. According to Cassileth, Walsh, Blake, and Greenspan (1987), satisfaction survey ratings can be deceptively high. They feel that this is due to the fact that, while individuals are able to assess hospitals objectively, they lose this ability when they become patients.

Molzahn and Northcott (1989) discuss this same problem. They feel that many of the studies which have suggested inconsistencies between patients' and health care providers' perceptions have suffered from several methodological problems. This has led to uncertainty when making any generalizations about findings. The authors claim that very few of the researchers doing these studies have provided evidence that the instruments used were valid and reliable. Many of the instruments had received little, if any, testing because they were developed for a specific study. Molzahn and Northcott (1989) feel that another issue on this subject is the use of small sample sizes, which precludes the use of certain statistical techniques and the examination of subgroups of data.

Patient satisfaction indicators, however, are emerging as a

dominant and critical outcome measure for both quality of care and potential profitability of the organization. These indicators are also being used for strategic planning purposes, as a basis for determining executive bonuses, and as quality indicators for hospitals (Droste, 1989).

Considering the fact that patients do not have the expertise to evaluate the technical component of health care, it becomes necessary to identify "proxy" values which they can understand and evaluate (Strasen, 1988). From the patient's perspective, technical skills are linked to interpersonal issues, which can serve as measurable proxy values (Press et al., 1991).

After an extensive literature review on patient satisfaction surveys, Cleary and McNeil (1988) concluded that results of these surveys will be most useful when they are collected routinely using standardized instruments and are motivated by and interpreted on the basis of a well-explicated conceptual framework. They recommend that measures of satisfaction be specific, differentiated, and multidimensional. They feel that appropriate scales which have been validated and reported in the literature should be used to facilitate comparisons among studies in different settings (Cleary & McNeil, 1988).

A written questionnaire was selected as the survey instrument because it was relatively inexpensive, easy to administer, and

provided anonymity to the subjects. However, Goldsmith (1983) points out that written questionnaires have some disadvantages which must be considered when interpreting data. Questionnaires offer little insight into the reasons for, and thus the significance of, patients' answers. Misinformation provided by the subject is always a potential problem and may distort the findings. Also, due to anonymity, it is difficult to establish whether or not respondents are significantly different from nonrespondents.

Taking all of the above into account, selection of the patient satisfaction survey tool was based on the following criteria:

1. Pre-established validity and reliability ratings.

2. Previous testing using large sample sizes, preferably on military populations.

3. Inclusion of all aspects of health care--access, quality, delivery mechanisms, inpatient and outpatient services, etc. using an outcome oriented approach which could then be used as a management tool.

4. Preservation of anonymity of respondents (to preclude potential ethical issues from arising).

Selected Survey Instrument: Historical Background

Numerous survey instruments were reviewed for selection. Many of these instruments met the above criteria to some degree, but the HSC Patient Satisfaction Survey was found to be far superior

when compared to the rest. This survey is in the process of becoming a standardized instrument utilized by HSC for measuring patient satisfaction data taken from its military healthcare beneficiaries. Implementing this instrument will provide a mechanism whereby RACH's hospital leaders can compare its patient satisfaction survey results to the HSC patient satisfaction survey results which are obtained from a larger but similar population.

The first HSC Patient Satisfaction Survey was performed in 1989-1990 under the direction of Major General John E. Major. General Major (1989) noted that even though civilian peer review of Army Medicine was exceptionally high, it was important to also monitor the perceptions and beliefs of the Army beneficiary population regarding the quality and availability of their care

There were no surveys at the time that provided an integrated system-wide picture of United States (U.S) Army Health Services Command beneficiaries nor any that had been designed to provide direct cross comparisons with civilian practice. Therefore, General Major (1989) tasked the U.S. Army Health Care Studies and Clinical Investigation Activity (HCSCIA) with developing and testing one.

HCSCIA began the Patient Satisfaction Survey project in June 1989 by requesting permission from the Group Health Association of America (GHAA) to use and to modify the GHAA Consumer Satisfaction

Survey (Mangelsdorff, 1990). Items were modified for use with a military population. With permission granted from GHAA, the survey items were then staffed per Army Regulation (AR) 600-46 with the U.S. Army Soldier Support Center National Capitol Region (Mangelsdorff, 1990).

Surveys were mailed to 9,000 eligible beneficiaries at 37 Army treatment facilities. The results were released in January, 1991 reporting that eligible beneficiaries were moderately satisfied with the health care in military MTFs (McFarling, 1991). Active duty dependents were least satisfied, whereas retired personnel reported the most satisfaction with their healthcare. A second sampling using a modification of this same survey instrument was distributed in February, 1991 to approximately 9,500 potential respondents. Results of this survey have not been released at this time (McFarling, 1991).

Sample

The population for this study included all medical care beneficiaries located in the 40-mile catchment area radius of RACH. The Congressional objective as stated implies an improved patient satisfaction status of all beneficiaries, not just those enrolled in the CAM program. Therefore, in order to measure samples of all beneficiaries, it was necessary to divide the population into categories based on the health care delivery system used. The four

categories were specified earlier as: Active Duty members, CAM enrollees,'CHAMPUS eligibles, and Medicare/non-CHAMPUS eligibles.

At the time of the study, RACH had responsibility for 58,965 potential health care beneficiaries. This total was composed of the following segments of the population: 18,718 active duty members (32%), 14,367 CAM enrollees (24%), 22,139 CHAMPUS eligibles (37.5%), and 3,741 Medicare/non-CHAMPUS eligibles (6.5%).

In making a final decision regarding ~~the~~ sampling, the researcher must consider factors such as feasibility, accessibility, institutional policy, and finances (Soeken, 1985). The study was initially designed for the surveys to be mailed out to randomly selected beneficiaries from each category. However, ACQESS, the major computer system containing information on the different patient categories was inoperable. As a consequence, the study had to be modified to fit available support capabilities.

Problems with obtaining information through other computer data systems also precluded their use for generating random category data files. For example, the pharmacy software program had the ability to identify each of these categories but ~~this~~ these data had not been entered into many of the patients' pharmacy files. This deficit was due to numerous problems with the limited amount of computer memory space available and networking difficulties between the different computer systems in use at RACH. Other systems did not have the

required data necessary for categorizing patients.

As an alternative to simple random subject selection, convenience proportional stratified sampling of these categories was chosen. This was accomplished by identifying patients by category when they brought in their pharmacy prescriptions. Randomly selected normal duty hours in the month of February, 1991 comprised the sampling time frame. This selection process, though not ideal, was used so that data on patient satisfaction and quality of care could be taken from actual health care recipients.

Instrumentation

The HSC Patient Satisfaction Survey instrument was used in this study and items were modified for use in the RACH catchment area. Permission to use and modify the HSC Patient Satisfaction Survey was requested from and granted by both Dr. A. David Mangelsdorff of the U.S. Army Health Care Studies and Clinical Investigation Activity and Dr. Marsha Golz, Director of Research at GHAA.

The 1989 HSC Patient Satisfaction Survey was a version of the GHAA survey instrument that was modified for use with a military population. Survey items were scored as suggested by GHAA and content categories were developed using the GHAA criteria. The ten content categories were: access, choice-continuity, communication, finances, interpersonal care, technical quality, outcomes, overall

quality, time spent, and general satisfaction. One additional scale point--"Have Not Used"--was added to the GHAA 5-point scale. The survey also had one additional item added; this brought the number of rated items to 37.

Descriptive statistics were computed on the respondents' demographic information. A principle components factor analysis of the 37 rated items was done. This analysis revealed that the 37 factors accounted for 68.3% of the total variance. Using the Kuder Richardson procedure to calculate coefficient alphas, the GHAA content categories were subjected to reliability estimates. Reliability estimates were also calculated for the item clusters extracted from the factor analysis. Between selected items, inter-item Pearson product moment correlation coefficients were calculated. "In general, the GHAA content area items had quite acceptable psychometric properties, with coefficient alphas ranging from .885 to .944" (Mangelsdorff, 1990, p.3).

For the purpose of this study, the ten content areas used in the HSC survey were consolidated into the following nine areas: access, choice-continuity, communication, finances, interpersonal care, technical quality, outcomes, general dissatisfaction, and general satisfaction. The additional HSC item related to the overall quality content area was placed in the outcome content area because, according to Vouri (1987), patient satisfaction can be

measured as an attribute of quality care and as a legitimate and desired outcome. The HSC item related to the 'time spent' content area was placed in the interpersonal content area because, according to Pascoe (1983), it is an interpersonal issue. The two items under the general satisfaction area which related to the degree of dissatisfaction were placed in the general dissatisfaction content area.

The survey had a total of 60 questions with space for comments (see Appendix). The number of rated items was 35. One item from the access content area and two from the general satisfaction content area were deleted because they were not reliable or valid. An additional item was added to the choice-continuity content area to determine if the CAM provider/partnership network had made any impact in this arena. The remaining 24 questions requested patient data for demographic information. In order to preserve anonymity, no attempts were made to identify anything about the respondents other than the category of health care system they used and whether or not they were the one for whom the prescription was written.

Study Design

A nonexperimental design using a patient satisfaction survey was employed to provide baseline data and to determine the levels of satisfaction among the four major categories of RACH health care

beneficiaries. The population consisted of approximately 32% active duty members, 37.5% CHAMPUS eligibles, 24.% CAM enrollees and 6.5% Medicare/non-CHAMPUS eligibles. These percentage rates were used as weights to determine the number of randomly selected cases per group that would provide a proportional stratified sampling of the population.

According to Isaac and Michael (1985), for a population of approximately 59,000 potential health care beneficiaries, a sample size of 382 is required for a 95% level of confidence. Therefore, this figure was selected for the number of surveys that would be distributed with the realization that the rate of return would be less than 100%. Using 382 as the sample size and multiplying it by each percentage weight yielded the following number of cases selected for each category: active duty--122 cases, CHAMPUS eligibles--143 cases, CAM enrollees--92 cases, and Medicare/Non-CHAMPUS eligibles--25 cases.

The Patient Satisfaction Surveys were handed out to 382 eligible adult beneficiaries (at least 18 years of age or a member in the military) from the pharmacy turn-in window. These individuals were at the pharmacy to have their own prescriptions filled. They were instructed to complete the survey and return it to the pharmacy prescription pick-up window when collecting their medication.

Control numbers were used to identify the category of beneficiary (Active Duty members, CAM enrollees, CHAMPUS eligibles, and Medicare/Non-CHAMPUS eligibles). The surveys were handed out during randomly selected normal duty hours in the month of February. The first 122 active duty, 92 Cam enrollees, 143 CHAMPUS eligibles, and 25 Medicare/Non-CHAMPUS eligibles who presented during the selected time-frames received the survey if they were the one for whom the prescription was written. This researcher assigned all individuals to the appropriate category and gave each person the same general instructions for the return of the survey.

Data Collection

Using Microstat and Statistix statistical software packages, data files were created with group membership coded as variables. Questionnaires that were not filled out for all of the content areas or had missing data for the category of beneficiary were not used. The responses marked as number 6 "Have Not Used" were entered as missing data. Question items not answered or answered inappropriately (e.g., respondent marks all responses when only one is asked for) were not included in the analysis.

Responses were received from 194 individuals out of the total 382 possible. Of the questionnaires returned, only 162 met the above criteria. The usable return rate was 42.4%.

Statistical Analysis

Analyses of variances (ANOVA) and reliability estimates (Cronbach's Alpha) were used to examine the rated items in the content areas. Descriptive statistics were computed for demographic and content area responses by category of health care system used. Comparative analyses on the content areas were conducted by category of the RACH health care system used and also between the RACH survey results and the HSC survey results. Written comments from respondents were analyzed for content.

Results

Even though the reliability and validity of the HSC Patient Satisfaction Survey had been previously demonstrated, Soeken (1985) believes this information should be reported every time the instrument is used to elicit situation specific differences. According to Kerlinger (1986), the two major problems of measurement are reliability and validity.

Reliability refers to dependability, consistency, and predictability. The extent to which data from the measurement instrument contain errors reflects the extent to which the data it yields will be unreliable. Reliability can therefore be defined as the relative absence of errors of measurement in a measuring instrument (Kerlinger, 1986).

Validity, on the other hand, is the determination of the extent to which a test measures what it is designed to measure (Kerlinger, 1986). It is generally agreed that validity is the most important consideration in test evaluation (Emory, 1985). Internal and external validity are the two major types of validity. For the purposes of this study, internal validity was the main concern. Internal validity, as defined by Emory (1985), is the extent to which differences found with a measuring tool reflect true differences among those being tested.

In summary, while reliability is the internal consistency of an

instrument, validity is the measure of accuracy of the instrument. Cronbach's Alpha measures the homogeneity of the questionnaire and is commonly used to measure reliability (Cronbach, 1970). This method was used to measure the reliability of this instrument. A reliability coefficient of greater than or equal to 0.7 was used as the standard for reliable results. The reliability coefficients for the content areas were all greater than or equal to .70 except for those in the content area of general dissatisfaction. The results of the reliability analysis are reported in Table 1.

Criterion validity, according to the Standards for Educational Psychological Testing, is defined as intercorrelations among items that may be used to support the assertion that test scores support a single construct (American Psychological Association, 1985). Therefore, the internal validity of the instrument was determined by computing the item-sum correlation coefficients (Pearson's r) between the rated variable of each content area and each of the item scores in every domain for each of the major categories. The internal validity of the instrument was determined by utilizing the significance level, at a probability of less than or equal to .05, for the validity measures as established by the correlation matrix.

Table 1

Reliability: Cronbach's Alpha on Content Areas

Content Area	Active Duty	CHAMPUS	CAM	Medicare
ACCESS	.9131	.8824	.9237	.9333
FINANCE	.8670	.8182	.9410	.9503
TECHNICAL QUALITY	.9110	.9663	.9517	.7892
COMMUNICATION	.9018	.9505	.9180	.8922
CHOICE	.9452	.9479	.9497	.7013
INTERPERSONAL SKILLS	.9210	.9550	.9392	.9099
OUTCOMES	.8991	.9588	.9236	.9030
GENERAL SATISFACTION	.7521	.7489	.8788	.7000
GEN DISSATISFACTION	.7569	.6412	.6115	.3083

Note. Reliability $\geq$ .70

All items were valid at the critical value (2 - Tail, .05) except for the Medicare/Non-CHAMPUS eligible category survey item numbers 9, 12, 13, and 14 in the Access content area. Table 2 contains the results of the analysis for validity.

Table 2

Validity: Item-Sum Correlation Coefficients on Content Areas by Category

Content Area	Survey item #	Active Duty	CHAMPUS	CAM	Medicare
ACCESS	4.	.5160	.5271	.7200	.9022
	5.	.5584	.5239	.8200	.7685
	6.	.6619	.7273	.8219	.9022
	7.	.5513	.7145	.8194	.9239
	8.	.5910	.4938	.7934	.9239
	9.	.5212	.8011	.7180	.6090 ns
	10.	.7510	.6402	.7501	.8299
	11.	.8900	.8606	.7404	.7692
	12.	.8380	.7278	.7226	.3637 ns
	13.	.8254	.8479	.7119	.6901 ns
	14.	.5383	.5566	.7028	.6115 ns
	c.v. = ±	.4035	.3544	.4807	.7047
	n =	24	31	17	8

Note: c.v. = critical value (2 - Tail, .05).

(table continues)

Table 2

Validity: Item-Sum Correlation Coefficients on Content Areas by Category

Content Area	Survey item #	Active Duty	CHAMPUS	CAM	Medicare
FINANCE	15.	.9459	.9246	.9711	.9748
	16.	.9345	.9156	.9725	.9792
	c.v. = ±	.3077	.3488	.3666	.6642
	n =	41	32	29	9
TECHNICAL	17.	.7581	.9277	.8925	.7256
QUALITY	18.	.9057	.9639	.9470	.7430
	19.	.9390	.9562	.9438	.8372
	20.	.9401	.9647	.9583	.8647
	c.v. = ±	.2561	.2872	.3241	.6297
	n =	59	47	37	10

Note: c.v. = critical value (2 - Tail, .05)

(table continues)

Table 2

Validity: Item-Sum Correlation Coefficients on Content Areas by Category

Content Area	Survey item #	Active Duty	CHAMPUS	CAM	Medicare
COMMUNI-	21.	.9562	.9531	.9572	.9536
CATION	22.	.8875	.9601	.9127	.9052
	23.	.9020	.9515	.9125	.9161
	c.v. = ±	.2678	.2872	.3286	.5999
	n =	54	47	36	11
CHOICE	24.	.9162	.9204	.8937	.7599
	25.	.9696	.9725	.9758	.7928
	26.	.9618	.9645	.9783	.9045
	c.v. = ±	.3116	.3071	.3434	.7531
	n =	40	41	33	7

Note: c.v. = critical value (2 - Tail, .05)

(table continues)

Table 2

Validity: Item-Sum Correlation Coefficients on Content Areas by Category

Content Area	Survey item #	Active Duty	CHAMPUS	CAM	Medicare
INTERPERSONAL	27.	.9089	.9435	.9091	.7382
SKILLS	28.	.9173	.9583	.9226	.7382
	29.	.9456	.9254	.9146	.9798
	30.	.8978	.9522	.9376	.9798
	31.	.6242	.7533	.7512	.8613
	32.	.8288	.8768	.8205	.8613
	c.v. = ±	.2561	.2904	.3229	.6297
	n =	59	46	36	10
OUTCOMES	33.	.9403	.9793	.9626	.9558
	34.	.9328	.9812	.9616	.9540
	c.v. = ±	.2584	.2784	.3241	.5999
	n =	58	50	37	11

Note: c.v. = critical value (2 - Tail, .05)

(table continues)

Table 2

Validity: Item-Sum Correlation Coefficients on Content Areas by Category

Content Area	Survey item #	Active Duty	CHAMPUS	CAM	Medicare
GENERAL	2.	.8635	.8838	.9376	.8938
SATISFACTION	35.	.8592	.9052	.9619	.8572
	c.v. = ±	.2478	.2784	.3241	.5740
	n =	63	50	37	12
GENERAL DIS-	3.	.9111	.8297	.8170	.7731
SATISFACTION	33.	.8845	.8887	.8759	.7645
	c.v. = ±	.2478	.2784	.3241	.5740
	n =	63	50	37	12

Note: c.v. = critical value (2 - Tail, .05)

Descriptive statistics were used for assessing the demographic characteristics of the study population and the responses to survey questions. The results of the frequency distributions of the demographics, presented in order of the survey item number (item number is in parenthesis) are as follows:

The majority of respondents from all categories received their

health care from RACH or other MTF (1). The basic health benefit/insurance plan which all categories used most is RACH MTF, except for the CAM Enrollees who used the RACH CAM Program (37).

Only 22% of the respondents were covered by private health insurance (38). This is interesting to note because the projected revenue for RACH's private insurance collection program was based upon the estimate that at least 33% of our population was covered by private insurance. Of the insured respondents, the majority had a plan that reimburses all/part of their health care expenses (39). The majority of the respondents did not have insurance on their dependent children (40).

The majority of the respondents had used the DOD health care system for more than 10 years (41) and except for the Active Duty category, the majority of respondents had used RACH MTF for at least 3 - 6 years (42). More than 75% of respondents from all categories had used RACH MTF during the past 12 months (43). Having used the sample of a population that had indeed used the system (thereby getting their prescriptions filled), this finding may not be as significant as it appears.

Actually, 100% of your sample used the RACH system during the past 12 months. How was the question worded?

For hospital admissions, 16% of Active Duty respondents had been admitted whereas the rate for CAM enrollees was 27% (44). The difference between the two groups may be due to the physical fitness

enlistment requirements of the Armed Forces. Only 3 dependents required 5 or more hospital admissions during the past year (45). From this information, it does not appear that our population has an abnormally high percentage of chronically ill dependents requiring numerous hospitalizations.

Only 15% of the respondents had not made an out-patient visit during the past 12 months (46). This creates a potential concern because these respondents have not been seen for the condition they were prescribed medication for during the past year. Approximately one-third of the respondents with dependents reported their dependents had not received out-patient care during the past 12 months (47).

Very interesting! maybe civilian docs write the scripts!

The waiting time between making an appointment and actually being seen by the provider was usually less than 1 - 2 weeks (48). Once at the provider's office, the majority of respondents were seen within 30 minutes (49).

Most Active Duty respondents (68%) saw the same provider sometimes or never whereas the majority of respondents from the other categories saw the same provider most of the time (50). At this time, RACH is in the process of changing the way it provides care to the Active Duty member. Active Duty members will be given appointments in the Family Practice Clinics to ensure that continuity of care is provided. Even though the health care

maybe your study has already had a positive effect.

delivery systems are different, the majority of all respondents felt their personal health status was good or better (51).

Active Duty ages were typically younger than the other categories and the Medicare ages were older (52). Of the sample population, 58% were female and 42% were male (53). The majority of minorities belonged to the Active Duty category. The race/origin totals for the sample were: American Indian, Aleutian, Eskimo--3; Asian or Pacific Islander--6; Black--29; Hispanic--16; and White--108 (54 & 55).

The majority of respondents were enlisted/dependent of an enlisted member in the grades of E-4 through E-8 (56). The respondents reported their incomes before last year taxes as being less than $40,000 (57). More than 65% of all respondents were married (58).

The self-reported results for the category of beneficiary were: active duty--63, dependents of active duty members--35, retired service members--30, dependents of retired/deceased--34 (59). The self-reported results for the category of health care beneficiary status were: active duty--63, CAM enrollee--37, CHAMPUS eligible--50, and Medicare/Non-CHAMPUS eligible--12 (60). The frequency distributions of the responses to the 25 demographic questions are presented by category in Table 3.

Table 3

Frequency Distribution of Responses to Demographic Questions

Survey Item #	Response #		Active Duty freq	Active Duty %	CHAMPUS freq	CHAMPUS %	CAM freq	CAM %	Medicare freq	Medicare %
1.	1		53	84.1	32	64.0	27	73.0	10	83.3
	2		2	3.2	6	12.0	0	0.0	1	8.3
	3		8	12.7	12	24.0	10	27.0	1	8.3
		total	63		50		37		12	
37.	1		48	76.2	27	54.0	3	8.1	10	83.3
	2		2	3.2	0	0.0	31	83.8	0	0.0
	3		0	0.0	10	20.0	1	2.7	0	0.0
	4		0	0.0	0	0.0	0	0.0	0	0.0
	5		0	0.0	1	2.0	0	0.0	1	8.3
	6		8	12.7	4	8.0	0	0.0	0	0.0
	7		4	6.3	7	14.0	0	0.0	0	0.0
	8		1	1.6	0	0.0	0	0.0	0	0.0
	9		0	0.0	1	2.0	2	5.4	1	8.3
		total	63		50		37		12	

(table continues)

Table 3

Frequency Distribution of Responses to Demographic Questions

Survey Item #	Response #	Active Duty freq	Active Duty %	CHAMPUS freq	CHAMPUS %	CAM freq	CAM %	Medicare freq	Medicare %
38.	1	9	14.3	16	32.0	5	13.5	6	50.0
	2	54	85.7	34	68.0	32	86.5	6	50.0
	total	63		50		37		12	
39.	1	55	85.7	34	68.0	32	86.5	6	50.0
	2	5	7.9	16	32.0	3	8.1	6	50.0
	3	2	3.2	0	0.0	0	0.0	0	0.0
	4	1	1.6	0	0.0	2	5.4	0	0.0
	total	63		50		37		12	
40.	1	19	30.2	23	46.0	23	62.2	12	100.0
	2	7	11.1	4	8.0	1	2.7	0	0.0
	3	37	58.7	23	46.0	13	35.1	0	0.0
	total	63		50		37		12	
41.	1	6	9.5	8	16.0	3	8.1	0	0.0
	2	9	14.3	3	6.0	0	0.0	0	0.0
	3	5	7.9	10	20.0	2	5.4	0	0.0

(table continues)

Table 3

Frequency Distribution of Responses to Demographic Questions

Survey Item #	Response #		Active Duty freq	Active Duty %	CHAMPUS freq	CHAMPUS %	CAM freq	CAM %	Medicare freq	Medicare %
41.	4		14	22.2	5	10.0	10	27.0	1	8.3
	5		26	41.3	7	14.0	4	10.8	0	0.0
	6		3	4.8	17	34.0	18	48.6	0	91.7
		total	63		50		37		12	
42.	1		5	7.9	6	12.0	2	5.4	0	0.0
	2		16	25.4	11	22.0	3	8.1	0	0.0
	3		16	25.4	6	12.0	3	8.1	0	0.0
	4		23	36.5	6	12.0	8	21.6	1	8.3
	5		3	4.8	21	42.0	21	56.8	10	83.3
		total	63		50		37		11	
43.	1		48	76.2	37	74.0	34	91.9	9	75.0
	2		15	23.8	13	26.0	3	8.1	2	16.7
		total	63		50		37		11	
44.	1		53	84.1	37	74.0	27	73.0	9	75.0
	2		6	9.5	8	16.0	6	16.2	0	0.0

(table continues)

Table 3

Frequency Distribution of Responses to Demographic Questions

Survey Item #	Response #	Active Duty freq	Active Duty %	CHAMPUS freq	CHAMPUS %	CAM freq	CAM %	Medicare freq	Medicare %
44.	3	3	4.8	5	10.0	2	5.4	2	16.7
	4	1	1.6	0	0.0	2	5.4	0	0.0
	5	0	0.0	0	0.0	0	0.0	0	0.0
	total	63		50		37		11	
45.	1	11	28.6	7	14.0	9	24.3	5	41.7
	2	32	50.8	36	72.0	21	56.8	5	41.7
	3	5	7.9	3	6.0	4	10.8	1	8.3
	4	7	11.1	2	4.0	3	8.1	0	0.0
	5	1	1.6	1	2.0	0	0.0	0	0.0
	6	0	0.0	1	2.0	0	0.0	0	0.0
	total	63		50		37		11	
46.	1	11	17.5	7	14.0	4	10.8	2	16.7
	2	6	9.5	3	6.0	2	5.4	0	0.0
	3	23	36.5	18	36.0	12	32.4	2	16.7
	4	15	23.8	10	20.0	13	35.1	4	33.3

(table continues)

Table 3

Frequency Distribution of Responses to Demographic Questions

Survey Item #	Response #	Active Duty freq	Active Duty %	CHAMPUS freq	CHAMPUS %	CAM freq	CAM %	Medicare freq	Medicare %
46.	5	8	12.7	12	24.0	6	16.2	3	25.0
	total	63		50		37		11	
47.	1	23	36.5	12	24.0	13	35.1	4	33.3
	2	4	6.3	4	8.0	1	2.7	0	0.0
	3	15	23.8	20	40.0	9	24.3	1	8.3
	4	7	11.1	8	16.0	7	18.9	3	25.0
	5	9	14.3	5	10.0	7	18.9	1	8.3
	6	5	7.9	1	2.0	0	0.0	2	16.7
	total	63		50		37		11	
48.	1	11	17.5	4	8.0	0	0.0	3	25.0
	2	3	4.8	7	14.0	9	24.3	2	16.7
	3	12	19.0	9	18.0	3	8.1	1	8.3
	4	21	33.3	19	38.0	13	35.1	3	25.0
	5	11	17.5	11	22.0	11	29.7	2	16.7
	6	3	4.8	0	0.0	1	2.7	0	0.0

(table continues)

Table 3

Frequency Distribution of Responses to Demographic Questions

Survey Item #	Response #		Active Duty freq	Active Duty %	CHAMPUS freq	CHAMPUS %	CAM freq	CAM %	Medicare freq	Medicare %
48.	7		1	1.6	0	0.0	0	0.0	0	0.0
	8		1	1.6	0	0.0	0	0.0	0	0.0
		total	63		50		37		11	
49.	1		17	27.0	8	16.0	3	8.1	1	8.3
	2		15	23.8	19	38.0	21	56.8	4	33.3
	3		21	33.3	19	38.0	8	21.6	4	33.3
	4		3	4.8	2	4.0	0	0.0	1	8.3
	5		3	4.8	2	4.0	0	0.0	1	8.3
	6		4	6.3	0	0.0	1	2.7	0	0.0
		total	62		50		33		11	
50.	1		10	15.9	10	20.0	10	27.0	3	25.0
	2		10	15.9	16	32.0	13	35.1	6	50.0
	3		22	34.9	15	30.0	7	18.9	0	0.0
	4		21	33.3	9	18.0	7	18.9	0	0.0
		total	63		50		37		11	

(table continues)

Table 3

Frequency Distribution of Responses to Demographic Questions

Survey Item #	Response #	Active Duty freq	Active Duty %	CHAMPUS freq	CHAMPUS %	CAM freq	CAM %	Medicare freq	Medicare %
51.	1	21	33.3	8	16.0	5	13.5	0	0.0
	2	18	28.6	15	30.0	9	24.3	4	33.3
	3	17	27.0	17	34.0	16	43.2	2	16.7
	4	4	6.3	10	20.0	5	13.5	4	33.3
	5	3	4.8	0	0.0	2	5.4	1	8.3
	total	63		50		37		11	
52.	1	4	6.3	3	6.0	0	0.0	0	0.0
	2	23	36.5	12	24.0	4	10.8	0	0.0
	3	32	50.8	10	20.0	7	18.9	0	0.0
	4	3	4.8	9	18.0	8	21.6	0	0.0
	5	1	1.6	13	26.0	14	37.8	1	8.3
	6	0	0.0	2	4.0	4	10.8	0	0.0
	7	0	0.0	1	2.0	0	0.0	11	91.7
	total	63		50		37		12	

(table continues)

Table 3

Frequency Distribution of Responses to Demographic Questions

Survey Item #	Response #	Active Duty freq	Active Duty %	CHAMPUS freq	CHAMPUS %	CAM freq	CAM %	Medicare freq	Medicare %
53.	1	18	28.6	40	80.0	29	78.4	5	41.7
	2	45	71.4	10	20.0	8	21.6	7	58.3
	total	63		50		37		12	
54.	1	1	1.6	1	2.0	1	2.7	0	0.0
	2	1	1.6	4	8.0	1	2.7	0	0.0
	3	16	25.4	6	12.0	6	16.2	1	8.3
	4	45	71.4	39	78.0	29	78.9	11	91.7
	total	63		50		37		12	
55.	1	10	15.9	3	6.0	3	8.1	0	0.0
	2	53	84.1	47	94.0	34	91.9	12	100.0
	total	63		50		37		12	
56.	1	0	0.0	0	0.0	0	0.0	0	0.0
	2	0	0.0	0	0.0	0	0.0	0	0.0
	3	3	4.8	0	0.0	0	0.0	0	0.0
	4	10	15.9	5	10.0	4	10.8	0	0.0

(table continues)

Table 3

Frequency Distribution of Responses to Demographic Questions

Survey Item #	Response #	Active Duty freq	Active Duty %	CHAMPUS freq	CHAMPUS %	CAM freq	CAM %	Medicare freq	Medicare %
56.	5	13	20.6	4	8.0	2	5.4	0	0.0
	6	15	23.8	8	16.0	12	32.4	4	33.3
	7	8	12.7	12	24.0	4	10.8	2	16.7
	8	4	6.3	11	22.0	9	24.3	2	16.7
	9	0	0.0	4	8.0	1	2.7	0	0.0
	10	1	1.6	0	0.0	0	0.0	1	8.3
	11	0	0.0	0	0.0	0	0.0	0	0.0
	12	0	0.0	0	0.0	0	0.0	0	0.0
	13	0	0.0	1	2.0	2	5.4	0	0.0
	14	2	3.2	0	0.0	0	0.0	0	0.0
	15	2	3.2	1	2.0	0	0.0	0	0.0
	16	5	7.9	3	6.0	2	5.4	0	0.0
	17	0	0.0	0	0.0	1	2.7	2	16.7
	18	0	0.0	0	0.0	0	0.0	1	8.3
	19	0	0.0	1	2.0	0	0.0	0	0.0
	total	63		50		37		12	

(table continues)

Table 3

Frequency Distribution of Responses to Demographic Questions

Survey Item #	Response #		Active Duty freq	Active Duty %	CHAMPUS freq	CHAMPUS %	CAM freq	CAM %	Medicare freq	Medicare %
57.	1		1	1.6	0	0.0	2	5.4	0	0.0
	2		12	19.0	10	20.0	9	24.3	6	5.0
	3		35	55.6	12	24.0	10	27.0	3	25.0
	4		10	15.9	14	28.0	8	21.6	1	8.3
	5		4	6.3	8	16.0	5	13.5	1	8.3
	6		1	1.6	5	10.0	2	5.4	0	0.0
	7		0	0.0	0	0.0	0	0.0	0	0.0
	8		0	0.0	0	0.0	1	2.7	0	0.0
	9		0	0.0	1	2.0	0	0.0	0	0.0
		total	63		50		37		11	
58.	1		11	17.5	1	2.0	0	0.0	0	0.0
	2		44	69.8	46	92.0	31	83.3	8	66.7
	3		2	3.2	1	2.0	0	0.0	0	0.0
	4		6	9.5	1	2.0	0	0.0	0	0.0
	5		0	0.0	1	2.0	6	16.2	4	33.3
		total	63		50		37		12	

(table continues)

Table 3

Frequency Distribution of Responses to Demographic Questions

Survey Item #	Response #	Active Duty freq	Active Duty %	CHAMPUS freq	CHAMPUS %	CAM freq	CAM %	Medicare freq	Medicare %
59.	1	63	100.0	0	0.0	0	0.0	0	0.0
	2	0	0.0	22	44.0	13	35.2	0	0.0
	3	0	0.0	14	28.0	9	24.3	7	58.3
	4	0	0.0	14	28.0	15	40.5	5	41.7
	total	63		50		37		12	
60.	1	63	100.0	0	0.0	0	0.0	0	0.0
	2	0	0.0	0	0.0	37	100.0	0	0.0
	3	0	0.0	50	100.0	0	0.0	0	0.0
	4	0	0.0	0	0.0	0	0.0	12	100.0
	total	63		50		37		12	

Descriptive statistics were computed on the nine content areas to determine if there were any differences in the levels of satisfaction between the categories. Respondents in all categories rated services as good or better with the following exceptions: Active Duty respondents rated these survey items as fair (item number is in parenthesis): (6) Access to specialty care if you need

it; (12) Availability of medical information or advice by phone; (24) Numbers of doctors you have to choose from; (25) Arrangements for choosing a personal doctor; and (26) Ease of seeing the doctor of your choice.

This should be fixed by now

CAM enrollees rated the following items as fair: (9) Arrangements for making appointments for medical care by phone; and (12) Availability of medical information or advice by phone.

CHAMPUS Eligibles rated the following items as fair: (9) Arrangements for making appointments for medical care by phone; (25) Arrangements for choosing a personal doctor; and (26) Ease of seeing the doctor of your choice.

The active duty category was the only one that was "Not Sure" on item 35 (The medical care I have been receiving is just about perfect). The mean and median responses of the nine content areas for each category are presented by the item number from the survey in Table 4.

Table 4

Mean and Median Responses for Items in Content Areas

Content & Item #	Active Duty mean	Active Duty median	Active Duty n	CAM Enrollee mean	CAM Enrollee median	CAM Enrollee n
ACCESS:						
4.	3.63	4 (Very Good)	59	3.56	3 (Good)	36
5.	3.28	3 (Good)	61	3.69	3.5 (Good +)	36
6.	2.76	2 (Fair)	45	2.84	3 (Good)	31
7.	3.27	3 (Good)	48	3.25	3.5 (Good +)	28
8.	3.21	3 (Good)	48	3.34	3 (Good)	35
9.	2.22	2 (Fair)	51	2.49	2 (Fair)	33
10.	2.71	3 (Good)	61	3.08	3 (Good)	37
11.	2.56	3 (Good)	54	2.89	3 (Good)	36
12.	2.50	2 (Fair)	36	2.32	2 (Fair)	22
13.	2.97	3 (Good)	59	3.05	3 (Good)	37
14.	3.66	4 (Very Good)	62	3.43	4 (Very Good)	37
FINANCES						
15.	3.50	3 (Good)	44	3.45	3 (Good)	31
16.	3.67	4 (Very Good)	46	3.52	4 (Very Good)	31
TECHNICAL QUALITY						
17.	3.50	3 (Good)	62	3.62	4 (Very Good)	37

(table continues)

Table 4

Mean and Median Responses for Items in Content Areas

Content & Item #	Active Duty mean	Active Duty median	Active Duty n	CAM Enrollee mean	CAM Enrollee median	CAM Enrollee n
TECHNICAL QUALITY						
18.	3.15	3 (Good)	60	3.30	3 (Good)	37
19.	3.45	3 (Good)	60	3.49	4 (Very Good)	37
20.	3.21	3 (Good)	61	3.41	3 (Good)	37
COMMUNICATION						
21.	3.37	3 (Good)	60	3.46	3 (Good)	37
22.	3.40	3 (Good)	60	3.54	3 (Good)	37
23.	3.33	3 (Good)	55	3.56	4 (Very Good)	36
CHOICE AND CONTINUITY						
24.	2.39	2 (Fair)	52	3.06	3 (Good)	35
25.	2.14	2 (Fair)	43	2.91	3 (Good)	33
26.	2.23	2 (Fair)	44	3.03	3 (Good)	34
INTERPERSONAL CARE						
27.	3.50	3 (Good)	62	3.92	4 (Very Good)	37
28.	3.48	3 (Good)	61	3.68	4 (Very Good)	37
29.	3.63	4 (Very Good)	62	3.81	4 (Very Good)	37

(table continues)

Table 4

Mean and Median Responses for Items in Content Areas

Content & Item #	Active Duty mean	Active Duty median	Active Duty n	CAM Enrollee mean	CAM Enrollee median	CAM Enrollee n
INTERPERSONAL CARE						
30.	3.53	4 (Very Good)	61	3.73	4 (Very Good)	37
31.	3.27	3 (Good)	62	3.49	3 (Good)	37
32.	3.32	3 (Good)	60	3.39	3 (Good)	36
OUTCOMES						
33.	3.29	3 (Good)	58	3.46	3 (Good)	37
34.	3.32	3 (Good)	60	3.57	3 (Good)	37
GENERAL SATISFACTION						
2.	2.41	2 (Agree)	63	2.16	2 (Agree)	37
35.	2.76	3 (Not Sure)	63	2.49	2 (Agree)	37
GENERAL DISSATISFACTION						
3.	2.32	2 (Agree)	63	2.46	2 (Agree)	37
36.	2.78	3 (Not Sure)	63	3.11	3 (Not Sure)	37

(table continues)

Table 4

Mean and Median Responses for Items in Content Areas

Content & Item #	CHAMPUS Eligible mean	median	n	Medicare/Non-CHAMPUS mean	median	n
ACCESS:						
4.	3.60	4 (Very Good)	50	4.18	5 (Excellent)	11
5.	3.44	3 (Good)	50	4.27	5 (Excellent)	11
6.	3.22	3 (Good)	45	3.64	4 (Very Good)	11
7.	3.69	4 (Very Good)	43	4.00	4.5 (V Good +)	10
8.	3.41	3 (Good)	42	4.25	4.5 (V Good +)	8
9.	2.70	2 (Fair)	47	2.90	3 (Good)	10
10.	3.20	3 (Good)	50	4.00	4 (Very Good)	11
11.	2.72	3 (Good)	46	3.91	4 (Very Good)	11
12.	2.61	3 (Good)	38	3.89	4 (Very Good)	9
13.	3.04	3 (Good)	50	4.00	4 (Very Good)	10
14.	3.67	4 (Very Good)	48	4.08	4 (Very Good)	12
15.	3.69	4 (Very Good)	35	3.78	4 (Very Good)	9
16.	3.63	4 (Very Good)	35	4.00	4 (Very Good)	11
TECHNICAL QUALITY						
17.	3.16	4 (Very Good)	49	4.55	5 (Excellent)	11
18.	3.37	3 (Good)	49	4.36	4 (Very Good)	11

(table continues)

Table 4

Mean and Median Responses for Items in Content Areas

Content & Item #	CHAMPUS Eligible mean	median	n	Medicare/Non-CHAMPUS mean	median	n
TECHNICAL QUALITY						
19.	3.60	4 (Very Good)	47	4.55	5 (Excellent)	11
20.	3.47	3 (Good)	49	4.09	4 (Very Good)	11
COMMUNICATION						
21.	3.38	3 (Good)	48	4.27	4 (Very Good)	11
22.	3.39	3 (Good)	49	4.27	5 (Excellent)	11
23.	3.35	3 (Good)	48	4.27	4 (Very Good)	11
CHOICE AND CONTINUITY						
24.	2.73	3 (Good)	45	3.50	4 (Very Good)	8
25.	2.51	2 (Fair)	41	3.57	4 (Very Good)	7
26.	2.67	2 (Fair)	42	4.13	4 (Very Good)	8
INTERPERSONAL CARE						
27.	3.51	3 (Good)	49	4.64	5 (Excellent)	11
28.	3.25	3 (Good)	49	4.64	5 (Excellent)	11
29.	3.51	4 (Very Good)	49	4.64	5 (Excellent)	11
30.	3.46	3 (Good)	48	4.64	5 (Excellent)	11

(table continues)

Table 4

Mean and Median Responses for Items in Content Areas

Content & Item #	CHAMPUS Eligible mean	median	n	Medicare/Non-CHAMPUS mean	median	n
INTERPERSONAL CARE						
31.	3.31	3 (Good)	48	4.18	4 (Very Good)	11
32.	3.08	3 (Good)	49	4.00	4 (Very Good)	11
OUTCOMES						
33.	3.42	3 (Good)	50	4.17	4.5 (V Good +)	12
34.	3.42	3 (Good)	50	4.64	5 (Excellent)	12
GENERAL SATISFACTION						
2.	2.10	2 (Agree)	50	1.83	1 (Str Agree)	12
35.	2.52	2 (Agree)	50	2.08	2 (Agree)	12
GENERAL DISSATISFACTION						
3.	2.40	2 (Agree)	50	2.92	3 (Not Sure)	12
36.	2.80	2 (Agree)	50	3.75	4 (Disagree)	12

Inferential statistics were computed on the nine content areas to determine if there were any significant differences between the means of the four categories. The ANOVA yielded significant findings, $p < .01$, for the following content areas: Access $F(3, 40) = 11.56$, Technical Quality $F(3, 12) = 34.93$, Choice $F(3, 8) = 32.38$,

four categories of what?

What do these differences mean? Which group of pts. was "significantly different" from which other group? So What?

Interpersonal Skills $F(3, 20) = 35.27$, and Outcomes $F(3, 4) = 17.32$. The results of the analysis are presented in Table 5.

Table 5

Analysis of Variance on the Content Areas for the Four Categories

ONE-WAY ANOVA: GENERAL DISSATISFACTION

GROUP	MEAN	N	GROUP	MEAN	N
1 Active	2.365	2	3 CHAMPUS	2.250	2
2 CAM	2.311	2	4 Medicare	2.375	2
	GRAND MEAN		2.325	8	

SOURCE	SUM OF SQUARES	D.F.	MEAN SQUARE	F RATIO	PROB.
BETWEEN	.020	3	6.6235E-03	.039	.9883
WITHIN	.681	4	.170		
TOTAL	.701	7			

(table continues)

Table 5

Analysis of Variance on the Content Areas for the Four Categories

ONE-WAY ANOVA: ACCESS

GROUP	MEAN	N	GROUP	MEAN	N
1 Act Duty	2.977	11	3 CHAMPUS	3.209	11
2 CAM	3.086	11	4 Medicare	3.978	11
	GRAND MEAN		3.312	44	

SOURCE	SUM OF SQUARES	D.F.	MEAN SQUARE	F RATIO	PROB.
BETWEEN	6.799	3	2.266	11.557	1.361E-05
WITHIN	7.844	40	.196		
TOTAL	14.643	43			

ONE-WAY ANOVA: FINANCE

GROUP	MEAN	N	GROUP	MEAN	N
1 Active	3.587	2	3 CHAMPUS	3.658	2
2 CAM	3.484	2	4 Medicare	3.889	2
	GRAND MEAN		3.654	8	

SOURCE	SUM OF SQUARES	D.F.	MEAN SQUARE	F RATIO	PROB.
BETWEEN	.177	3	.059	5.439	.0677
WITHIN	.043	4	.011		
TOTAL	.221	7			

(table continues)

Table 5

Analysis of Variance on the Content Areas for the Four Categories

ONE-WAY ANOVA: TECHNICAL QUALITY

GROUP	MEAN	N	GROUP	MEAN	N
1 Active	3.328	4	3 CHAMPUS	3.509	4
2 CAM	3.453	4	4 Medicare	4.386	4
	GRAND MEAN		3.669	16	

SOURCE	SUM OF SQUARES	D.F.	MEAN SQUARE	F RATIO	PROB.
BETWEEN	2.813	3	.938	34.937	3.292E-06
WITHIN	.322	12	.027		
TOTAL	3.135	15			

ONE-WAY ANOVA: COMMUNICATION

GROUP	MEAN	N	GROUP	MEAN	N
1 Active	3.365	3	3 CHAMPUS	3.372	3
2 CAM	3.519	3	4 Medicare	3.606	3
	GRAND MEAN		3.466	12	

SOURCE	SUM OF SQUARES	D.F.	MEAN SQUARE	F RATIO	PROB.
BETWEEN	.125	3	.042	.124	.9432
WITHIN	2.675	8	.334		
TOTAL	2.800	11			

(table continues)

Table 5 ,

Analysis of Variance on the Content Areas for the Four Categories

ONE-WAY ANOVA: OUTCOMES

GROUP	MEAN	N	GROUP	MEAN	N
1 Active	3.305	2	3 CHAMPUS	3.420	2
2 CAM	3.514	2	4 Medicare	4.402	2
	GRAND MEAN		3.660	8	

SOURCE	SUM OF SQUARES	D.F.	MEAN SQUARE	F RATIO	PROB.
BETWEEN	1.510	3	.503	17.323	9.346E-03
WITHIN	.116	4	.029		
TOTAL	1.626	7			

ONE-WAY ANOVA: GENERAL SATISFACTION

GROUP	MEAN	N	GROUP	MEAN	N
1 Active	2.770	2	3 CHAMPUS	2.660	2
2 CAM	2.797	2	4 Medicare	2.917	2
	GRAND MEAN		2.786	8	

SOURCE	SUM OF SQUARES	D.F.	MEAN SQUARE	F RATIO	PROB.
BETWEEN	.067	3	.022	.055	.9809
WITHIN	1.622	4	.406		
TOTAL	1.689	7			

In order to determine if RACH had improved patient satisfaction as mandated, a comparison was done between RACH's survey and the 1991 HSC Survey on the means and medians of the content areas. Both groups rated all areas as good or better with the following exceptions: RACH's respondents rated these choice and continuity content area items as fair (survey item number is in parenthesis): Arrangements for choosing a personal doctor (25) and Ease of seeing the doctor of your choice (26). HSC's respondents also rated these same two choice items as fair. Additionally, they rated the following access items as fair: Arrangements for making appointments for medical care by phone (9); Length of time spent waiting at the office to see the doctor (10); Length of time you wait between making an appointment for routine care and the day of your visit (11); and Availability of medical information or advice by phone (12). The total mean and median responses on content items for both the RACH and HSC surveys are in Table 6.

A test for means was computed to determine if there was any significant difference between the two groups. The RACH sample had a significantly higher level of satisfaction, $\underline{t}(66) = 2.42$, $\underline{p} > .01$. The results of the $\underline{t}$-test are presented in Table 7.

Table 6

RACH and HSC Mean and Median Responses for Items in Content Areas

Content & Item #	RACH mean	RACH median	RACH n	HSC mean	HSC median	HSC n
ACCESS:						
4.	3.64	4 (Very Good)	156	3.61	4 (Very Good)	2612
5.	3.49	3 (Good)	158	2.99	3 (Good)	2551
6.	3.01	3 (Good)	132	2.70	3 (Good)	2278
7.	3.47	3 (Good)	129	3.32	3 (Good)	2253
8.	3.37	3 (Good)	133	3.32	3 (Good)	2171
9.	2.94	3 (Good)	162	2.36	2 (Fair)	2487
10.	3.04	3 (Good)	159	2.50	2 (Fair)	2534
11.	2.79	3 (Good)	147	2.30	2 (Fair)	2485
12.	2.62	3 (Good)	105	2.26	2 (Fair)	1866
13.	3.08	3 (Good)	156	2.84	3 (Good)	2492
14.	3.63	4 (Very Good)	160	3.23	3 (Good)	2530
FINANCES						
15.	3.56	4 (Very Good)	119	3.19	3 (Good)	1945
16.	3.65	4 (Very Good)	123	3.24	3 (Good)	1920
TECHNICAL QUALITY						
17.	3.64	4 (Very Good)	159	3.35	3 (Good)	2533

(table continues)

Table 6

Mean and Median Responses for Items in Content Areas

Content & Item #	RACH mean	RACH median	RACH n	HSC mean	HSC median	HSC n
TECHNICAL QUALITY						
18.	3.34	3 (Good)	157	3.14	3 (Good)	2524
19.	3.58	4 (Very Good)	155	3.32	3 (Good)	2511
20.	3.40	3 (Good)	158	3.23	3 (Good)	2522
COMMUNICATION						
21.	3.46	3 (Good)	156	3.18	3 (Good)	2516
22.	3.49	3 (Good)	157	3.10	3 (Good)	2528
23.	3.46	4 (Very Good)	150	3.11	3 (Good)	2385
CHOICE AND CONTINUITY						
25.	2.57	2 (Fair)	124	2.16	2 (Fair)	1889
26.	2.70	2 (Fair)	128	2.22	2 (Fair)	1984
INTERPERSONAL CARE						
27.	3.68	4 (Very Good)	159	3.55	4 (Very Good)	2545
28.	3.53	4 (Very Good)	158	3.26	3 (Good)	2534
29.	3.70	4 (Very Good)	159	3.49	4 (Very Good)	2534

(table continues)

Table 6

Mean and Median Responses for Items in Content Areas

Content & Item #	RACH mean	RACH median	RACH n	HSC mean	HSC median	HSC n
INTERPERSONAL CARE						
30.	3.63	4 (Very Good)	157	3.32	3 (Good)	2481
31.	3.40	3 (Good)	158	3.31	3 (Good)	2549
32.	3.31	3 (Good)	156	3.08	3 (Good)	2527
OUTCOMES						
33.	3.44	3 (Good)	157	3.28	3 (Good)	2523
34.	3.50	4 (Very Good)	158	3.27	3 (Good)	2545
GENERAL SATISFACTION						
2.	2.22	2 (Agree)	162	2.57	2 (Agree)	2687
35.	2.57	2 (Agree)	162	3.27	3 (Not Sure)	2682
GENERAL DISSATISFACTION						
3.	2.42	2 (Agree)	162	2.01	2 (Agree)	2691
36.	2.93	3 (Not Sure)	162	2.49	2 (Agree)	2674

Table 7

Difference Between Two Group Means: Pooled Estimate of Variance

HYPOTHESIS TEST FOR MEANS

	Group 1: RACH	Group 2: HSC
MEAN =	3.2426	2.9874
STD DEV. =	.4180	.4493
N =	34	34

DIFFERENCE = .2552

STD. ERROR OF DIFFERENCE = .1052

t = 2.4249 (d.f. = 66) p = 9.028E-03

Comments written by respondents were analyzed for content and coded into general groups. The majority of respondents made no comment. The Active Duty category had the highest rate of comment response at 36.5%. There were 14 comments that were concerned with long waiting times for making appointments and waiting to be seen by a doctor. There were 8 comments from Active Duty members who felt soldiers receive poor medical treatment. The frequency distributions of respondents' comments are in Table 8. As a result of these comments, the way care is provided to Active Duty members has been evaluated and will be changed in the near future.

This may be more important than all the numbers put together!

Table 8. Frequency Distribution of Respondents' Comments by Category

Survey Item #	Response #	Active Duty freq	Active Duty %	CHAMPUS freq	CHAMPUS %	CAM freq	CAM %	Medicare freq	Medicare %
61.	0	40	63.5	39	78.0	29	78.4	11	91.7
	1	0	0.0	0	0.0	0	0.0	1	8.3
	2	3	4.8	1	2.0	1	2.7	0	0.0
	3	8	12.7	0	0.0	0	0.0	0	0.0
	4	1	1.6	0	0.0	1	2.7	0	0.0
	5	2	3.2	2	4.0	0	0.0	0	0.0
	6	2	3.2	0	0.0	0	0.0	0	0.0
	7	1	1.6	2	4.0	1	2.7	0	0.0
	8	5	7.9	4	8.0	5	13.5	0	0.0
	9	1	1.6	1	2.0	0	0.0	0	0.0
	10	1	1.6	1	2.0	0	0.0	0	0.0
	TOTAL	63		50		37		12	

Note. Response # is coded to general comments: 0 = none, 1 = dislikes pharmacy refill policy, 2 = rude employees, 3 = soldier received poor medical treatment, 4 = lack of dental services, 5 = poor diagnosis/treatment, 6 = good medical treatment for soldier, 7 = lack of medical services, 8 = long waits for appointments and when being seen by doctor, 9 = negative reference to a clinic, 10 = compliment for RACH services.

Discussion

If this survey is to be considered a useful outcome indicator of quality, then the quality of the survey instrument and its administration, analysis, and usage become vital (Nelson & Neiderberger, 1990). The quality of the instrument is dependent upon its reliability and validity measurements. The findings from the HSC study determined the instrument to be highly reliable and valid for all content areas and items. The results of this study were slightly different.

When attempting to compute the reliability coefficient for the general satisfaction content area with all four items included, the result was less than .70 for all categories. The items were then divided into two content areas, general satisfaction and general dissatisfaction. The general dissatisfaction content area did not achieve the standard of .70 for three categories: CHAMPUS eligibles, CAM enrollees, and Medicare/Non-CHAMPUS eligibles. Results from the general dissatisfaction content area were not considered further for analysis. All other content areas yielded a reliability coefficient greater than .70.

Computing the item-sum correlation coefficients for determining the instrument's internal validity also yielded slightly different findings than those reported in the HSC study. All items were valid at the critical value (2 - tail, .05) except for the Medicare/Non-

CHAMPUS eligible category survey item numbers 9, 12, 13, and 14 of the access content area.

The differences noted may be due to the small sample of each category in the RACH study, the use of actual recipients of health care instead of potential health care beneficiaries, the different target categories from which the samples were drawn, or a combination of all or any of these. It was determined that a sample size of 24 in each category was needed to adequately test reliability and validity levels. Overall, the survey instrument used in this study was found to be highly reliable and valid.

The quality of the survey administration was less than ideal due to the process used for administering the survey. Using the pharmacy as the distribution point excluded all patients that were not given prescriptions. The assumption made when deciding to use the pharmacy as the distribution point was that all health care recipients were potential pharmacy customers. "Theoretically, results from a study using a convenience sample cannot be generalized beyond the sample itself" (Soeken, 1985). Future surveys should follow the design initially planned and be mailed to a randomly selected sample of the targeted population.

The quality of the survey analysis and usage met the requirements of this study's purpose by providing baseline data necessary for future comparisons. The frequency distribution on the

responses to the demographic questions and the mean and median responses for items in the content areas will provide baseline data when using this instrument in the future. This information will be useful for tracking trends in usage, noting changes in the population, and determining the impact of management interventions on the levels of satisfaction.

Inferential statistics were computed on the nine content areas to determine if there were any significant differences between the means of the four categories. No differences were found for the areas of finance, communication, and general satisfaction. Even though there were significant findings in 5 of the content areas, differences in the level of general satisfaction were not detected.

Studies treating cost as a separate variable indicate that personal health care expenditures are inversely related to satisfaction (Pascoe, 1983). The CAM program has cost saving incentives for its enrollees which are not available to members of other beneficiary categories. Finding no difference for the finance content area could be attributed to patients' preferences for selecting the category they were in and their willingness to pay the cost difference involved by their selection. Or perhaps the lack of difference for the finance area was due to having a sample of respondents that could easily access health care facilities without being directly subjected to the cost variances between the systems.

Differences were significant ($p < .05$) for the content areas of access $F(3, 40) = 11.56$, technical quality $F(3, 12) = 34.93$, choice $F(3, 8) = 32.38$, interpersonal skills $F(3, 20) = 35.27$, and outcome $F(3, 4) = 17.32$. These results may reflect the different administrative policies pertaining to each category. How patients enter the system, who can see which patient when, and the level of care that can be provided are issues affected by these policies. These results will be useful as baseline data for future comparative studies.

RACH had no way to defend itself on issues related to maintaining quality of health care and improving patient satisfaction if the RAND survey results turn out to be unfavorable. A comparison was done between RACH's survey and the 1991 HSC Survey on the means and medians of the content areas. Both HSC and RACH rated the two choice items as fair. HSC also rated three access items as fair. The higher RACH satisfaction for access verified RACH's claim to have met this Congressional objective.

The CAM program established a provider/partnership network which may have improved access but did not dramatically improve the choice of providers. The choice content area means for each category were: Medicare/Non CHAMPUS eligible--3.73, CAM enrollee--3.00, CHAMPUS eligible--2.65, and Active Duty--2.25.

The comparative analysis yielded a significantly higher level

of patient satisfaction on the RACH sample, $t(66) = 2.42$, $p > .01$. This finding may be the result of numerous influences, one of which is the fact that HSC's study was performed in 1989. Using the results of the comparative analysis as a defense would not be wise. A better defense would be to compare RACH's results with the latest results from HSC.

Conclusions and Recommendations

The purpose of this study was to identify and implement a patient satisfaction survey instrument based on an outcome-oriented quality improvement approach which could also be used by hospital leaders as a management tool. A modified version of the HSC Patient Satisfaction survey was selected using pre-established criteria.

The condition that prompted the study was that RACH, as a CAM test site, had to meet four Congressional objectives. RACH met the first two objectives but had difficulty in demonstrating compliance with the last two objectives: maintaining the quality of health care and improving satisfaction with health care.

The Congressional objectives were directed at all beneficiaries, not just those enrolled in the CAM program. Therefore, each of the different health care delivery systems used by the different categories of beneficiaries were identified. These target populations were: active duty members, CAM enrollees, CHAMPUS eligibles, and Medicare/Non-CHAMPUS eligibles.

The survey was distributed to proportionally stratified samples of the target populations. Reliability and validity measures were computed on the instrument and it was found to be quite satisfactory. Reliability coefficients for all but one content area were above .70. All items were valid at the critical value (2 -tail, .05) except for 4 in one category. Baseline data was

compiled and included results from descriptive and inferential statistics. Differences between the four categories of populations were significant at the $p < .05$ level for the content areas of access, technical quality, choice, interpersonal skills, and outcome. The survey results reflected a moderately high level of patient satisfaction with the services at RACH with a sample mean of 3.24 (between good and very good).

According to Strasser and Davis (1991), measuring patient satisfaction is a useless exercise and waste of resources if management chooses to do nothing with the data collected. They contend that patient satisfaction can be used as an effective organizational development, strategic planning, and total quality management tool that touches all hierarchical levels, functions and subsystems in the organization.

"Unless service quality can be adequately measured through the use of construct-valid instruments which are invariant across environmental settings, it remains difficult to understand how specific interventions influence quality and our ability to assess and predict it" (Shewchuk, O'Connor, & White, 1991, p.67). The instrument used in this study meets the requirements necessary for use as a management tool. Therefore, the data obtained from this survey should be used to not only provide baseline information for future comparisons, but also to identify areas of concern, clarify

issues, or identify trends in the population.

For example, finding out that only 22% of the respondents were covered by private health insurance, hospital leaders should adjust the projected revenue for RACH's private insurance collection program based upon this figure instead of their estimated 33%. Using the higher percentage rate inflates our anticipated revenue and could adversely impact our bottom line.

However, on the good side, the majority of the insured respondents had a plan that reimburses all/part of their health care expenses. This means that for the 22% who are insured, RACH can anticipate some kind of reimbursement for the services provided. Finding that the majority of the respondents did not have insurance on their dependent children is important when considering where to place scarce third party collection clerks. In this instance, the Pediatric Clinic should not be assigned a full time clerk.

An area of potential concern is identified by the fact that more than 75% of the respondents from all categories had used RACH MTF during the past 12 months. Having used a sample from a population that had indeed used the system (thereby getting their prescriptions filled), this finding may not be as significant as it appears in terms of utilization trends. On the other hand, knowing that the sample was taken from actual health care recipients, the question is

why approximately 25% of these respondents have not used RACH MTF. The same concern is again brought up by the finding that 15% of the respondents had not made an out-patient visit during the past 12 months. This creates a potential quality improvement issue because these respondents have not been seen during the past year for the condition they are currently taking prescribed medications for.

With respect to monitoring trends, information on hospital admissions provides a good example. For instance, 16% of Active Duty respondents had been admitted whereas the rate for CAM enrollees was 27%. The difference between the two groups may be due to the physical fitness enlistment requirements of the Armed Forces. However, if the percentages dramatically change, an immediate evaluation of the situation can be done to determine if there is a problem.

When reviewing the data on the waiting time between making an appointment and actually being seen by the provider, it was noted that the time frame was usually less than 1 - 2 weeks. Once at the provider's office, the majority of respondents were seen within 30 minutes. At first, this information taken alone looks quite favorable. However, there were 14 written comments from Active Duty members concerning long waiting times for making appointments and long waiting times to be seen by a doctor after arriving at the office. Active Duty members had the lowest mean average on both of

these two points. This information highlights potential concerns regarding the provision of health care to our different categories of beneficiaries through our various health care delivery systems.

This same phenomenon is noted by the fact that most Active Duty respondents (68%) saw the same provider sometimes or never whereas the majority of respondents from the other categories saw the same provider most of the time. There were 8 written comments from Active Duty members who felt soldiers receive poor medical treatment. As a result of ~~the culmination of~~ the above information, the way care is provided to Active Duty members has been evaluated and will be changed in the near future. Active Duty members will be given appointments in the Family Practice Clinics. This will ensure that continuity of care is provided to the Active Duty member and will also decrease their waiting time when making appointments.

Congratulations
You made a difference!

The above recommendations and conclusions are based on the responses of a sample concerning their satisfaction with the services provided by RACH MTF. By taking this survey one step further, hospital management can actually focus their attention on areas that really need to be improved.

By developing a survey coding system, hospital wide and department/unit level patient satisfaction performance standards can be established and monitored. Specific interventions can then be

directed toward improving services. According to Rose (1992), customer satisfaction is the beginning, not the end of quality improvement under TQM. RACH has achieved a moderately high level of patient satisfaction with the services it provides. Now it is time to begin improving those services.

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Appendix

SATISFACTION WITH MEDICAL CARE AND HEALTH CARE DELIVERY SYSTEMS

Reynolds Army Community Hospital (RACH) is looking for ways to improve our health care services. The purpose of this survey is to document how you feel about the medical care you are currently receiving, regardless of whether it is provided by Reynolds Army Community Hospital or by local civilian facilities. Please answer all questions. Your answers will be treated as confidential.

WHEN PROVIDING RESPONSES TO QUESTIONS 2-36 REGARDING YOUR MEDICAL CARE, PLEASE DO SO IN VIEW OF YOUR ANSWER TO THIS QUESTION.

1. Where do you currently receive the majority of your health care from? (Circle one number.)

Reynolds Army Community Hospital or other Military Treatment Facilities	1
Civilian Health Care facilities	2
A combination of military and civilian health care facilities	3

THINKING ABOUT YOUR OWN MEDICAL CARE, PLEASE INDICATE HOW MUCH YOU AGREE OR DISAGREE WITH EACH STATEMENT.--QUESTIONS 2 AND 3. (Circle one number for each.)

	Strongly Agree	Agree	Not Sure	Disagree	Strongly Disagree
2. I am very satisfied with the medical care I receive.	1	2	3	4	5
3. There are some things about the medical care I receive that could be better.	1	2	3	4	5

THINKING ABOUT YOUR OWN MEDICAL CARE, HOW WOULD YOU RATE THE FOLLOWING?-QUESTIONS 3-33 (If you have not received care recently, or have not used a particular service, circle #6: "Have not Used.") **(Circle one number for each.)**

	Poor	Fair	Good	Very Good	Excellent	Have Not Used
ACCESS: Arranging For and Getting Care						
4. Convenience of location of the doctor's office	1	2	3	4	5	6
5. Hours when the doctor's office is open	1	2	3	4	5	6
6. Access to specialty care if you need it	1	2	3	4	5	6
7. Access to hospital care if you need it	1	2	3	4	5	6

	Poor	Fair	Good	Very Good	Excellent	Have No Used
8. Access to medical care in an emergency	1	2	3	4	5	6
9. Arrangements for making appointments for medical care by phone	1	2	3	4	5	6
10. Length of time spent waiting at the office to see the doctor	1	2	3	4	5	6
11. Length of time you wait between making an appointment for routine care and the day of your visit	1	2	3	4	5	6
12. Availability of medical information or advice by phone	1	2	3	4	5	6
13. Access to medical care whenever you need it	1	2	3	4	5	6
14. Services available for getting prescriptions filled	1	2	3	4	5	6
FINANCES						
15. Protection you have against hardship due to medical expenses	1	2	3	4	5	6
16. Arrangements for you to get the medical care you need without financial problems	1	2	3	4	5	6
TECHNICAL QUALITY						
17. Completeness and quality of medical offices and facilities	1	2	3	4	5	6
18. Thoroughness of examinations and accuracy of diagnoses	1	2	3	4	5	6
19. Skill, experience, and training of doctors	1	2	3	4	5	6
20. Thoroughness of treatment	1	2	3	4	5	6
COMMUNICATION						
21. Explanations of medical tests and procedures	1	2	3	4	5	6
22. Attention given to what you have to say	1	2	3	4	5	6
23. Advice you get about ways to avoid illness and stay healthy	1	2	3	4	5	6

	Poor	Fair	Good	Very Good	Excellent	Have Not Used
CHOICE AND CONTINUITY						
24. Number of doctors you have to choose from	1	2	3	4	5	6
25. Arrangements for choosing a personal doctor	1	2	3	4	5	6
26. Ease of seeing the doctor of your choice	1	2	3	4	5	6
INTERPERSONAL CARE						
27. Friendliness and courtesy shown to you by doctors and medical staff	1	2	3	4	5	6
28. Personal interest in you and your medical problems	1	2	3	4	5	6
29. Respect shown to you, attention to your privacy	1	2	3	4	5	6
30. Reassurance and support offered to you by doctors and medical staff	1	2	3	4	5	6
31. Friendliness and courtesy shown to you by administrative staff (e.g., receptionist)	1	2	3	4	5	6
32. Amount of time you have with doctors and medical staff during a visit	1	2	3	4	5	6
OUTCOMES						
33. The outcomes of your medical care (how much you are helped)	1	2	3	4	5	6
34. Overall quality of care and services	1	2	3	4	5	6

THINKING ABOUT YOUR OWN MEDICAL CARE, PLEASE INDICATE HOW MUCH YOU AGREE OR DISAGREE WITH EACH STATEMENT.--QUESTIONS 35 AND 36. (Circle one number for each.)

	Strongly Agree	Agree	Not Sure	Disagree	Strongly Disagree
35. The medical care I have been receiving is just about perfect	1	2	3	4	5
36. I am dissatisfied with some things about the medical care I receive	1	2	3	4	5

FOR THE FOLLOWING STATEMENTS, PLEASE CIRCLE ONE NUMBER OR FILL IN A RESPONSE.

37. Which one of the following basic health benefits or insurance plans best describes the type you use most?

Reynolds Army Community Hospital Medical Treatment Facility (MTF)	1
Reynolds Army Community Hospital CAM Program	2
CHAMPUS	3
MEDICARE/MEDICAID	4
Private health Insurance (Blue Cross, AARP, etc.) only	5
Combination of MTF and CHAMPUS	6
Combination of MTF, CHAMPUS, and private insurance	7
Combination of MTF and personal funds	8
Other combination (please specify on the line provided below)	9

_____

38. Are you or your spouse covered by a private health insurance plan?

Yes 1 No 2

39. What type of private health insurance plan do you or your spouse currently have?

Does not apply	1	Prepaid plan, such as an HMO	3
Private health insurance that reimburses for/pays part or all	2	Other kind	4

40. Are your dependent children covered by a private health insurance plan?

Does not apply, I have no dependent children	1
Yes	2
No	3

41. How long have you used the DoD health system (such as a MTF)?

Does not apply, I have not used	1	4 - 10 years	4
Less than 1 year	2	10 - 20 years	5
1 - 3 years	3	21 or more years	6

42. How long have you used Reynolds Army Community Hospital (RACH) MTF?

Does not apply, I have not used	1	3 - 6 years	4
Less than 1 year	2	7 or more years	5
1 - 2 years	3		

43. Have you used RACH MTF in the last 12 months?

Yes 1 No 2

44. During the last 12 months, how many hospital admissions did you have for medical care when you stayed overnight?

Zero (no overnight stays)	1	Five to nine	4
One	2	Ten or more	5
Two to four	3		

45. During the last 12 months, how many hospital admissions did other members of your have for medical care when they stayed overnight?

Does not apply, I have no other family members	1	Two to four	4
Zero, (no overnight stays)	2	Five to nine	5
One	3	Ten or more	6

46. During the last 12 months, how many outpatient visits did you personally make for medical care? (DO NOT include medical visits when you stayed OVERNIGHT in a hospital).

None	1	5 - 9 visits	4
1 visit	2	10 or more visits	5
2 - 4 visits	3		

47. During the last 12 months, how many outpatient visits did other members of your family make for medical care? (DO NOT include medical visits when you stayed OVERNIGHT in a hospital).

None	1	10 or more visits	5
1 visit	2	Does not apply, I have	6
2 - 4 visits	3	no other family members	
5 - 9 visits	4		

48. How long do you usually have to wait between the time you make an appointment for care and the day you actually see the provider?

Does not apply, I have not used	1	3 to 4 weeks	5
2 days or less	2	5 to 6 weeks	6
3 days to 1 week	3	7 to 8 weeks	7
1 to 2 weeks	4	9 or more weeks	8

49. How long do you usually have to wait to see your provider when you have an appointment for care?

Less than 10 minutes	1	31 - 45 minutes	4
10 - 15 minutes	2	46 - 60 minutes	5
16 - 30 minutes	3	More than 60 minutes	6

50. When you go for medical care, how often do you see the same doctor?

Always	1	Sometimes	3
Most of the time	2	Rarely or never	4

PERSONAL INFORMATION

The personal information is requested for comparison with responses from individuals using other types of health care facilities. Answers will be treated as confidential. Only group responses will be reported.

51. What is your personal health status?

Excellent	1	Fair	4
Very good	2	Poor	5
Good	3		

52. What is your age group as of your last birthday?

Less than 21 years	1	51 - 60 years	5
21 - 30 years	2	61 - 64 years	6
31 - 40 years	3	65 years or older	7
41 - 50 years	4		

53. Are you male or female? Female 1 Male 2

54. What is your personal racial background?

American Indian, Aleut, Eskimo	1	Black	3
Asian or Pacific Islander	2	White	4

55. Are you of Hispanic/Spanish origin or descent? Yes 1 No 2

56. Specify your own pay grade or rank (if you are active duty or retired) or the pay grade of your sponsor (if you are a family member). (Circle one number.)

PV1/E1	1	WO1	10	2LT/01	14
PV2/E2	2	CW2	11	1LT/02	15
PFC/E3	3	CW3	12	CPT/03	16
CPL/SPC/E4	4	CW4	13	MAJ/04	17
SGT/E5	5			LTC/05	18
SSG/E6	6			COL/06 +	19
SFC/E7	7				
MSG/1SG/E8	8				
CSM/E9	9				

57. Approximately what was your family's total income last year before taxes?

Less than $10,000	1	$50,000 to $59,000	6
$10,000 to $19,000	2	$60,000 to $69,000	7
$20,000 to $29,000	3	$70,000 to $79,000	8
$30,000 to $39,000	4	$80,000 or more	9
$40,000 to $49,000	5		

58. Which of the following best describes your current marital status?

Single, never married	1	Divorced	4
Married	2	Widowed	5
Separated	3		

59. Which category of beneficiary best describes you?

Service member on active duty	1
Family member of active duty service member	2
Retired service member	3
Family member of retired/deceased service member	4

60. Which category of health care beneficiary status best describes you?

Active Duty	1
CAM Program Enrollee	2
CHAMPUS Eligible	3
Medicare/Medicaid eligible	4

ADDITIONAL COMMENTS:

THANK YOU FOR PROVIDING US WITH INFORMATION THAT WILL HELP US TO IMPROVE OUR HEALTH CARE SYSTEM IN ORDER TO BETTER MEET YOUR NEEDS.